

資料9 収集資料リスト

No	文名	和訳	機関・著者	言語	形式
1	Ficha de Relevamiento de Información Ambiental	環境報告書	APRAC	西	文献
2	Programa de Educación Ambiental	環境教育計画	APRAC	西	文献
3	Rescatando el Humedal de Carrasco	Carrasco湿地帯の回復	APRAC	西	文献
4	Peces del Uruguay	ウルグアイ国の魚類	CARU	西	文献
5	Ecovivir Peacefull Patagonia Comunicación para un mundo sustentable	和平なPatagoniaエコライフ:持続可能な世界への伝言	CEADU	西	VHS-PAL
6	Energía y Medio Ambiente	エネルギーと環境	CEADU	西	文献
7	Jardín de Totoras Sistemas Naturales de Depuración de Aguas	トラ園:水の自然浄化システム	CEADU	西	文献
8	Perfil Institucional de CEADU	CEADUのプロフィール	CEADU	西	プリント
9	Producción Orgánica	有機栽培	CEADU	西	文献
10	Cuadro 14 Análisis por Inciso - Programa - Proyecto Rentas Generales	国家予算の費目・プログラム・プロジェクト分析第14表	CGN	西	プリント
11	CSI Ingenieros	CSI Ingenieros社プロフィール	CSI	英・西	文献
12	Arroyo Carrasco Resultados de Muestreos por Parámetros	Carrasco川の水質分析結果	DINAMA	西	Excel
13	Atlas e Inventario de Calidad de Aguas de los Recursos Hídricos	ウルグアイ国水域の水質調査(2002年環境報告書)	DINAMA	西	プリント
14	Carta de Vulnerabilidad del Acuífero Raigón	Raigón地下水域の水文調査	DINAMA	西	PDF
15	Comunicación Nacional Inicial Unidad de Cambio Climático	DINAMA気象観測課環境報告書	DINAMA	西	PDF
16	Departamento de Normalización Técnica-Laboratorio	DINAMA技術規格課分析室の活動内容	DINAMA	西	Word
17	Desarrollo de Proyectos Quinquenales DINAMA 2000-2004	DINAMA2000年～2004年5年計画推移表	DINAMA	西	プリント
18	Estado de los Recursos Hídricos	水資源の状況	DINAMA	西	プリント
19	Gestión de Cuencas y Ríos Vinculados con Centros Urbanos	都市河川流域の管理	DINAMA	西	プリント
20	Inventario Nacional de Liberaciones de Dioxinas y Furanos	ダイオキシン及びフラン排出調査	DINAMA	西	PDF
21	Johannesburg Summit 2002 English	2002年ヨハネスバーグ環境サミットウルグアイ国報告書	DINAMA	英	PDF
22	Johannesburg Summit 2002 Spanish	2002年ヨハネスバーグ環境サミットウルグアイ国報告書	DINAMA	西	PDF
23	Laboratorio Precios de Análisis	DINAMA分析室の分析価格	DINAMA	西	Excel
24	Listado de actualización de equipamiento del laboratorio	DINAMA分析室の必要分析機器	DINAMA	西	Word
25	Listado de Instituciones No Gubernamentales	環境NGO組織一覧表	DINAMA	西	Word
26	Manual de Procedimientos Analíticos para Aguas y Efluentes	水質分析規格の手引き	DINAMA	西	PDF
27	Materiales existentes para monitoreo	既存水質モニタリング機器	DINAMA	西	プリント
28	Nómina de Funcionarios de las Divisiones	DINAMAの職員名簿	DINAMA	西	Word

No	文名	和訳	機関・著者	言語	形式
29	Número de Empleados que tiene actualmente DINAMA	DINAMAの職員人数	DINAMA	西	Word
30	Perfil Nacional de la Gestión de las Sustancias Químicas	化学物質の管理制度	DINAMA	西	PDF
31	Presupuesto Anual de DINAMA, DINOT y DINA VI	DINAMA、DINOT、DINA VIの年間予算	DINAMA	西	Excel
32	Propuesta de Estrategia Nacional para la Conservación	生物多様性の保全及び持続可能な開発の戦略案	DINAMA	西	PDF
33	Registro de Profesionales en EIA	環境影響評価専門家一覧表	DINAMA	西	プリント
34	Anuario Hidrológico 1992-1993	1992年～1993年水文年報	DNH	西	文献
35	Aprovechamiento de los Recursos Hídricos Superficiales	地表水資源の利用調査	DNH	西	文献
36	Inventario Nacional de Extracción de Materiales Alveos	公共水域河床の材質採取事業調査	DNH	西	文献
37	Organización para el Cumplimiento de Cometidos	国家水利局組織図	DNH	西	プリント
38	Participación de DNH en la Gestión de los Recursos Hídricos	国家水利局の水資源管理	DNH	西	プリント
39	Plan Maestro de Gestión Ambiental de los Recursos Hídricos	首都圏の水環境管理計画	DNH	西	プリント
40	Ubicación Geográfica de las Estaciones Meteorológicas	気象観測所の位置表	DNM	西	プリント
41	Agua Disponible de las Tierras del Uruguay	ウルグアイ国土の利用可能な水資源	DNRNR	西	PDF
42	Diagnóstico Ambiental y Socio-Demográfico de la Zona Costera	De la Plata河岸環境社会診断	ECOplata	西	CD-R
43	The Río de la Plata An Environmental Overview	De la Plata川の環境概要	ECOplata	英	PDF
44	Datos de la Planta de Tratamiento de Efluentes	排水処理プラントのデータ	FRIMACAR	西	プリント
45	Agenda Ambiental Montevideo 2000	モンテヴィデオ県2000年環境アジェンダ	GAM	西	PDF
46	Agenda Ambiental Montevideo 2002-2007	モンテヴィデオ県2002年～2007年環境アジェンダ	GAM	西	Word
47	Fomento de Gestión Ambiental y de Producción Más Limpia	環境管理及びグリーン生産の推進計画	GTZ	西	プリント
48	Uruguay - Promotion of Small and Medium-sized Enterprises	ウルグアイ国中小企業促進計画	GTZ	英	HTML
49	Country Paper Uruguay	ウルグアイ国総括レポート	IDB	英	PDF
50	Estudio Ambiental Uruguay	ウルグアイ国環境調査	IDB	西	HTML
51	Municipality of Montevideo Modernization Program	モンテヴィデオ県の近代化計画 (UR-0139)	IDB	英	文献
52	Programa de Apoyo a la Gestión Ambiental	環境管理支援計画 (UR-138)	IDB	西	PDF
53	Programa de Desarrollo y Gestión Municipal	地方県管理強化計画 (UR-131)	IDB	西	PDF
54	Programa de Modernización de IMM	モンテヴィデオ県近代化計画 (UR-139)	IDB	西	PDF
55	Programa de Saneamiento de Montevideo y Area Metropolitana	モンテヴィデオ首都圏の下水道整備計画 (UR-0089)	IDB	西	文献
56	Proyecto de Fortalecimiento Institucional de DINAMA	DINAMAの組織強化計画 (ATN/SF-4375-UR)	IDB	西	文献
57	Spatial Information System for National Infrastructure	公共インフラ整備GIS導入計画 (TC-9811911-UR)	IDB	英	PDF
58	Intendencia Municipal de Canelones Oficio No. 473/02	カネローネス県環境管理総局予算表	IMC	西	プリント

No	文名	和訳	機関・著者	言語	形式
59	Evaluación de Calidad de Agua en Montevideo Rural	モンテヴィデオ県地方の水質評価	IMM	西	HTML
60	Obras Previstas en el Plan de Saneamiento Urbano IV	第4フェーズ都市下水道整備計画予定工事	IMM	西	プリント
61	Plan Director de Saneamiento del Departamento de Montevideo	モンテヴィデオ県下水道整備計画	IMM	西	CD-R
62	Primer Informe Ambiental	モンテヴィデオ県第1回環境報告書(2001年)	IMM	西	HTML
63	Saneamiento de Montevideo	モンテヴィデオ県の下水道整備	IMM	西	プリント
64	Segundo Informe Ambiental IMM	モンテヴィデオ県第2回環境報告書(2002年)	IMM	西	Word
65	Segundo Informe de Educación Ambiental	モンテヴィデオ県第2回環境教育報告書	IMM	西	HTML
66	Servicio de Operación y Mantenimiento y Laboratorio	モンテヴィデオ県下水処理設備プレゼンテーション	IMM	西	CD-R
67	Viaje a la Historia Natural del Río de los Patos	Santa Lucía湿地帯の生態系日記	IMM	西	PDF
68	Agropecuario	農業統計	INE	西	PDF
69	Agua elevada y facturada	水道供給量及び領収量	INE	西	PDF
70	Empresas	企業統計	INE	西	PDF
71	Industria, Comercio y Servicios	工業、商業、サービス業統計	INE	西	PDF
72	Población	人口統計	INE	西	PDF
73	Temperaturas máximas absolutas	絶対最高気温統計	INE	西	Excel
74	Temperaturas máximas medias mensuales	最高気温月平均統計	INE	西	Excel
75	Temperaturas medias mensuales	月平均気温統計	INE	西	Excel
76	Temperaturas mínimas absolutas	絶対最低気温統計	INE	西	Excel
77	Temperaturas mínimas medias mensuales	最低気温月平均統計	INE	西	Excel
78	Territorio y Clima	地理及び気象情報	INE	西	PDF
79	Total de días con precipitación	降雨日数統計	INE	西	Excel
80	Totales de precipitación	総雨量統計	INE	西	Excel
81	Valores normales de precipitaciones	通常雨量値	INE	西	Excel
82	Código de Aguas	水域六法	M. Cousillas	西	文献
83	Dirección General de Servicios Agrícolas	農務事業総局:ミッション及び目的	MGAP	西	文献
84	Informe Técnico: "Mareas Rojas" en el Uruguay	ウルグアイ国の「赤潮」技術報告書	MGAP	西	PDF
85	Instructivo para la Extracción de Muestras	土壌の試料採取方法	MGAP	西	Excel、PDF
86	Monitoreo de aguadas en sistemas ganaderos intensivos	集団牧畜事業の排水モニタリング	MGAP	西	PDF
87	Reglamento de Funcionamiento del Plenario de COTAMA	環境保護諮問委員会(COTAMA)開催規則	MVOTMA	西	プリント
88	Se constituye la Comisión Técnica Asesora del M. Ambiente	環境保護諮問委員会(COTAMA)の設立法	MVOTMA	西	プリント

No	文名	和訳	機関・著者	言語	形式
89	Análisis Sectorial de Agua Potable y Saneamiento	ウルグアイ国の上下水道セクター調査	OPP	西	文献
90	Análisis Sectorial de Residuos Sólidos	ウルグアイ国の廃棄物処理調査	OPS	西	HTML
91	Obras Sanitarias del Estado	上下水道公社(OSE)の組織法	OSE	西	HTML
92	Saneamiento Tratamientos Aplicados	上下水道公社(OSE)の水処理方法	OSE	西	HTML
93	Legislación sobre Medio Ambiente en el Uruguay	環境六法	PROBIDES	西	文献
94	Catálogo Cartográfico	地形図カタログ	SGM	西	文献
95	Programe for the Management and Conservation of the Santa	Santa Lucia湿地帯の管理保全計画	UNDP	英	プリント
96	Uruguay Proyectos en Ejecución	ウルグアイ国実施プロジェクト	UNDP	西	プリント
97	Celebraciones Ambientales	環境祭日	国連	西	プリント
98	Declárese de interés general el riego con destino agrario	灌漑用水優先法	司法権	西	プリント
99	Declárese de interés general la creación de Areas Naturales	自然保護地域管理法	司法権	西	プリント
100	Normas reglamentarias de la gestión de los residuos hospitalarios	医療廃棄物管理法	司法権	西	プリント
101	Prohibase la introducción de desechos peligrosos	危険物質輸入禁止法	司法権	西	プリント
102	ウルグアイ案内(平成14年11月)		日本大使館	和	プリント
103	ウルグアイ事情		日本大使館	和	プリント
104	開発調査		日本大使館	和	プリント
105	地方インフラのための地籍図および国勢調査の空間データベース総合調査		日本大使館	和	プリント
106	プロジェクト方式技術協力		日本大使館	和	プリント
107	モンテヴィデオ滞在上の留意		日本大使館	和	プリント
108	9月、10月の治安情勢		日本大使館	和	プリント
現地調査前入手資料					
1	Calidad de los Cuerpos de Agua de la Ciudad de Montevideo	モンテヴィデオ県付近の河川の水質	IMC	西/和訳	文献
2	Intendencia Municipal de Canelones Dirección General de Gestión Ambiental	カネローネス県環境総局	IMC	西	文献
3	Servicio de Operación y Mantenimiento del Saneamiento	モンテヴィデオ県下水道処理施設の稼動・保全事業	IMC	西/和訳	文献
4	Plan de Ordenamiento Territorial Arroyo Miguelete	モンテヴィデオ県地域整備計画ミゲレテ川	IMM	西/和訳	文献
5	Decreto 253/79 Normas para el Control de las Aguas	水質汚濁防止法(1979.5)	司法権	西/和訳	文献
6	Decreto 257/97 Dirección Nacional de Medio Ambiente	DINAMA設立法令(1997.7)	司法権	西/和訳	文献
7	Decreto 435/94 Reglamento de Evaluación del Impacto Ambiental	環境影響評価法施行規則(1994.9)	司法権	西/和訳	文献
8	Ley No 10.723 Centros Poblados Normas para la Formación	居住地整備法(1946.4)	司法権	西/和訳	文献
9	Ley No 10.866 Centros Poblados Normas para la Formación Modificaciones	居住地整備法改正法(1946.10)	司法権	西/和訳	文献

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10	Ley No 11.907 Obras Sanitarias del Estado	上下水道公社(OSE)設立法(1953.1)	司法権	西/和訳	文献
11	Ley No 14.859 Código de Aguas	水域法(1979.11)	司法権	西/和訳	文献
12	Ley No 16.112 Créase el Ministerio de Vivienda, Ordenamiento Territorial	MVOTMA設立法(1990.6)	司法権	西/和訳	文献
13	Ley No 16.466 De Prevención y Evaluación del Impacto Ambiental	環境影響評価法(1994.1)	司法権	西/和訳	文献
14	Ley No 17.283 Protección del Medio Ambiente	環境保護法(2000.12)	司法権	西/和訳	文献
15	Ley No 9.515 Gobierno y Administración de los Municipios	都市組織法(1935.11)	司法権	西/和訳	文献
地形図、流域図					
1	Subcuenca 63	第63流域のデジタル図面	DINAMA	西	Autocad
2	Subcuenca 63 Canelón Grande	第63流域(Canelón Grande川)の環境報告	DINAMA	西	Excel、Word
3	Subcuenca 64	第64流域のデジタル図面	DINAMA	西	Autocad
4	Subcuenca 64 Santa Lucía	第64流域(Santa Lucía川)の環境報告	DINAMA	西	Word
5	1:1.000.000 Carta Regional de la República Oriental del Uruguay	ウルグアイ東方共和国地形図1/1,000,000	SGM	西	印刷紙
6	1:25.000 Bahía de Montevideo	モンテヴィデオ湾図1:25,000	SGM	西	印刷紙
7	1:250.000 Montevideo	モンテヴィデオ県地形図1/250,000	SGM	西	印刷紙
8	1:50.000 La Barra	ラ・バーラ地域地形図1/50,000	SGM	西	印刷紙
9	1:50.000 La Unión	ラ・ウニオン地域地形図1/50,000	SGM	西	印刷紙
10	1:50.000 Los Cerillos	ロス・セリヨス地域地形図1/50,000	SGM	西	印刷紙
11	1:50.000 Pando	パンド地域地形図1/50,000	SGM	西	印刷紙
12	1:50.000 Santa Lucía	サンタ・ルシーア地域地形図1/50,000	SGM	西	印刷紙
13	1:50.000 Santa Rosa	サンタロサ地域地形図1/50,000	SGM	西	印刷紙
14	Cartas Topográficas	デジタル地形図:モンテヴィデオ、3地区	SGM	西	CD-R
関連新聞記事					
1	Analizan regularización por canon de Uragua	Uragua社の水利権税の調整を実施	El País	西	Word
2	Aplicarán impuestos a elementos nocivos	有害物質の取引税を導入	El País	西	Word
3	Con OSE y MEF buscarán solución	OSEと経済省が解決策を検討	El País	西	Word
4	OSE prepara licitaciones por US\$80	OSEは事業の民営化を準備	El País	西	Word
5	Plomo harán estudio de alcance nacional	鉛:全国で調査開始	El País	西	Word
6	Probides	東部湿地帯の生物多様性・持続可能な開発計画	El País	西	Word
7	Rige aumento de 8% en tarifas de OSE	OSE料金8%上昇改定	El País	西	Word
8	Saduceos temen al cromo IV	Saduceo住民VI価クロムに恐れる	El País	西	Word

No	文名	和訳	機関・著者	言語	形式
9	Vecinos preocupados por basura y agua contaminada	住民:廃棄物及び汚染水に心配	El País	西	Word
10	Verifican si hay presencia de cromo hexavalente	VI価クロムの調査開始	El País	西	Word
11	Informan sobre contaminación con Cr en Paysandú	Paisandú県でクロム汚染が訴えられた	El País	西	Word
12	Miles de peces muertos a orillas del Uruguay	Uruguay川河岸で死魚確認	El País	西	Word
13	Reaparecen algas peligrosas en Río Negro	Negro川に藻類が再繁殖	El País	西	Word
14	Rige suba de las tarifas de OSE	OSE料金の再度上昇改定	El País	西	Word
15	Dirox suspendida por riesgo de contaminación	Dirox社:汚染リスクのため営業停止	El País	西	Word

CURRICULUM VITAE

Federico Baráibar

Nombre y apellidos: Federico Baráibar Bicera.

Fecha y lugar de nacimiento: 11/02/76. Montevideo, Uruguay.

Nacionalidad: Uruguaya.

Estado civil: Soltero.

Dirección: Francisco Bauzá 3342. Montevideo, Uruguay.

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ESTUDIOS CURSADOS

Primaria:

En "Ecole Comunale de Blocry" de Lovaina la Nueva (Bélgica) en el "College International" de Puerto Príncipe (Haití) y en el "Liceo Francés" de Montevideo.

Secundaria y bachillerato:

En el "Liceo Francés" de Montevideo y en el "College International Jean Mermoz" de Abidjan (Costa de Marfil).

Universidad:

Licenciado en Dirección de Empresas, Énfasis en Finanzas y Márketing
Tema de Tesis: *"Factores que determinan la Estrategia de Gestión Ambiental en las empresas industriales en Uruguay, estudio exploratorio en UTE, ANCAP, PISA e INCA"*

Diploma:

Primer diploma de "Especialización en Medio Ambiente" dictado en la Universidad Católica del Uruguay, septiembre a diciembre 1998 (160 h.).

Posgrado:

Título de "Especialización en Gestión Ambiental", dictado en el CLAEH, mayo 1999 a agosto 2000 (Título pendiente de trabajo para asignatura "Gestión ambiental, territorial y urbana") (240 h.)

Maestría:

Maestría en Gestión Ambiental, CLAEH-Universidad Católica, septiembre 1998 a agosto 2000. (Tesis en curso)

DIPLOMAS OBTENIDOS

Diplôme du Baccalauréat de l'enseignement du second degré (Diploma del bachillerato francés) "serie D": Matemáticas y ciencias de la naturaleza.

Título de Técnico en Dirección de Empresas de la Universidad Católica del Uruguay "Dámaso Antonio Larrañaga" (agosto de 1997)

Título de Licenciado en Dirección de Empresas de la Universidad Católica del Uruguay (23/11/2000)

Diploma de "1^{er} curso de Especialización en Medio Ambiente" dictado en la Universidad Católica del Uruguay. Duración 160 hs. (Diciembre de 1998)

FORMACION COMPLEMENTARIA

Seminario sobre Compostaje organizado por CEMPRE y PREDEG/GTZ, noviembre 2002.

Curso Evaluación de Impacto Ambiental, AIDIS (Asociación Interamericana de Ingenierías Sanitaria Ambiental) BID (Banco Interamericano de Desarrollo), junio 2002.

Seminario "Key Customer Relationship Management" dictado por Ken Burnett, organizado por el Departamento empresarial de El Observador, Abril de 2001.

Participación en la "1^{era} Conferencia Taller sobre Economía y Política Ambiental para Argentina y el Cono Sur", Universidad de Buenos Aires, noviembre 1999.

Ciclo de seminarios "Transformando Organizaciones" organizado por IBM (Uruguay) y la Universidad Católica del Uruguay. Punta del Este, Uruguay. Participación en el seminario "Creando una economía más competitiva" dictado por el profesor Lester Thurow (EE.UU).

Participación en el taller de simulación de marketing estratégico "Markstrat" en la Universidad Católica. Octubre 1997

Asistencia a diversas conferencias: "Coyuntura económica uruguaya" dictada por KPMG en 1995, "Lanzamiento de Zillerthal" dictada por el Mag. Luis Bensusán en 1995, "Reconversión de Fanapel" por el Cr. Ricardo Zerbino en 1996 y "Reconversión de Juanicó" en 1997.

INFORMATICA

Operación de herramientas de oficina (Word, Outlook express, Power point, Excel) en ambiente windows (Windows 98, 2000, Me, office 2000)

IDIOMAS

Español (lengua materna): hablar, leer y escribir (muy bien)

Francés: hablar, leer y escribir (muy bien)

Inglés: hablar, leer (aceptable) y escribir (regular)

EXPERIENCIA LABORAL

Consultor Adjunto en GEMA Consultores Ambientales. (diciembre 2001-...)

- Evaluación de Impacto Ambiental del proyecto de ampliación de una cantera de balastro. Canelones

- Consultor asistente en la implantación de un sistema de gestión ambiental en la Playa de Portezuelo. Maldonado
- Consultor asistente en la implantación del Sistema de Gestión Ambiental de la represa hidroeléctrica de Salto Grande, según la serie de normas ISO 14.000. Salto
- Consultor responsable de la ampliación del SGA de Salto Shopping a la Terminal. Salto
- Consultor responsable del mantenimiento y la mejora del Sistema de Gestión Ambiental del Club del Lago Golf. Maldonado
- Asesor adjunto de Zona América en gestión de residuos, y otros asuntos ambientales. Montevideo
- Asesoramiento a la Intendencia Municipal de Salto para la gestión de residuos. Salto

- Elaboración de propuesta de servicios y presupuesto para potenciales clientes.

Técnico asesor de CEADU (Centro de Estudios, Análisis y Documentación del Uruguay) (febrero 2002 - ...)

- Asesoramiento a la Comunidad de Colonia Valdense, para la implantación de un Programa de Manejo Ambiental Comunitario (MAC). Encargado de organizar un ECOCLUB autogestionado con los jóvenes de Valdense. Colonia

- Coordinación operativa del Programa REPAPÉL (Programa de educación ambiental en la escuela pública, en torno a la gestión del papel). Montevideo
- Asistencia en el diseño de estrategias y Planes de educación ambiental en las escuelas beneficiarias del programa REPAPÉL. Montevideo.
- Realización de encuentros con niños en edad escolar, para explicar el proceso de reciclaje de papel.

- Asistencia en el programa "Jardinera de Totoras ®", basado en la adaptación de la tecnología de los "Constructed Wetlands" (humedales construidos).

- Asesoramiento a la Intendencia de Soriano para el cierre y la reubicación del vertedero municipal, y la planificación de la gestión de residuos urbanos. Soriano.

Pasantía en la Empresa GEMA (Gestión Medioambiental) Consultores Ambientales (agosto 2001- diciembre 2001)

- Consultor asistente en la implantación del Sistema de Gestión Ambiental de la represa hidroeléctrica de Salto Grande, según la serie de normas ISO 14.000. Salto
- Consultor asistente en el implantación del Sistema de Gestión Ambiental de Salto Shopping según la serie de normas ISO 14.000. Salto
- Participación en Auditorias internas y auditorias de Certificación, en Salto Shopping y en Salto Grande. Salto
- Desempeño de tareas de asesoría en general en temas relacionados a la gestión ambiental.

Coordinación del Sector Cultura de la Vicerrectoría del Medio Universitario (VMU) de la Universidad Católica del Uruguay (1999-...)

- Propuesta de políticas de cultura para la Universidad, en el marco de su proyecto de Formación Integral.
- Organización y realización de eventos relacionados a las expresiones culturales y artísticas en la Universidad. (festival de música, coros, teatro, pintura, escultura)
- Asesoramiento y apoyo a las unidades académicas para la realización de eventos de corte cultural.

Asistente del Sector Formación social y Extensión de la VMU

- Planificación y diseño del Sistema de Gestión Ambiental de la Universidad Católica del Uruguay.
- Elaboración del Proyecto de Implantación conjunta de SGA en las Universidades: Católica del Uruguay, Católica de Córdoba y Alberto Hurtado de Chile.
- Implantación y mantenimiento del Programa de Reciclaje de la Universidad Católica en (junio 2000 a ...).
- Asesoramiento a varios centros educativos para el desarrollo de una propuesta de educación ambiental, centrada en la gestión de residuos.

Asistente de promoción de la Universidad Católica del Uruguay. (1998-1999)

- Orientación, elaboración, planificación y ejecución de estrategias promocionales.

-Asesoría en lo referente a la actividad promocional que realiza la Universidad Católica del Uruguay con y en los liceos (Organización de jornadas informativas interactivas, elaboración del contenido de folletería, presentación de "stands" promocionales, diseño de la forma y del contenido de las charlas brindadas en los colegios. Etc...)

Coordinación y producción de promociones y eventos de la empresa "Kafka" (1996)

-Coordinación del "Servicio de guías y de información" en la "Expo Prado" 1996.

-Asistente en la producción del "Desachate" organizado por el "Círculo Uruguayo de la publicidad, Hotel San Rafael, Punta del Este, 1996.

-Asistente en la producción de la fiesta de fin de año de la firma "Texaco" en 1996.

ACTIVIDAD DOCENTE

Asistente de cátedra en la asignatura "Ética empresarial" de la Licenciatura en Dirección de Empresas (2001). Universidad Católica del Uruguay.
Tema: Ética ecológica vs. ambiental.

Profesor invitado en la asignatura "Fundamentos de gestión empresarial" de la Licenciatura en Dirección de Empresas (2001). Universidad Católica del Uruguay.

Tema: "Introducción a la problemática ambiental"

Disertante invitado en el "Diploma de Especialización en Medio Ambiente" (1999). Universidad Católica del Uruguay

Tema de la charla: Gestión ambiental comparada de UTE y ANCAP y aplicación de instrumentos de mercado para la economía ambiental.

OTRAS ACTIVIDADES

Consejero adjunto y Voluntario de DESEM (1997 - ...)

Apoyo a los pequeños emprendimientos creados por los alumnos de cuarto año de liceo en el marco del Programa: Empresas Juveniles de la Fundación "Desarrollo Empresarial"

Socio fundador de la Sociedad de Economía Ecológica Argentino-Uruguay (AAUDEE)

Participación en el taller (Desarrollo económico y social) para la elaboración de la "Agenda ambiental de Montevideo" de la IMM y participación de la "Primera Asamblea Ambiental de Montevideo" (junio 2000)

Coordinador de un grupo de jóvenes de la Parroquia San Juan Bautista (1995 -1999), grupo de servicio y de animación sociocultural integrado por jóvenes vinculados a la P.S.J.B

Integrante del grupo de Voluntariado de la Universidad Católica del Uruguay (1995 - 1997), grupo de ayuda a instituciones sociales carenciadas, conformado por alumnos de la Universidad Católica del Uruguay.

Participación en las experiencias de apoyo escolar y apoyo liceal (en el INAME y en la Iglesia Anglicana)

Delegado estudiantil de la Universidad Católica del Uruguay (1995 - 1998)

Integrante de la "Comisión de integración" dependiente del consejo estudiantil (1997 - 1998)

-Organización de fiestas

-Organización del grupo de viaje de la U.C.U

Integrante del equipo de voleyball de la U.C.U (1995 - ...)

Clases particulares de matemáticas y física a alumnos de 5° año de liceo (1995 - 1996)

REFERENCIAS

Ing. Agr. Facundo Ruvira. Coordinador del Programa de Desarrollo Tecnológico de la Universidad Católica del Uruguay.

Tel. 487 27 17 int. 293.

Msc. Aramis Latchinián. Director de GEMA Consultores Ambientales.

Cel. 094 494 200.

Domic. 698 66 88

Ec. Pedro Barrenechea:

Tel 480 7012

Cel. 094 455 366

Lic. Simón Fuhrman. Director Ejecutivo de DESEM.

Tel. DESEM. 402 39 82



CURRICULUM VITAE

Name : Alfredo Spangenberg
Date of birth : 12.17.59
Nationality : Uruguayan
Profession : Civil Engineer (Specializing in Hydraulic and Sanitary Engineering)
Languages : Spanish, English, Portuguese
Position within the firm : Project Manager
Seniority within the firm : 10 years

Engineer Alfredo Spangenberg has carried out his studies at the University of the Republic of Uruguay, School of Engineering, where he studied from 1978 through 1983 and obtained his university degree as a Civil Engineer, specializing in Hydraulic and Sanitary Engineering.

He started working professionally at the state-run company O.S.E. (State Waterworks), as Project Engineer, in the sanitation area, basically working for the Purifying and Pumping Stations, as well as in the fields of drinking water distribution and sewer system networks.

From 1985 onwards he worked as the Leader of the sanitation project team of the Executive Unit of the Municipal Works Plan (funded through IDB loans), where he carried out project management tasks in more than 100km of sewage network, pumping stations and waste water treatment plants.

In 1989 the Executive Unit of IDB-Funded Programmes (General Management) was created, where he held the position of Director until 1991, when he left OSE.

Simultaneously, in the private area, he joined the staff of consultants for the firm ETERNIT URUGUAYA between 1987 and 1989. He also served as a consultant for the firm C.S.I. Ingenieros SRL, between 1987 and 1991.

As from 1991 he became part of the permanent staff of the firm C.S.I. Ingenieros as Project Manager, focusing in Hydraulic and Sanitation Engineering. He participated as Co-Director in the Major Sanitation Plan for the Montevideo Department, as well as in the Major Drinking Water Plan for Montevideo and the Metropolitan area with identical responsibility, in the Maldonado Environmental Sanitation Plan (sanitation project – PEC 5 and final disposition – PEC 11) as project Manager, as well as in several executive projects of networks, pumping stations and sanitation interceptors in the city of Montevideo and inland localities (Aguas Corrientes, José P. Varela, Pinar Norte, Treinta y Tres), both as Project Director and Manager.

In terms of solid waste, he has enhanced his training through visits to sanitary landfills, compost classification plants, transfer stations, etc., in Brazil, France and Germany. He has participated in a draft project for a sanitary landfill, compost classification plant in Maldonado, and in the framework of the Sanitation Master Plan for Montevideo, in the diagnosis of the solid waste sector and in the setting out of short, medium and long-term solutions.



EDUCATION

University Degree : Civil Engineer (Specializing in Hydraulic and Sanitary Engineering)

Institution : School of Engineering

Country : Uruguay

Course length : 6 years

Graduation date : 1983

SPECIALIZATION COURSES

1996 **Training program for directors.** ACDE – ISEDE, Uruguay. Length of course: 190 hours.

1991 **Quality and Management of bays and coastal areas.** School of Engineering, Uruguay. Length of course: 40 hours. (Postgraduate course)

1990 **Hydraulic transients.** School of Engineering, Uruguay. Length of course: 40 hours.

CONGRESSES AND SEMINARS

2000 **XXVII Inter-American Congress of Sanitary and Environmental Engineering.** (AIDIS), Porto Alegre, Brazil.

2000 **2nd National Congress of Sanitary and Environmental Engineering.** Uruguay. Length of course: 1 week.

1999 **World Congress on Water.** Buenos Aires. Length of course: 1 week.

1998 **WEFTEC 98 – 71.** Annual Exhibition & Technical Conference on Water Quality and Wastewater Treatment. Orlando, USA.

1997 **1st National Congress of Sanitary and Environmental Engineering.** Uruguay. Length of course: 1 week.

1994 **XXIV Inter-American Congress of Sanitary and Environmental Engineering).** (AIDIS) World Health Organization (WHO), Argentina.



- 1993 **8th Argentinean Congress of Sanitation and Environment of Argentina.** Argentina.
- 1992 **XXIII Inter-American Congress of Sanitary and Environmental Engineering. (AIDIS).** World Health Organization (WHO), Cuba.
- 1990 **Latin-American Congress of Hydraulics.** Uruguay.
- 1988 **Ciudad 88.** Worldwide Federation of United Cities, City Council of Canelones, City Council of Montevideo, O.S.E. (State Waterworks) and Networks, Uruguay.
- 1984 **Effluent disposal in coastal cities.** INCYTH, Argentina. Length of course: 10 days.

PROFESSIONAL EXPERIENCE

Drinking water

- 1999-2000 **Drinking water master plan for Montevideo.** It encompasses the preparation of the drinking water and sanitation master plan (does not include the city of Montevideo) for the metropolitan area of the Department of Montevideo (area: 18.000 km²; population by year 2000: 2:120.000). It includes the preparation of: urban and rural planning projects; survey and development of models for surface and underground water resources; feasibility study and works draft project for the drinking water supply; feasibility study and draft project for sanitation works (except for the city of Montevideo); OSE's financial and organizational projects; institutional projects for the management of the Río Santa Lucía basin (13,500 km²) and environmental projects. Project Co-direction and Management (15 man hours, under execution).
- 1999-2000 **Reinforcement of the high area of 8 de Octubre street (Project for the development of OSE's 5th pumping line for drinking water)** It encompasses the executive project for a 500l/s pumping station, main pipes (two pipes of 1,000mm and 700mm, each being 1km long) and system sectoring of a high area of approximately 1000 ha, in order to improve the drinking water distribution to this area. It included the dynamic modeling of the System using CYBERNET. Project Manager (1 man hours under execution).
- 1999 **Main pipes of the locality of Ciudad de la Costa. (Project for the development of OSE's 5th pumping line for drinking water).** Demand study for the Ciudad de la Costa (population: 90,000), modeling and executive project of a 15km-stretch of main pipes up to 500mm. The project included the dynamic modeling through CYBERNET of the whole Montevideo System. Project manager (2 man hours).



- 1997 **Purifying plant for the city of Salto.** Executive project for a new purifying plant for the city of Salto. It includes water intake, pumping shaft, raw water main pipe, plant with 2,000 m³/h capacity and discharge up to the city tank. Benencio - Ciemsa (OSE). Water intake project. Management. Project management with 2 man hours. Acted in an advisory capacity during the execution of works.
- 1993-1994 **Protection of the Montevideo supply system against transient phenomena.** Study of temporary phenomena regarding the full drinking water supply system of Montevideo. On-site tests, mathematical modeling, model gauging and definition of the protection to be adopted for a safe system operation. O.S.E. Technical and project management. Project manager with 0.5 man hours.
- 1993 **Drinking water system for the locality of Cap. Juan A. Artigas.** Study of the overall system for the distribution of drinking water in said town, executive project for the development of the existing system (80 km), in order to supply approximately 4,500 households. The project included demand projection, study of alternatives, socio-economic evaluation according to IDB requirements, environmental impact assessment and preparation of schedules of conditions for the construction works tender. O.S.E. Technical and project management. Preparation of schedules of conditions and reports. Project manager with 1 man hour.
- 1988 **Draft project for the development and restoration of the plant in the locality of Aguas Corrientes.** Project for the development and restoration of the purifying plant of Aguas Corrientes (585,000 m³/d), covering 5 areas. Water treatment, bauxite system, chlorination system, alkalization system, flocculation helpers system (polyelectrolytes). O.S.E. Draft project for the alkalization system. Project engineer with 2.5 man hours.
- 1984 **Executive project for the development of the Purifying Plant and Pumping Station of the locality of Solís de Mataojo.** Project for headworks, intake pipes, pumping shaft, installation of two compact plants and chemical house. O.S.E. Executive project for headworks. Executive project for the installation of compact plants. Project for the chemical house. Project engineer with 1 man hour.
- 1984 **Modification Project for the Purifying Plant and Pumping Station of Laguna del Cisne.** Redesigning project of the flocculator, settler and independence of tanks with filtered water. O.S.E. Executive project for redesigning the flocculator and settler. Project engineer with 5 man hours.
- 1984 **Executive project for intake pipes to the harbor of Punta del Este.** Supply pipe project to reinforce water supply to the marinas of Punta del Este harbor. O.S.E. Engineering design and hydraulic studies. Topographic surveys. Costing. Preparation of contract documents and evaluation of bids. Project Director with 1.5 man hours.



- 1984 **Project for the drinking water system of Paysandú, Carmelo, Soca, Fray Bentos and Salto.** Project for the development and extension of the drinking water distribution systems (32 km) and authorization for drilling. O.S.E. Engineering design. Engineering and hydraulic studies. Project Engineer with 3 m/ h.
- 1983 **Executive project for the development of the Purifying Plant and Pumping Station of the city of Salto.** Project for a new unit of rapid filtration and adaptation of the pipe tunnel. O.S.E. Hydraulic studies for a new filter design. Executive project for a filter. Junior engineer with 2 man hours.
- 1983 **Executive project for supply pipes and water intake in the Río de la Plata (River Plate) for the Purifying Plant and Pumping Station of the locality of Juan Lacaze.** Intake project in the Río de la Plata and supply pipes for two compact plants. O.S.E. Topographical survey. Engineering design. Engineering and hydraulic studies for the water intake project. Junior engineer with 1 man hour.
- 1983 **Executive project for the development of the Purifying Plant and Pumping Station of the city of Rocha.** Redesigning of the chemical house and reinforcement of supply pipes. O.S.E. Engineering design. Engineering and hydraulic studies. Junior engineer with 1 man hour.

Sanitation

- 2000 **Inspection and unblocking of home sewer connections in the city of Buenos Aires (Aguas Argentinas S.A.).** Televised inspection and unblocking of home sewer connections. Project manager (1 man hour, under execution). Project Manager (0.5 man hours).
- 2000 **Sewer inspection of the old radius of the city of Buenos Aires (Aguas Argentinas S.A.).** Televised inspection of a 50km-radius of storm drains and sewers and integration to a MIS. Project Manager (1 man hour).
- 1999 **Sanitation study of the city of Treinta y Tres.** It encompasses the sanitation master plan for the city of Treinta y Tres (Q= 150 l/s; population 34,000 inhabitants) and the executive project for the piping system, and waste water treatment plant and final effluent disposal. Project Director (3 man hours).
- 1998-2000 **Reconditioning program of the old system of the city of Montevideo (Arteaga Network).** It encompasses the televised inspection of 200 km of unitary sewers and the development of a MIS, network diagnosis, and the 40km-long executive project for a comprehensive reconditioning, including serious damages. Project Manager (4 man hours).



- 1996-1997 **Piping System and final effluent disposal of the locality of Paso Carrasco.** It encompasses the pumping systems (two pumping stations of 61 l/s and 133 l/s with their respective impulse lines) within the sanitation area of Paso Carrasco, which will enable to export the effluents generated therein to the Montevideo system. Likewise, it includes: reinforcement of the coastal main sewer between Belastiquí and Ciudad de Guayaquil; development of the Punta Gorda pumping station (720 l/s); and development of the Colombes pumping station (1,800 l/s). The contract includes the executive project and environmental impact assessment. O.S.E. - I.M.M. - O.P.P. (Budget and Planning Entity) Technical and project management. Project Manager with 3 man hours.
- 1996-1997 **Pumping station for the locality of Punta del Chileno.** Executive project for a pumping station ($Q=230$ l/s, $\Delta H= 33m$) in Punta del Chileno and the corresponding impulse line (ϕ 400 mm and 4,1 km). The aim of the project is to eliminate the treatment plant set up therein, thus pumping the effluents reaching the plant up to "Parada 24" (locality of Las Delicias), and from there up to Punta Salina. O.S.E. Executive project. Project director with 2 man hours.
- 1996-1997 **Modification of weirs of the Paraguay System.** It involves the development of the hydraulic model (CAREDas) of the (unitary) sewer network of the Paraguay functional unit (2,920 ha) of the city of Montevideo. Executive project for: a) Puerto - Guaraní main sewer (project of a new weir and elimination of three others) and b) modification of the weirs of the Rondeau sewer (projects for five centrally operated weirs with sluiceways, project for a 1.50m x 2.50m spillway and modification of seven weirs). The aim of the project is to eliminate spillage to the bay ($1,1$ m³/s, 35 T DBO/d) in dry weather conditions as well as overflowing during rainfall. I.M.M. Technical and project management. (1,5 man hours).
- 1995-1996 **Sanitation of the locality of José Pedro Varela.** Sanitation Master Plan (7,000 inhabitants). Prioritization of works. Executive project (preliminary deadline: 2025) for a 38km-long sewer network; 4 pumping stations and treatment plant (aerated facultative lagoons and surface runoff). Environmental impact assessment. O.S.E. Feasibility study. Study of alternatives. Executive project of the sewer system and treatment plant. Area to be cleaned up: 300 ha. Project director with 3 man hours.
- 1995-1996 **Sanitation of the locality of Aguas Corrientes.** Executive project for the sewer system (11km), 3 pumping stations and treatment plant for 1,000 inhabitants based on stabilization ponds. Outlet up to the Santa Lucía river. O.S.E. Feasibility study. Draft project. Executive project for the sewer system (includes three pumping stations) and treatment plant for the locality of Aguas Corrientes. Acted in an advisory capacity during the execution of works. Project director with 2 man hours.



- 1995-1996 **Reinforcement of main sewers of the Miguelete Stream.** Executive project for the reinforcement of main sewer of the left bank of the Miguelete stream, which consists of a round section of a 2.40m-diameter and being 1,500 m long, linked to the redesigning of 12 weir chambers from the existing main sewers on both stream banks. It also includes the project of a 110-meter siphon and two tubes with a diameter of 0.90 m, which allows the right bank main sewer to be connected to the left bank main sewer. Environmental impact assessment. I.M.M. (City Council of Montevideo). Technical and project management. Project manager with 3 man hours.
- 1994-1995 **Sanitation of the Carrasco Este.** Draft project of Carrasco Este (210 ha). Executive project for the sanitation of Nariño street and bordering areas. Includes 2 pumping stations. I.M.M. Feasibility study. Draft project for Carrasco Este. Executive project to serve Nariño street (includes two pumping stations). Project director with 3 man hours.
- 1994-1995 **Sanitation of Sayago Norte, Peñarol and Ferrocarril neighbourhoods.** Executive project for the combined sewer system of Sayago Norte, Peñarol and Ferrocarril neighbourhoods. Population to be served at the final stage of the design period (year 2035): 30,000 inhabitants. Area to be sanitized: 650 ha. Length of system: 90 km. Environmental impact assessment. I.M.M. Technical and project management. Project manager with 5 man hours.
- 1993-1995 **Sanitation Master Plan for the Department of Montevideo.** Urban planning studies. Pre-feasibility and feasibility studies. Development of mathematical models. Assessment of 16 global sanitation alternatives. Selection of the best alternative. Schedule of works. Preparation of project 1st stage: 580 Km of sanitation sewer system; 160 Km of storm water sewers; two pre-treatment plants; three treatment plants; system reconditioning program; industrial effluents treatment program. Socio-economic project assessment. Analysis of financial feasibility (rate study). Analysis of institutional feasibility. IDB loan application for the 1st stage of works (US\$ 220: million). I.M.M. Development of the water quality mathematical model for the Montevideo bay. Survey of the sewer system operation. Setting out the 16 alternative solutions. Engineering design of alternatives. Comparative study and selection of the most suitable alternative. Draft projects for the first stage. Preparation of the First Stage plan. Preparation of loan application. Negotiations with IDB. Co-Director with 20 man hours.
- 1993-1994 **Sanitation of the Maldonado-Pinares- Portezuelo subsystem (PEC N°5).** Diagnosis of the situation of the area under study (5,000 ha). Topographical survey of 3,000 ha. Preparation of digital cartography of the area under study. Survey of main sewers. Flow and level measurement in sewers. Prospective analysis of urban development within the area. Sanitation Master Plan for the area, by the year 2025. Technical-economic analysis of conveyance alternatives and selection of the most suitable alternative. Draft project development of the sanitation system of this area (5,000 ha), which involves 230 km of main sewers and 15 pumping stations. Prioritization of works in order to identify a First Stage. Socio-economic project assessment.

- Environmental impact assessment. Executive project for the first stage of works, which involves an area of 1,900 ha to be sanitized, a 170-km sewer system and 5 pumping stations. O.S.E. Feasibility study. Draft project. Prioritization of works. Executive project for sewer systems, pumping stations. Impulse lines. Socio-economic project assessment. Administration and technical project management. Project Manager with 8 man hours.
- 1993 **Treatment plant for the locality of Pinar Norte (Capitán Artigas).** Executive project for a treatment plant of barometric liquids for a population of 36,000 inhabitants. Such project included demand projections, study of alternatives, socio-economic assessment according to IDB requirements, environmental impact assessment and preparation of schedules of specifications for the tender. O.S.E. Study of alternatives. Executive project. Preparation of reports and bid specifications. Technical and project management. Project manager with 1 man hour.
- 1993 **Project for the Pumping Station of the locality of Nueva Chacarita. Montevideo Urban Sanitation Program. Stage II.** Feasibility study. Draft project. Executive project for the pumping station ($Q=730$ l/s $\Delta H=50$ m) and impulse line (1.8 Km.). I.M.M. Technical and project management. 1,5 man hours.
- 1992-1995 **Study and development of water quality models in the coast of Maldonado. Punta del Este - Punta Ballena (PEC N°11).** Development and implementation of a data-collection program. Development of water quality models which, once gauged and validated, were able to forecast values of certain parameters associated with predetermined quality objectives. Analysis of different scenarios, which aimed at solving the problem of final effluent disposal in the area in question. Development of an integer, linear programming type economic model with the restrictions imposed by the water quality model and the quality objectives established in order to select the most convenient final disposal system from an economic, technical and environmental point of view. Selection of the most suitable alternative for final disposal. Draft project preparation of: underwater outlet in Punta de las Salinas (the best solution); extension of pre-treatment plant; and final pumping station (including anti-ram device). O.S.E. Coordination of the program of maritime campaigns. Water quality model development (HARO). Study of alternatives. Technical and project management. Project manager with 9 man hours.
- 1992-1994 **Executive project for the treatment plant of the locality of Punta Salina.** Executive project, acted as advisor during the execution of works, commissioning and operation during the Summer of '93-94 of the pre-treatment plant ($Q=1$ m³/s) of Punta Salina. O.S.E. Executive project. Commissioning and operation. Technical representative of the CIEMSA-CSI consortium with 2 man hours.



- 1992 **Sanitation of the neighbourhood Casabó (Montevideo).** Draft project for the neighbourhood Casabó (160 ha). Project. Executive project for the final disposal in the Sopa beach. I.M.M. Pre-feasibility and feasibility study. Draft project. Executive project for the final outlet. Project director with 1 man hour.
- 1991-1992 **Study and design for the extension of the Waste Water Treatment Plant in the city of Tacuarembó.** Draft project, feasibility study and executive project for the waste water treatment plant of the city of Tacuarembó, made up of the 1km extension of the 400 mm present outlet, effluent pumping station and a 2km impulse pipeline of 2 km, as well as a purifying plant with an aerated facultative lagoons base with a total extension of 18 ha. Final outlet up to Tacuarembó Chico stream. Environmental Impact Assessment. M.T.O.P. (Ministry of Transportation and Public Works) - O.S.E. Feasibility study. Executive project. Technical and project management with 3 man hours.
- 1991 **Sanitation of the locality of Rincón de la Bolsa (San José).** Sanitation feasibility study for Rincón de la Bolsa. Draft project of sewer systems, pumping station and treatment plant. Executive project, 1st stage. City Council of San José. Pre-feasibility and feasibility study. Engineering design. Engineering and hydraulic studies. Costing. Design engineer with 3 man hours.
- 1989 **Extension of the sewer system and pumping station (capacity of 80 l/s) for the city of Maldonado.** 12km-sewer system. Pumping station. Impulse pipeline of 1 km. O.S.E. Management of works. Works manager with 5 man hours.
- 1988 **Executive project for the sanitation of the locality of Chuy.** Sanitation study. Project for the overall sewer system. Sanitation executive project (first stage). Sewer system: 11 km. Waste Water Treatment Plant for a population of 6,000 inhabitants, consisting of a booster station and a system of aerated facultative lagoons. O.S.E. Engineering and hydraulic studies, costing. Geological and topographical surveys. Project director with 3,5 man hours. Acted as advisor during the execution of works.
- 1987-1988 **Sanitation of the locality of Paso Carrasco.** Executive project of the combined sewer system for the locality of Paso Carrasco (Dept. of Canelones). The area under study covered 450 ha, with a population of 28,000 inhabitants to be served by the end of the design period (year 2035). The project also involved the study of the final disposal of effluents. It consisted of a treatment plant designed with activated sludge mode. The plant contained the following elements: a booster station and a system of aerated facultative lagoons Socio-economic assessment. I.M.M. Pre-feasibility and feasibility study, technical studies and engineering design. Project for the pumping station and impulse line of Barra de Carrasco. Project for the booster station of the effluent treatment plant. Project for the Parque Miramar combined sewer system. Design engineer with 6 man hours.

1995- 1996: Appointed as a "Consultant-Expert" to Inter-American Development Bank (IDB) for the "Project on Environmental Management of the Matanza-Riachuelo River Basin", as a part of the PRODIA, Subprogram "C", New Environmental Projects. The Project is managed by the Secretariat of Natural Resources and Sustainable Development of the Argentine Republic.

Duties: Elaboration of a "Master Plan on Environmental Sanitation, Clean-up and Remedial Actions at Illegal/Clandestine Waste Disposal Sites, focusing on Hazardous Wastes Contaminated Sites and Dumps located at the Matanza-Riachuelo River Basin".

The proposed methodology is based on the Remedial Investigation/Feasibility Study (RI/FS) Process, as the most suitable approach for addressing any case of hazardous wastes highly polluted sites.

The remedial action selection process set up in this report/study includes a "Matrix for Identification of Data Needs for Several Remedial Technologies", as well as a "Matrix of General Remedial Technology Categories for Specific Site Problems".

Elaboration of an "Urban Solid Waste Management Plan for the Matanza-Riachuelo River Basin", focusing on "an environmentally sound/integrated solid waste management system".

Preparation/elaboration of "Terms of Reference" (TOR) for both Plans (Clean-up/Remedial Actions at Illegal Waste Disposal Sites- Hazardous Waste Dumps, and Urban Solid Waste Management).

In-depth knowledge of Inter-American Development Bank's "Project Cycle Stages": Programming- Identification- Preparation- Analysis- Negotiation and-Approval- Execution and Supervision, as well as the "Environmental Classification" adopted by the Bank, regarding "Environmental Analysis and Environmental Impact Assessment (EIA)".

1995- Present: Appointed as an "Honorary Advisor and Senior Fellow Associate Researcher" of the Department of Environment and Development, Institute of International Relations (I.R.I.), National University of La Plata. Co-founder of the I.R.I. and Founder and Co-Chair of the Department of Environment and Development.

Main duties: Extensive Applied Research on: International Environmental Policy, International Environmental Law, Environmental Regulations (At National and International level), Environment and Sustainable Development and Global Change.

Environmental awareness and environmental education: Organization of "Workshops on Environmental Issues: Biodiversity, Global Environmental Change, Environment and Sustainable Development and other topics"; Seminars and Meetings on "International Environment Policy Analysis and Development Issues".

Special attention and priority is given to Non-Governmental Organizations (NGOs) devoted to environmental problems.

"Special Guest Lecturer" and "Keynote-Guest Speaker" in several academic and scientific meetings.

Preparation/elaboration of a "Project on Compilation and Presentation of the United Nations Global Agenda on Environment", assigned by the Chief-Representative of the United Nations-UNDP Office in Argentina, as a special consulting work for the United Nations Development Program (UNDP), hired as a "Senior Consultant" to carry out the mentioned above assignment.



- 1987 **Draft project for the extension of the Purifying Plant in the department of Artigas.** Extension project for the Purifying Plant. Determination of treatment level. Study of the different alternatives and selection of the most suitable one. Development of the selected alternative at a preliminary level (conventional system of activated sludge) for a population of 25,000 inhabitants. O.S.E. Engineering design. Engineering, hydraulic studies and costing. Geological and topographical surveys. Project director with 2 man hours.
- 1986-1987 **Executive project for the sanitation of the locality of Sarandí del Yí.** Study of the sanitation system. Overall sewer system project. Executive project of 5 km. Project for a Waste Water Treatment Plant, consisting of a septic tank and further discharge into marshlands area. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 5 man hours.
- 1986 **Executive project for the extension of the sewer system of the locality of Maldonado.** Overall sewer system project of a new basin to be cleaned up and an executive project of 12 km. Project for an effluent pumping station (pumping capacity of 80 l/s) and impulse pipeline. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 480 man hours.
- 1986 **Executive project for the extension of the sewer system of the locality of Bella Unión.** Overall sewer system project of a new basin to be cleaned up and an executive project of 9 km. Project for the development of a Waste Water Treatment Plant, consisting of a bar screen, a 1.5 ha - aerated facultative lagoon and premises. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 2,5 man hours.
- 1985-1986 **Executive project for the extension of the sewer system of the locality of Treinta y Tres.** Overall sewer system project of a new basin to be cleaned up and an executive project of 15 km. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 3 man hours.
- 1985 **Executive project for the extension of the sewer system of the locality of Artigas.** Project for the extension of the sewer system. Length: 11 km. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 2 man hours.



- 1985 **Executive project for the extension of the sewer system of the locality of Salto.** Project for the extension of the sewer system. Length: 10 km. O.S.E. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 1 man hour.
- 1985 **Executive project for the extension of the sewer system of the locality of Paysandú.** Project for the extension of the sewer system. Length: 5 km. O.S.E. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 0.5 man hours.
- 1985 **Executive project for the extension of the sewer system of the locality of Fray Bentos.** Project for the extension of the sewer system. Length: 5 km. Water quality study, of the inlet formed in the Río Uruguay (Uruguay River) opposite the city of Fray Bentos. Execution of sampling program to carry out bacterial decline (T 90) and dilution analysis. Study of currents through sea anchors. Project for the modification of the discharge point of the treated effluent. Improvement project for the operation of the domestic Waste Water Treatment Plant. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 3,5 man hours.
- 1985 **Executive project for the extension of the sewer system of the locality of Carmelo.** Project for the extension of the sewer system. Length: 2,5 Km. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 0,5 man hours.
- 1985 **Executive project for the extension of the sewer system of the locality of Rocha.** Overall sewer system project of a new basin to be cleaned up and an executive project of 9 Km. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents. Geological and topographical surveys. Project director with 1 man hour.
- 1984 **Executive project for the sanitation of the Carrasquito neighbourhood in the city of Mercedes.** Project for two septic tanks, effluent pumping station and impulse pipelines. O.S.E. Engineering design. Engineering, hydraulic studies, costing and preparation of contract documents and evaluation of bids. Geological and topographical surveys. Project director with 2,5 man hours.



Financial and organizational studies

- 1999 **Sectorial analysis for the drinking water and sanitation system of Uruguay.** Diagnosis of the present situation regarding existing infrastructures in water and sanitation services. Preparation of technical proposals. Technical consultant (1,5 man hours).
- 1997 **Long-term expansion plan for O.S.E.** Preparation of a long-term plan for the expansion of OSE. Demand projection of water and sanitation services. Project identification. Economic assessment. Prioritization. Financial feasibility analysis. O.S.E. Present situation diagnosis. Demand projection. Project identification. Preparation of cost specifications. Prioritization of projects. Study of alternative Expansion Plans. Selection of the most suitable plan. Co-Director with 2 man hours.
- 1993-1994 **Rate study for O.S.E.** Study of OSE's rate structure. Rate calculation through long-term marginal costs. Ernst & Young (O.S.E.). Demand projection of O.S.E. services in the whole country. Analysis and adjustment of the Sectorial Plan. Operation and maintenance costing. Preparation of financial forecasts. Calculation base adjustment for OSE's assets. Rate calculation through marginal costs. Consultant with 1 man hour.

Management

- 1999-2000 **Integration Program for La Boyada settlement (Montevideo).** It involves the executive project for the improvement of La Boyada settlement (170 households), which included the following services: drinking water, combined sewer system, roads, lighting, electric power, and urban conditioning, as well as the relocation of those houses settled in areas prone to floodings into other basic evolutionary centers within the same neighborhoods. It also included a new urban project (plotting) and social development aspects. Project director. (2 man hours).
- 1998-1999 **Advisory services to the Sanitation Executive Unit of the City Council of Montevideo.** It involves management of the urban sanitation plan for Montevideo and its metropolitan area – Stage III (US\$ 200 million), with special emphasis on the financial and physical planning tasks of the program, as well as the evaluation of bids, supervision of electromechanical works and preparation of projects to modify works. Contract manager (3 man hours, under execution)
- 1995-1996
1996-1997
1998-1999 **Operation and maintenance of treatment plant of the locality of Punta Salina (Dec./95 - Apr. /96, Dec/96 - Apr./97 and Dec/98 – Apr/99).** Operation and maintenance of the pre-treatment plant of Punta Salina. Execution of works for odor control. O.S.E. Operation and maintenance. Operation optimization. Odor control. Executive project for chlorine gas dosage. Management of works. Director of contracts with 4 man hours.



- 1991 **Sanitation and Drinking Water National Program.** Director of the Executive Unit (US\$ 50:000.000). Preparation of program profile, loan application and representative sample. O.S.E. Project management. Preparation of program profile. Negotiations with IDB. Program Director with 4 man hours.
- 1990 **National Plan for Municipal Works I (O.S.E. Subprogram).** Director of the Executive Unit of O.S.E. Subprogram (US\$ 20:000.000). Management of 3 supply contracts and 10 construction work contracts. O.S.E. Program Management during the execution of works stage. Director of O.S.E. Subprogram with 6 man hours.
- 1990 **Municipal Development Program II (O.S.E. Subprogram).** Director of the Executive Unit of O.S.E. Subprogram (US\$ 11:000.000). Preparation of loan application and representative sample of the program. Management of sample projects. O.S.E. Preparation of loan application. Negotiations with IDB. Program Management in the stage of preparation of sample executive projects and calls for bids. Director of O.S.E. Subprogram with 6 man hours.

POSITIONS HELD

- 1992-2000 **Project Manager, Sanitary Division.** C.S.I. Ingenieros SRL, Uruguay. Activities: Management of all projects within the sanitary division.
- 1990-1991 **Director of the Executive Unit of IDB-funded Programs (General Management).** O.S.E., Uruguay. Activities: Management of O.S.E. Subprogram for the National Plan for Municipal Works I. Management of O.S.E. Subprogram of Municipal Development Program II. Management of the Sanitation and Drinking Water National Program.
- 1990 **Head of the Executive Unit of the National Plan for Municipal Works I.** O.S.E., Uruguay. Activities: Management of O.S.E. Subprogram of Municipal Works Plan (IDB Loan 472/OC-UR and 750 SF-UR).
- 1987-1989 **Technical Consultant.** ETERNIT URUGUAYA S.A., Uruguay. Activities: Consulting services for the development of new products. General technical consulting services. Consultant for the Commercial Manager.
- 1988-1989 **Assistant Chief of the Executive Unit of the National Plan for Municipal Works I.** O.S.E., Uruguay. Activities: Project management. Coordination of the execution of works. Preparation of an investment and working schedule. Director of works.



Spangenberg

- 1985-1987 **Head of the team of sanitation projects of Executive Unit of the National Plan for Municipal Works I.** O.S.E., Uruguay. Activities: Director of all the sanitation projects included in the Municipal Works Plan (IDB Loan 472/ OC-UR 750/SF-UR).
- 1984 **Civil Engineer (Grade 2).** O.S.E., Uruguay. Activities: Design Engineer.
- 1981-1983 **Assistant Engineer.** O.S.E., Uruguay. Activities: Measuring and budgeting tasks. Project tasks.

LANGUAGES

Native language: Spanish

Other

	Writes	Speaks	Reads
	Exc. Good Average	Exc. Good Average	Exc. Good Average
English	X	X	X
Portuguese	X	X	X
French	X	X	X



CURRICULUM VITAE

Name : Alessandra Tiribocchi Barelli
Date of birth : June 28, 1967
Nationality : Uruguayan
Profession : Civil Engineer (Hydraulic and Environmental)
Languages : Spanish, English, Portuguese
Position in the company : Advisor
Time with the company : 4 years
Working hours : Full time

Ms. Alessandra Tiribocchi did her college studies at The University of the Oriental Republic of Uruguay, School of Engineering from 1987 to 1994 and obtained a degree in Civil Engineering, Hydraulic and Environmental option.

She started to work for the National Bureau of the Environment in 1992 where she worked in the Department of Environmental Control evaluating projects and the work of plants of industrial waste treatment in all the country. She was also part of the team of the Environmental Impact Evaluation Unit, where she evaluated the Studies of Environmental Impact of different undertakings.

In 1997 she was an Advisor on environmental issues for the Municipality of Canelones, where she basically worked on the management and operation of the final collection and disposal of household solid waste.

At the same time she was part of the technical team of HIDROSUD consultants, where she took part of the project of the purifying plant of the city of Florida.

In 1998 she left the state activity and became part of the staff of advisors of IBERSIS, which belongs to the multinational group Unión Fenosa. She carried out activities related to the environmental management in the country and in the region.

Since 1999 she has been part of the permanent staff of CSI Ingenieros as Designer and Advisor in the specialty of hydraulic and environmental engineering. It is important to highlight her participation in several studies of environmental impact and in the project for the purifying plant in the city of Treinta y Tres.



FINISH EDUCATION

University Degree : Civil Engineer Environmental and Hydraulic option
Place : School of Engineering
Country : Uruguay
Duration : 7 years
Graduation date : 1994

NOT FINISH EDUCATION

Name : Geography licentiature
Place : School of Science
Country : Uruguay
Duration : 4 years
Finished: : 1 year

Name : Master in Science of Environmental Engineering
Place : School of Engineering
Country : Uruguay
Duration : 2 years
Finished: : all the courses. Thesis in process



SPECIALIZATION COURSES

2001

- Name: Environmental Impact Evaluation
- Institution: Environmental Ministry of Spain and Catholic University of Argentina
- Place: Buenos Aires–Argentina
- Duration: 5 days
- No. of hours: 40 hours

- Name: Hydrologic and hydraulic models management (superficial resources)
- Institution: SOGREA–CSI–OSE
- Place: Montevideo – Uruguay
- Duration: 6 days
- No. of hours: 48 hours

2000

Visit to San Pablo state in Brazil, crossing 9 plants of secondary level domestic effluents treatment, during one week.

1999

- Name: Systems of Environmental Management
- Institution: AIDIS
- Place: Montevideo – Uruguay
- Duration: 3 days
- No. of hours: 24 hours

1998

- Name: Systems of Environmental Management
- Institution: Uruguayan Institute of Technical Regulations
- Place: Montevideo – Uruguay
- Duration: 2 weeks
- No. of hours: 18 hours

- Name: Corporate Introduction
- Institution: IBERSIS SA
- Place: Montevideo – Uruguay
- Duration: 1 week
- No. of hours: 32 hours

- Name: Consulting Skills
- Institution: IBERSIS SA
- Place: Montevideo – Uruguay
- Duration: 1 week



- No. of hours: 40 hours

1997

- Name: Biological Treatment of waste
- Institution: School of Chemical Engineering
- Place: Montevideo – Uruguay
- Duration: 1 semester
- No. of hours: 70 hours

1996

- Name: Design, construction and operation of manual sanitation fillings.
- Institution: Pan-American Center of Sanitary Engineering and Environmental Sciences
- Place: Montevideo – Uruguay
- No. of hours: 20 hours

- Name: Costs as per services rendered for the system of public sanitation (COSEPRE)
- Institution: Pan-American Center of Sanitary Engineering and Environmental Sciences
- Place: Montevideo – Uruguay
- No. of hours: 20 hours

- Name: Fundamentals of Bioengineering
- Institution: School of Chemical Engineering
- Place: Montevideo – Uruguay
- No. of hours: 70 hours

- Name: Solid Industrial Waste
- Institution: Company of Environmental Sanitation Technology of Sao Paulo – Brazil (CETESB) – School of Engineering , Uruguay
- Place: Montevideo – Uruguay
- No. of hours: 40 hours

1995

- Name: Principles for the Evaluation of the Environmental Impact
- Institution: Monitors of the US Environmental Protection Agency (USEPA)
- Place: Montevideo – Uruguay
- No. of hours: 40 hours

- Name: Meteorology and Atmospheric Pollution
- Institution: State Power Plants and Transmissions (UTE)
- Place: Montevideo – Uruguay
- No. of hours: 20 hours



1994

- Name: Technology in Biological Processes
- Institution: School of Engineering
- Place: Montevideo – Uruguay
- No. of hours: 18 hours

- Name: Oxidation Lagoons, Geological and Sanitary Parameters for the Control of Environmental Impacts.
- Institution: Brazilian Association of Underground Waters – School of Engineering
- Place: Colonia del Sacramento – Uruguay
- No. of hours: 40 hours

1993

- Name: Geological Parameters in the handling of Aquiferouses
- Institution: Brazilian Association of Underground Waters – School of Engineering –
- Place: Montevideo – Uruguay
- No. of hours: 40 hours

1992

- Name: Treatment and Re- use of Sewage Water
- Institution: School of Engineering
- Place: Montevideo – Uruguay
- No. of hours: 24 hours



CONGRESSES AND SEMINARS

2002

- Name: Sociological-Environmental-Territorial Agenda elaboration for the Rosario mini region
- Institution: Claeh-Freplata-IM of Colonia
- Character¹: Speaker
- Place: Colonia-Uruguay

- Name: Enterprise challenge: environmental technological services development
- Institution: Chamber of Industry of Uruguay
- Place: Montevideo – Uruguay

- Name: III National Workshop GWP Samtac Uruguay:
- Institution: Global Water Partnership
- Place: Montevideo – Uruguay

2001

- Name: III National Congress
- Institution: AIDIS
- Place: Montevideo – Uruguay

- Name: Capacitating about the ISO 9.000 norms
- Institution: CSI Ingenieros
- Place: Montevideo-Uruguay

- Name: III International Workshop of Regional approaches for the Development and Management of Dams in the basin of Río de la Plata river
- Institution: Argentine institute of hydric resources
- Place: Posadas-Argentina

2000

- Name: XXVII Inter American Congress of Sanitary and Environmental Engineering
- Institution: AIDIS
- Place: Porto Alegre – Brazil

¹ When it is not specified, the person attended as a participant.



- Name: The Environmental Variable in the life cycle of a sanitation project
- Institution: XXVII Inter American Congress of Sanitary and Environmental Engineering
- Participated as²: Speaker
- Place: Porto Alegre – Brazil

- Name: The vision of water for the new millenium
- Institution: Global Water Partnership
- Place: Montevideo – Uruguay

- Name: Comprehensive Management of Solid Waste: options and alternatives
- Institution: IDB (International Development Bank)
- Place: Montevideo – Uruguay

- Name: Environmental and socio-demographic diagnosis of the Uruguayan coastal area and the Rio de la Plata
- Institution: EcoPlata
- Place: Montevideo – Uruguay

- Name: Environmental studies concerning the new thermal works of U.T.E.
- Institution: Uruguayan Association of Engineers
- Participated as : Speaker
- Place: Montevideo – Uruguay

- Name: Technology for the treatment of industrial waste by oxidation processes using an activated wet way.
- Institution: Chamber of Industry of Uruguay
- Place: Montevideo – Uruguay

1999

- Name: 5 years of EIA – Reality and challenges
- Institution: DINAMA
- Place: Montevideo – Uruguay

- Name: II Meeting of the Waters
- Institution: IICA – MGAP (Ministry of Livestock, Agriculture and Fisheries)
- Place: Montevideo – Uruguay

² When it is not specified, the person attended as a participant.

**1998**

- Name: Treatment by Biological Sequence of a Single Reactor (SBR)
- Institution: Association of Engineers
- Place: Cochabamba – Bolivia

- Name: Processes of bio – augmentation
- Institution: School of Engineering
- Place: Montevideo – Uruguay
- Name: The Environment, legal framework and business management
- Institution: Chamber of Industries of Uruguay
- Place: Montevideo – Uruguay

- Name: The Environment, research and national consulting
- Institution: Chamber of Industries of Uruguay
- Place: Montevideo – Uruguay

- Name: The Environment, legal framework and business management
- Institution: Chamber of Industries of Uruguay
- Place: Montevideo – Uruguay

- Name: Total Quality. Systems of Environmental Management
- Institution: Uruguayan Technological Laboratory
- Place: Montevideo – Uruguay

1997

- Name: II Meeting of entities responsible for Solid Waste of the South Cone.
- Institution: Pan American Health Organization (OPS), Office of Financial Planning and Budgeting (OPP) and Ministry of Housing, Land and the Environment (MVOTMA)
- Place: Montevideo – Uruguay

- Name: II Workshop of Entities responsible for Municipal, Urban Solid Waste
- Institution: OPS, OPP y MVOTMA
- Place: Montevideo – Uruguay

- Name: First meeting of environmental offices of the different Municipalities
- Institution: City Hall of San José
- Place: San José – Uruguay

- Name: Algae Florescence in the Río de la Plata
- Institution: City Hall of Colonia
- Place: Colonia del Sacramento – Uruguay

- Name: Biannual Planning Meeting
- Institution: CNCG
- Place: Montevideo – Uruguay



1996

- Name: Urban Solid Waste
- Institution: ORT
- Place: Montevideo – Uruguay

1995

- Name: Environmental Problems of Urban Centers
- Institution: Brazilian Association of Sanitary Engineering
- Place: Río de Janeiro – Brazil

- Name: First Exhibit of Environmental Technology – Envirotech 95
- Institution: Brazilian Association of Sanitary Engineering
- Place: Río de Janeiro – Brazil

- Name: National Workshop of Entities responsible for Municipal, Urban Solid Waste
- Institution: MVOTMA – OPP – Inter American Association of Sanitary Engineering
- Place: Maldonado – Uruguay

- Name: Workshop on the Management of the Use of Underground Waters
- Institution: National Bureau of Hydrography
- Place: Montevideo – Uruguay

- Name: First Scientific Workshops on the Environment
- Institution: Central Unit of the Environment
- Place: Montevideo – Uruguay

- Name: ECOSUR: Conference on the Environment and Cross Border Aspects
- Institution: MVOTMA
- Place: Montevideo – Uruguay

1994

- Name: Third Regional Workshop and Latin American Seminar: Anaerobic Treatment of Residual Waters
- Institution: School of Engineering
- Place: Montevideo – Uruguay

- Name: Industry in Uruguay within the frame of Sustainable Development
- Institution: MVOTMA
- Place: Montevideo – Uruguay



PROFESSIONAL EXPERIENCE

Environment education

- 2002–2003 Proposal to fortify the environment education in the German School in Montevideo–Uruguay (in elaboration)
- Coordination of the environment courses for the firm Eufores, to reach del eco certification, of its process
- Course: solid wastes
Company: Eufores
To: operators of the forestation firm
- Course: solid wastes
Company: Eufores
To: managers of the forestation firm
- Course: solid wastes
Company: Monitoring citizen program to Montevideo Municipality
To: environmental ONG's personal
The courses will be implemented in 2003
- 1998 Courses: Good practices in the management of solid wastes
Company: TDE, Bolivia
To: operators

Drinkable Water

- 2002 **Preliminary diagnosis of the issues related to the non counted water theme for the Waters and Sewage systems of San José de Costa Rica.**
Position: Consultant
Devote: 50 hours
- 1998 ABCL. Feasibility study of new water intake in the Paraná river in the city of Corumbá, Matto Grosso do Sul , Brazil. Project maker (200 hours).
- 1996 **Plant for drinkable waters of the company Galia SA.** The company Galia SA built a dam so as to have a water supply big enough to provide for its industrial needs. In order to do so, the company needed the project of a system to make water coming from the dam drinkable. Due to the daily volume of water used and to the temporal mode of using the water, the option was a system of double filtration with coagulating dosage. Project maker (120 man-hours).



Sanitation

- 2001 **First draft of the sanitary infrastructure (potable water and cleaning) of the model prison building in San José department.**
Position: Designer
Devote: 120 hours
- 2000–2002 **Advising to the Executor Unit of Cleaning – Rehabilitation Plan of the sewage of Montevideo.**
Participation in the following projects:
- Executive project of the hydraulic reinforcement of the unitary collectors in south Gaboto zone
 - Executive project of the hydraulic reinforcement of the unitary collectors of the North Skirt of 18 of Julio avenue.
 - Rehabilitation of collectors in the basin of the Pantanoso stream.
 - Rehabilitation of main collectors in the basin of Chacarita.
- Position:** Designer
Devote: 500 human hours, in course
- 1999 **Studies of the Sanitation System of the city of Treinta y Tres.** This includes the sanitation master plan of the city Treinta y Tres (Q= 150 L/s; population 34,000 inhabitants) and the executive project of the piping system and the plant of treatment and final disposal of waste. Project maker (600 man-hours).
- 1996 **Purifying Plant of the city of Florida.** Executive Project of the treatment Plant of tertiary level (Q=129 L/s) of the domestic waste of the city of Florida (800 man-hours) .

Industries

- 2000 **IPUSA.** Executive project of waste treatment of an industry dedicated to the manufacture of paper. Project director (80 man-hours, in progress).
- 1998 **FUGEL SA.** Executive project of the plant of treatment of industrial waste of a factory producing edible jelly. Project maker (120 man-hours) .
- 1998 **ASIL SA.** Diagnosis of the functioning of a plant of industrial waste treatment of a company dedicated to fish filleting, with the aim of optimizing the treatment processes and complying with the legislation in force regarding industrial waste. Consultant (80 man-hours).
- 1997 **BALBIANI SRL.** Plant for the treatment of industrial waste of a chicken slaughter house with capacity to slaughter 2,000 chickens per hour. Project maker (100 man-hours) .



1997 **ROSARIO SUR SA.** Plant for the treatment of industrial waste of a factory dedicated to the tanning of bovine leather for shoes. Project maker (180 man-hours).

Environment

Project Name: Environmental management courses to support the process of environmental certification of EUFORES.

Description: Material Elaboration and dictation of courses in the different topics of the environmental management in the forest sector.

Position: project direction (M)³

Company: CSI Ingenieros

Period: 10/2002–03/2003

Main functions and responsibilities: general coordination, dictation of the course of solid remainders

Project Name: Environmental Impact study of Route 11 remodelation. Corporación Vial del Uruguay SA.

Description: Environmental Impact Study of route 11 section, between San José and Santa Lucía cities. Rectifications of layout and new bridges included.

Position: project direction (M)

Company: Independent consultant contracted by the Corporación Nacional Vial SA

Period: 10/2002–11/2002

Main functions and responsibilities: person in charge of the evaluation

Project Name: Environmental Impact study of the Route 1 remodelation, Corporación Vial del Uruguay SA.

Description: Environmental Impact Study of the Route 1 section, between Colonia del Sacramento and Route 11 intersection. New trace and 4 new bridges included.

Position: project direction (M)

Company: Independent consultant contracted by the Corporación Nacional Vial SA

Period: 10/2002–11/2002

Main functions and responsibilities: person in charge of the evaluation

Project Name: Environmental Impact Study of agro-alimentary activities Park of the Salto city.

Description: Environmental Impact Study of the Agroalimentary Activities Park, which is raised like lots of services. Urban project, multi services infrastructure and preparation of the estate, are included.

Position: project direction (M)

Company: Independent consultant contracted by Municipal Intendance of Salto

³ This denomination means the responsibility for the products of the project and the coordination of the technical equipment. The (M) indicates that the project require a multi disciplinary equipment.



Period: 10/2002–11/2002

Main functions and responsibilities: Unique person in charge of the evaluation.

Project name: Claeh–Freplata agreement

Description: Construction of an environmental agenda of the river basins of the courses of the Rosario River, low river basin of Santa Lucía River, Stream of the Cows and Carrasco Stream. Such agenda includes proposals of management for the areas, starting at a work of obtaining information and workshops made.

Company: Independent consultant contracted by CLAEH

Period: 09/2002–03/2003

Main functions and responsibilities: advising in environmental subjects to the present situation of the water courses.

Project Name: Environmental evaluation of the Program of Municipal Development IV in its ex-ante stage. Office of Planning and Budget (OPP) of the Presidency of the Republic, Inter-American Development Bank.

Description: Environmental evaluation ex – antes of a sample of 5 projects, whose execution will arise from the request of a loan to the Inter-American Development Bank, framed within the Program of Municipal Development of the Office of Planning and Budget (OPP). Among them are works of pluvial, improvement of districts, road and management of municipal solid remainders.

Position: project direction

Company: Independent consultant contracted by the Office of Planning and Budget (OPP)

Period: 08/2002–10/2002

Main functions and responsibilities: person in charge of the evaluation.

Project Name: Environmental evaluation of the Program of Municipal Development III, in its ex–post stage. Office of Planning and Budget (OPP) of the Presidency of the Republic, Inter-American Development Bank (BID).

Description: Environmental evaluation ex – post, of a sample of 12 works, whose execution arise from request of a loan to the Inter-American Development Bank (BID), framed within the Program of Municipal Development of the Office of Planning and Budget (OPP) Among them are works of pluvial, improvement of districts, road and management of municipal solid remainders.

Position: project direction

Company: Independent consultant contracted by the Office of Planning and Budget (OPP)

Period: 08/2002–10/2002

Main functions and responsibilities: person in charge of the evaluation.

Project Name: Communication of the project of a station seal ANCAP in City of the Coast and deflection of Costanera Boulevard.

Description: Study of Preliminary Environmental Impact of the implantation of: a oil station and minishop, in a central stonecutter of the double boulevard via of City of the Coast and the deflection of the South branch for generation of central stonecutter. Study of social perception of the zone.

Position: project direction (M)



Company: Independent Consultant

Period: 06/2002–07/2002

Main functions and responsibilities: elaboration of the study, technical representative at the DINAMA.

Project Name: Communication of the project of stuffed of artificial lake in the zone of Lagomar, with residential aims.

Description: Study of Preliminary Environmental Impact generated by the filling of an urban lake, generated by sand extraction, for the implantation of an urbanization.

Position: project direction (M)

Company: independent consultant

Period: 2002

Main functions and responsibilities: elaboration of the study, technical representative at the DINAMA.

Project Name: Environmental feasibility of the remodeling of the Municipal Stadium Charrúa.

Description: environmental viability and determination of potential environmental impacts before the extension of a soccer stage.

Position: environmental consultant

Company: CSI Ingenieros

Period: 03/2002

Main functions and responsibilities: elaboration of the viability study.

Project Name: Communication of the project of dam for irrigation of rice for the JANASOL SA. company.

Description: the project consisted of a earth prey for irrigation of rice in the department of Salto.

Position: project direction

Company: independent consultant

Period: 12/2001

Main functions and responsibilities: elaboration of the study, , technical representative at the DINAMA.

Project Name: System of Environmental Management according to the family of norms ISO 14000, applied to the process of management of remainders of ships, in the Port of Montevideo.

Description: creation of a system of environmental management according to the family of norms ISO 14,000, applied to the process of management of remainders of ships, the Port of Montevideo.

Position: environmental consultant

Company: CSI Ingenieros

Period: 10/2001 in course



Main functions and responsibilities: elaboration of the component solid remainders of the SGA.

Project Name: Project of a new jail in the locality of Libertad.

Description: project of a new jail with implantation of high technology in the matter of security, to be located in a contiguous land to the penitentiary of Libertad.

Position: environmental consultant

Company: CSI Ingenieros

Period: 10/2001

Main functions and responsibilities: elaboration of environmental directives, within the framework of the preparation of the first draft.

Project Name: Preliminary Environmental Impact Study for the double on via in Section 0 of Interbalnearia route for the Consorcio del Este company.

Description: Preliminary Environmental Impact Study including the PGA of the Interbalnearia route in the modality of double way (30 km). Presentation at DINAMA and BID.

Position: project direction (M) -

Company: CSI Ingenieros

Period: 10/2000-12/2000

Main functions and responsibilities: elaboration of the study, technical representative at the DINAMA.

2000 **Study of the Environmental Impact of the setting up of a GLP Plant, and the distribution net associated to the same in the area of Ciudad de la Costa.** Consultant (100 man-hours).

Study of the Environmental Impact of the widening of the coastal highway (double way Interbalnearia), from Carrasco International Airport to Av. Gianatasio. Consultant (in progress).

Plan of Environmental Management of the Gas Pipeline Buenos Aires–Montevideo. Consultant (120 man-hours).

Study of the Environmental Impact of the Two Level Crossing in Punta Ballena. Study of the preliminary environmental impact of a two level crossing located in the intersection of highway no. 1 (main access to the city of Punta del Este) and Camino Lussich (future connection to the perimetric highway) Consultant (60 man-hours) .

Study of the Environmental Impact of the Thermal Powerhouse of the Coast. Study of the Environmental Impact of the construction and operation of a Thermal Powerhouse of a combined cycle, 360 MW of power, 20km of transmission lines of 500 KVA, fuel tanks, port facilities, stock of transformers and other auxiliary facilities. Consultant (300 man-hours).



Study of the Environmental Impact of the distribution of gas in the city of Paysandú. Preliminary environmental evaluation of the distribution of natural gas in the city of Paysandú. Consultant (60 man-hours).

Study of the Environmental Impact of the power and fuel change of the Batlle Powerhouse. The project, which will be carried out in the greatest back-up thermal powerhouse of the country, implies the installation and operation of a gas turbine (240 MW) in a combined cycle with an existing steam turbine of 120 MW, as well as the construction and operation of a plant of gas reception, a stock of transformers and auxiliary works. Consultant. (150 man-hours).

1999 **Evolution of the Environmental Impact of the Sanitation System of the city of Treinta y Tres.** Study of the environmental impact of the sanitation direction plan of the city of Treinta y Tres (Q= 150 L/s; population 34,000 inhabitants) and the executive project of the piping system and the plant of final disposal and treatment of waste. Consultant. (120 man-hours).

Direction Plan of Drinkable Waters in Montevideo. This involves the elaboration of the direction plan of drinkable waters and sanitation (with the exception of Montevideo) of the metropolitan area of the department of Montevideo (area: 18,000 km²; population year 2000: 2:120,000). This implies carrying out studies of urban and rural planning, study and development of models of the superficial and underground hydric resources; feasibility studies and preliminary plan of works for the supply of drinkable waters; feasibility studies and preliminary plan of sanitation works; (with the exception of the city of Montevideo); organizational and financial studies of O.S.E.; institutional studies for the management of the basin of the Santa Lucia river (13,500 km²) and environmental studies. Consultant of the Environmental Area (400 man-hours).

1998 **Elaboration of Environmental Declarations of FANCESA (Bolivia).** The leader company in the manufacturing of Portland cement in the Bolivian market, needed an environmental auditing of its facilities in order to do the necessary environmental adjustments. Consultant (100 man-hours).

Elaboration of Environmental Declarations of the Electricity Carrier (Bolivia). The objective of the consulting work was to elaborate 15 Environmental Declarations (environmental audits) 12 corresponding to sub-stations and warehouses and 3 corresponding to high tension lines of 69, 115 and 230 kV. Consultant (400 man-hours).

Study of the Environmental Impact FUGEL SA. Study of the environmental impact of a factory of edible jelly. Consultant. (170 man-hours).

1996 **Panimco SA Study of Preliminary Environmental Impact of a Country Club in the city of La Paz, department of Colonia.** Consultant (80 man-hours).



Solid Waste

- 2002 **Preliminary project of one medical waste Treatment plant, for Managua city.**
The preliminary project based in autoclave technology, catch on:
- Recollection, transport, transitory store, treatment and the transport of the inertized and grinded material to the final disposal site
 - The internal logistic of the industrial place
 - Monitoring of the several phases
- The plant was designed to treat the 100 % of the medical wastes of Managua city.

Position: Project director
Devote: 50 hours

Methodological proposal for the solid waste management of the cities of Coronel Oviedo, Caguazú y Villa Rica in Paraguay.

Methodological proposal for the German firm Hydroplan, as the result of the visit to the cities. KfW calling.

Position: Consultant
Devote: 90 hours

Preliminary project of one medical waste treatment plant, for Montevideo city.

- The preliminary project based in autoclave technology, catch on:
- Recollection, transport, transitory store, treatment and the transport of the inertized and grinded material to the final disposal site
 - The internal logistic of the industrial place
 - Monitoring of the several phases

The plant was designed to treat the 30 % of the medical wastes of the Metropolitan zone of Montevideo city in the first phase.

Position: Project director
Devote: 110 hours

Project about the recollection and sweep for the south zone of Montevideo.

The zone have 540.000 habitants.

The project consisted in:

- the planning of the logistic of the recollection
- selection of the recollection technology
- the distribution of 2.400 y 3.200 L containers
- the macro zones definition
- the routes of recollection
- the global logistic of wash containers
- the routes of manual sweep

Position: Designer
Devote: 90 hours

- 2001 **Project about de containerized recollection for one Montevideo´s zone.**

The zone have 540.000 habitants. The project consisted in:

- the distribution of 2.400 y 3.200 L containers
- the macro zones definition
- the routes of recollection



- the global logistic of the recollection
- the global logistic of wash containers

Position: Designer

Devote: 120 hours

2000 **Management Plan of Solid waste of the urban undertaking Fenix.** Presentation of the guidelines for the comprehensive management of the urban and commercial solid waste which will be generated by the Fenix undertaking. This will have new elements (commercial and residential towers, huge supermarket, etc) and elements to be recycled (Central Station and warehouses) Project maker. (40 man-hours).

**DIRECTION OF WORKS**

- 1998 **BIMSA SA** Responsible for the operation and maintenance of the Plant for the Treatment of Liquid waste of the city of Punta del Este, Punta de la Salina.
- 1996 **Galia SA** Direction of the construction of the dam on land and the plant for making drinkable water.

POSITIONS

- 1999–2000 **CSI Ingenieros.** Consultant and project maker in the area of Sanitation and Environment.
- 1998–1999 **Ibersis.** Consultant of the Quality and Environment area.
- 1997–1998 **Municipality of Canelones.** Advisor on environmental engineering .
- 1992–1997 **National Bureau of the Environment.** Department of Environmental Control – Unit of Environmental Impact.

LANGUAGES

Mother tongue: Spanish

Others	Writing			Speaking			Reading		
	Excellent	Good	Fair	Excellent	Good	Fair	Excellent	Good	Fair
English			X			X			X
Portuguese			X			X		X	

PUBLICATIONS

- Environmental Guide of the Mercosur – Environmental situation of Uruguay – 1999

OTHER ACTIVITIES

- Association of Engineers of Uruguay – Member
- Inter American Association of Sanitary Engineering – Secretary of the Directing Committee Uruguay Section

Gonnet, January 22, 2003

Mr. Masahiro OHTA,

Senior Adviser on Environmental Policy Development,
Japan International Cooperation Agency (JICA),
Tokyo, Japan

Dear Mr. Ohta:

It is with great privilege on my part writing to you to kindly introduce myself.

I am an Argentine environmental scientist-specialist; geographer (Professor and Master's degree/Honours) graduated from National University of La Plata (Argentina), specializing in "Sustainable Urban Environmental Management". Other postgraduate studies include an "Specialization and Master Course in International Relations" specializing in "Environment and Development" at the same university.

I received my *Ph.D. in Environmental Science* at Hokkaido University, Graduate School of Environmental Science, Division of Environmental Planning (Japan), under the guidance of Prof. Dr. Eng. Etsuo YAMAMURA (Chairman) and Associate Prof. Dr. Eng. Seiichi KAGAYA.

Extensive experience and expertise in advice, consulting, research, teaching and training in the environmental field. Strong technical background and skills as an "*Environmental Scientist-Specialist*" in the *Environmental Science, Policy, Technology and Engineering* area.

Multidisciplinary (policy plus scientific/technical) and **multisectoral** (academic plus government/private sector) background in the environmental science, policy and engineering field. Broad knowledge and proven experience in both environmental science and public policy: relevant appointments and assignments in environmental policy at national, state (provincial) and local government levels.

Specialization in Environmental Planning & Management (Urban Sanitation, Industrial Pollution Control, Integrated Solid Waste Management).

Strong scientific and technical background, as well as applied/practical experience on "Integrated Urban and Hazardous Solid Waste Management" and also on Environmental Sustainable Development, Environmental Sectoral Studies, Cumulative Impact Assessment, Descriptive-Predictive Models and Design of Mitigation Measures applied to Environmental Impact Assessment Studies (EIA)".

Excellent knowledge and background on: Environment and Sustainable Development at International level, Global Environmental Change, International Environmental Policy Issues, International Environmental Law, International Conventions, Environmental Regulations & Compliance, Environmental Negotiations, Agenda 21 and Environmental Economics.

Practical proven experience on Project Leadership and Management: "Environmental Project Design, Identification, Preparation, Appraisal, Implementation and Follow-up",

as well as relevant consulting works and assignments to International Organizations and major Multilateral-Financial Organizations (Inter-American Development Bank-IADB, United Nations Development Programme-UNDP, German Technical Cooperation Agency-GTZ. Excellent background in leading and co-leading multidisciplinary teams for Research & Development (R&D).

Full-time appointment as a "Technical Advisor/Specialist" at the Secretariat of Environmental Policy of the Province of Buenos Aires, Provincial Directorate of Environmental Control and Urban Sanitation (Argentina).

Professor, Lecturer, Academic and Research Advisor providing guidance/orientation on "Environmental Science, Engineering and Policy Issues" to Master's students at the thesis stage. National Technological University of La Plata and National University of La Plata (Argentina). Leadership and management of large research projects.

Appointed as a "*Senior Advisor on Science and Technology*" to Minister of Education, Science and Technology of the Province of Buenos Aires, Argentina. Duties: *International Scientific and Technical Co-operation*, focusing on liason and co-operation activities with Inter-governmental and International Organizations, Foreign Universities, International Research Centers, Multilateral-Financial Institutions, International NGOs. Etc. Scientific support and advice on Science & Technology, International Environmental Research Projects, Environmental Policy Issues, Technology Policy and E-learning.

Other special assignment: Advice to the President and Board of Directors of the Commission of Scientific Research of the Province of Buenos Aires (CIC).

Appointed as a "*Senior Environmental Consultant*" to The Inter-American Development Bank (IDB), Uruguay Representation-Regional Office at Montevideo. Main duties: Analyze, assess and evaluate technical, methodological and environmental proposals presented by short-listed international consulting companies, for the preparation and elaboration of "The Master-Plan on Solid Waste Management and Sanitation for the Montevideo Metropolitan Area".

Broad range of international contacts within the international community of environmental scientists (researchers/scholars), international policy-makers, foreign universities, intergovernmental organizations, international organizations/institutions, and international NGOs.

Adaptation and ability to work in a fast-paced multicultural and multiethnic environment.

In-depth knowledge and extensive practical experience in dealing with "*Latinamerican Environmental Issues*".

Mr.Sergio DEAMBROSI, Engineer-Program Specialist from The Inter-American Development Bank (IADB) at Montevideo (Uruguay), told me that held a meeting with you and with Mr.YASUDA from the Ministry of Land, Infrastructure and Transport-NILIM (Government of Japan), and Mr.Ooki HISAMITSU, from Mindeco Mitsui Mineral Development Engineering (Japan).

I am very interested in joining the Project "*Study on Capacity Development for Water Quality Management in Montevideo*" as a "full-time Consultant-Specialist", to be developed by *Japan International Cooperation Agency (JICA)* from March 2003.

It would be a great honour for my professional career, being part of this important JICA's Project in Uruguay. I would be strongly committed with all my effort, full support and leadership capacity, for achieving the goals and main objectives that this challenging Project entails.

I am readily available for joining the Project in March, 2003. I remain very cordially at your service for an interview or any other question of your interest, with regard to my full participation in the Project.

Once again, thank you very much for considering me as a "*prospective candidate*" for joining the Project. I am also sending to you a detailed and updated CV (including references), as attached file. Looking forward to hearing from you, I take the opportunity to kindly greeting you.

Yours sincerely,

Prof.Dr.Pablo G. Martinez Lestard

CURRICULUM VITAE

Name: MARTINEZ LESTARD, PABLO GUSTAVO
Nationality: ARGENTINE
Date of Birth: JANUARY 12, 1962
Marital Status: SINGLE
Sex: MALE
Home Address: Calle 26 N° 5268 GONNET (1897) ARGENTINA
Phone: (54) 221-4844705
FAX: (54) 221-4257041
E-mail: pablomlestard@yahoo.com
pablomlestard@hotmail.com

EDUCATIONAL ATTAINMENT

DATE- NAME OF INSTITUTION- DEGREE/HONOURS RECEIVED

April 1992- April 1995. Hokkaido University, Graduate School of Environmental Science, Division of Environmental Planning. Ph.D. Student. (Japanese Ministry of Education and Science, MOMBUSHO Scholarship awardee). Graduation: March 1995. Degree: *Ph.D. in Environmental Science*. Graduation Grade: "A" (100 points).

December 1993- February 1994. Hokkaido University, Graduate School of Environmental Science, Division of Environmental Planning. Teaching Assistant (Japanese Ministry of Education and Science, MOMBUSHO).

October 1991- March 1992. Hokkaido University, Graduate School of Environmental Science, Division of Environmental Planning. Postgraduate Research Student (Japanese Ministry of Education and Science, MOMBUSHO Scholarship awardee).

April 1991 - September 1991. Hokkaido University, Institute of Language and Culture. Intensive Japanese Language Course (Japanese Ministry of Education and Science, MOMBUSHO Scholarship awardee).

1988-1989. National University of La Plata, Faculty of Law, Graduate School of International Relations. Specialization and Master Course in International Relations.

1987-1989. National University of La Plata, Faculty of Humanities and Educational Sciences, Department of Geography. Master in Geography (top 5% of graduating class).

1983-1987. National University of La Plata, Faculty of Humanities and Educational Sciences, Department of Geography. Bachelor in Geography (top 5% of graduating class).

1975-1979. Argentine Navy, Navy College "Admiral Guillermo Brown". Midshipman of the Naval Reserve (Application, Military Behaviour and Marine Aptitude Awardees).

SCHOLARSHIPS

DATE- NAME OF INSTITUTION

April 1991- April 1995. Awarded by Japanese Ministry of Education and Science, MOMBUSHO Scholarship for "Postgraduate Studies in Japan". Course: *Doctorate-Ph.D. in Environmental Science* (Hokkaido University). Supervisor: Professor Dr. Eng. YAMAMURA, Etsuo.

1989. Awarded by "Rio de La Plata University Foundation" (FURP), Scholarship on Political Science and International Relations for young leaders; representative of La Plata City as a scholarship-holder at Seminar: "The Federal Country IV" held by FURP in Buenos Aires. Selected by university competition in the Faculty of Law of the National University of La Plata. Declared "Event of National Interest". The scholarship included conferences, meetings, panels, seminars and interviews with public officials, media, top businessmen, governors, ministers, legislators, diplomats, mayors and former President of the Argentine Republic Dr. Raúl R. Alfonsín.

WORKING, CONSULTING, ACADEMIC AND RESEARCH EXPERIENCE

DATE- POSITION- NAME OF INSTITUTION

2002: Appointed as a "Consultant" to The Inter-American Development Bank (IDB), Uruguay Representation- Regional Office at Montevideo. Main duties: Analyze, assess and evaluate technical, methodological and environmental proposals presented by short-listed international consulting companies, for the preparation and elaboration of "The Master-Plan on Solid Waste Management and Sanitation for the Montevideo Metropolitan Area".

2001: Selected as a "Senior Consultant-Expert" to PA Consulting Group (USA), for the implementation of a USAID (United States Agency for International Development) initiative in Central America. This project comprises works, technical assistance and support in the following fields: environmental impact assessment (EIA), cleaner production, wastewater and waste management, urban environmental management and municipal applications of environmental management systems (EMS).

1999- 2001: Appointed as a "Senior Advisor on Science and Technology" to Minister of Education, Science and Technology of the Province of Buenos Aires, Argentina. Other special duty: International Scientific and Technical Co-operation. Advice to the President and Board of Directors of the Commission of Scientific Research of the Province of Buenos Aires. Environmental Projects; Technology Policy.

2001: Appointed as an "Advisor" to the newly created Secretariat of Planning, Coordination and Public Policy Management of the Province of Buenos Aires. Main duties: Reform of the State and Public Administration; International Cooperation.

1995- Present: Appointed as a "Senior Technical Advisor-Specialist" to Secretariat of Environmental Policy of the Province of Buenos Aires. Main Duties: Advice to over 100 Municipal Districts of Buenos Aires Province in the fields of "Environmental Planning & Management, Urban Environmental Management, Integrated Solid Waste Management, Urban Sanitation, Environmental Impact Assessment (E.I.A.)".

Appointed to Provincial Directorate of Environmental Control and Urban Sanitation. Analysis, study, evaluation, correction and auditing of "Environmental Impact Assessment Studies" presented to the Secretariat under the new environmental enforcement laws and regulatory framework, such as:

Provincial Law N°11723 (Comprehensive Environmental Law), Provincial Law N°11459 (Industrial Location Law) and Provincial Law N°11720 (Special and Hazardous Wastes Law), which regulate activities that require of "Environmental Impact Assessment Studies" (E.I.A.).

Presentation of findings, corrections and recommendations for each case before approval.

Research and development (R&D) on state-of-the-art technics and new developments regarding Environmental Impact Assessment (EIA)". Feasibility of application of "Predictive and Cumulative Assessment Models" for carrying out EIA studies.

Development, implementation and follow-up of "*economic instruments*" applied to environmental management in Buenos Aires Province. Practical cases.

Organization of "special training courses, seminars, conferences and workshops on Environmental Management-EIA" for municipal officials, deputies, local and regional authorities, the private sector, students, citizens and non-governmental organizations (NGOs), focusing on institutional analysis, technical issues, environmental education and awareness. Particular emphasis is given to the explanation on the application of standing-in force main provincial environmental laws.

Standing participation in special meetings held for the analysis, evaluation and follow-up of main technical aspects of the provincial legal environmental framework, including the following key issues: EIA and Environmental Auditing.

Analysis of "*Environmental Impact Assessment methodologies for Large Infrastructure Projects and Public Works*". Environmental Policy Analysis, Institutional Arrangements and Analysis, Environmental Health Risk Assessment Studies.

Preparation of proposals for feasibility studies on "urban environmental management" (focusing on solid waste management) of municipal districts of the Province of Buenos Aires, for The World Bank and Inter-American Development Bank (In-depth knowledge of The World Bank and IDB's "Project Cycle Stages": Identification-Preparation- Appraisal- Negotiation- Implementation), as well as the "Environmental Requirements" for Projects which require of "Environmental Impact Assessment Studies" (EIA).

Lecturer in charge of the "Seminar on Urban Environmental Management", focused on urban solid waste management, periodically held in Municipal Districts of the Province of Buenos Aires. This course is attended by Deputy Officials, Municipal Officials, Managers, Private Sector Members, NGOs Members and Students.

Co-organizer of the "Environmental Technology Project" ETP-Argentina 1999, held upon agreement between the U.S. Environmental Protection Agency (EPA)-International Programs, Technology Innovation Office, and the Secretariat of

Environmental Policy of the Province of Buenos Aires, with technical and managerial support of Tetra Tech EM Inc. (USA).

Invited by the German Agency for Technical Cooperation (GTZ) and the Federal Ministry for Economic Cooperation and Development (BMZ), for a technical visit-trip to Germany (November 19-29, 1999). The Program included visiting the most important "Treatment Plants for Hazardous and Urban Solid Wastes" as well as "Secure Landfills for Hazardous Wastes and Sanitary Landfills for Urban Solid Wastes" of Germany.

Appointed as a "Technical Co-Manager" for the Agreement on Technical Cooperation and Technology Transfer, signed between the German Agency for Technical Cooperation (GTZ), and the Secretariat of Environmental Policy of the Province of Buenos Aires (1999-2000).

Technical guidance/advice on "urban and municipal solid waste management" aimed at improving and achieving an "environmentally sound and integrated solid waste management", by providing adequate solid waste management services, laying stress on the fundamental stages of an "integrated solid waste management system hierarchy from source reduction to recycling".

Technical advice focusing on carrying out more efficient disposal practices and operations (sanitary landfilling), accomplishing current regulations on "environmental control and protection".

Research and development (R&D) on state-of-the-art technics and developments on advanced urban, municipal, industrial and hazardous solid waste management. Research on "models applied to solid waste management" with focus on "regional models and systems approach". Additional studies include the feasibility of application of "regulatory elements and economic instruments" for the optimization of municipal solid waste management in the Province of Buenos Aires. Waste management policy analysis and design.

Determination of an "environmental impact assessment" (EIA) ranking for open waste dumps, ordered/ranked according to their "environmental risk".

Organization of "seminars, conferences and workshops on solid waste management" for municipal officials, deputies, local and regional authorities, students, citizens and non-governmental organizations (NGOs), focusing on environmental education, awareness and technical issues on solid waste management.

Participation in activities jointly held with regional advisors from the Division of Health and Environment of the Pan American Health Organization; main topic: "Feasibility for applying PAHO's methodological guidelines for sectoral analysis in solid waste management to a case-study in the Province of Buenos Aires for selected municipal districts".

Advice on "pre-feasibility studies for municipal/urban solid waste final disposal sites (sanitary landfilling) optimal allocation" in municipal districts of the Province of Buenos Aires.

Preparation/arrangement of technical and legal documentation required in "public bidding" for the operation of "final disposal sites" (sanitary landfilling), laying stress on engineering, geotechnical and control aspects, such as: suitable treatment of leachate and the setting up of an "environmental control and monitoring program". Special attention is given to the periodical control of landfills, focusing on groundwater monitoring, leachate and gas (methane gas) control. Further recommendations for "postclosure operations".

Extensive R&D on "Landfill Gas Emissions" (NMOCs, VOCs, CH₄ etc.). Application of the U.S.EPA "LANDGEM Model" to existing sanitary landfills of Buenos Aires Province.

Design and setting up at "pilot scale" of an "urban/municipal solid waste treatment plant" (layout) for selected municipal districts of the Province of Buenos Aires. Research-study on "feasibility for the establishment of markets for reclaimed, re-used and recycled materials in the Province of Buenos Aires". Categorization of municipal districts according to "urban solid waste generation rates" (tons/per day). Breakdown of significant waste materials for recycling.

Preparation and setting up of "Regional Agreements" aimed at achieving "an integrated solid waste management system" in the Province of Buenos Aires. Project on environmental sanitation for the clean-up, sanitation and site remediation of a large illegal/ clandestine hazardous waste dump, located at the industrial district of Dock-Sud (Province of Buenos Aires), focusing on special considerations for "in-situ treatment" methods for cleaning-up hazardous waste sites under CERCLA/SARA (Superfund) recommendations (U.S.first Federal Law addressing releases of hazardous substances into the environment). Matrix of Technology Assessment of Hazardous Waste Treatment Systems. Summary Matrix of IN-SITU Treatment Technologies. Cost analysis.

Environmental Control and Monitoring: Fiscalization on Industrial Effluent releases into water bodies; BOD, COD, organic and hazardous pollutants control. Monitoring of gaseous emissions into the atmosphere.

Appointed to Provincial Directorate of Environmental Control and Urban Sanitation. Relevant participation along with the Provincial Directorate of Environmental Assessment and Natural Resources of the Secretariat of Environmental Policy and other specialized national and provincial agencies, in the task-force in charge of clean-up operations, assessment, planning and evaluation of the severe oil spill produced as a consequence of a Shell tanker's crush occurred in the Rio de La Plata in January 1999. The accident produced the release of tons of oil/petroleum into the water bodies (Rio de La Plata). Standing participation in field-clean up operations in the shore-line area and surrounding environments at Magdalena and Berisso. Post-contingency evaluation; assessment of remedial actions; clean up and remediation master plan's evaluation; sampling and field operations' follow-up.

Elaboration of special technical papers for the Secretary, Undersecretary, Provincial Directorate of Environmental Control and Urban Sanitation, and the Board of Advisors of the Secretariat of Environmental Policy of the Province of Buenos Aires.

1996- Present: Appointed as a "Senior Consultant and Technical Advisor/Fellow Associate Researcher"- Interdisciplinary Group of Specialists and Experts on Environmental Science, Technology & Environmental Engineering for Research and Development- under agreement of the Academic Council, Provost and Dean of the National Technological University of La Plata, Argentina.

"Professor and Academic-Scientific Advisor" to National Technological University of La Plata; "Chair and Academic-Research Advisor" at the Master Course in Environmental Engineering. Postgraduate Lecturer in advanced especial Courses and Seminars on "Global Environmental Issues". Professor on "Integrated Urban and Hazardous Solid Waste Management" at the "Master Course on Environmental Engineering", National Technological University of La Plata.

Main duties and assignments: Science & Technology Issues; R&D on Environmental Technology Assessment (ETA), Environmental Planning & Management, Environmental Policy, Environmental Impact Assessment (EIA), Integrated Solid Waste Management and Water Pollution Control. Consulting services and technical advice to National, Provincial and Municipal Governments, the Private Sector, NGOs etc. Environmental Project design, preparation, evaluation, implementation and follow-up; EIS-EIA studies. Technology Policy Research.

1999- 2000: Appointed as a "Senior Consultant-Expert" for the "Project on Research Studies of 6 Illegal Waste Dumps of Buenos Aires City" located in the Matanza-Riachuelo River Basin.

Consulting Company: Montgomery Watson Inc.-Adepro.

Contract awarded by the "Committee of Environmental Management of the Matanza-Riachuelo River Basin", Secretariat of Natural Resources and Sustainable Development, Argentina.

Funding: Inter American Development Bank (IDB).

1998-1999: Appointed as a "Senior Consultant" for the "Project on Study of the Solid Waste Management System in the Lanús-Lomas Sector" located in the Matanza-Riachuelo River Basin.

Consulting Company: Federal Foundation-Senda Foundation.

Contract awarded by the "Committee of Environmental Management of the Matanza-Riachuelo River Basin", Secretariat of Natural Resources and Sustainable Development, Argentina.

Funding: Inter American Development Bank (IDB).

1998-1999: Consulting services to NORDELTA S.A., Urban Development and Investment Company, under contract to E3 Environmental Consulting Company. Preparation of a "Feasibility Urban Solid Waste Management Master Plan" to Nordelta S.A.

Nordelta's Urban Development Project is the largest urban-investment project of Argentina, which will be located at Tigre Municipal District, Province of Buenos Aires. This consulting work included also the preparation of "Terms of Reference" as well as the main topics for an "Environmental Impact Assessment" (EIA) Study with regard to Urban Solid Waste Management.

Main works for this UNDP's consulting contract comprised the selection, compilation, analysis, printing and presentation of the UN Agenda on Environment (Conferences, Documents, Laws, Regulations, Agreements, Treaties, Statements), by printing special publications, booklets etc., editing videos and CD-ROM. Presentation in specially held events and seminars throughout Argentine (Universities, Research Institutes, National-Provincial and Municipal Administrations, NGOs, Open Forums etc.).

1996-1997: Appointed as a "Technical and Business Development Advisor" of Ambiental S.A., Argentine's leading Environmental Consulting Company. Duties: Project Preparation, EIA, Environmental Technology Assessment, Total Quality Control, Evaluation-Correction and Review of the Company's Consulting Assignments (Infoms, Final-Reports), Field Works, Environmental Engineering Issues, Integrated Solid Waste Management and Market Research-Studies. Advice to the Company's President on the above mentioned topics.

1997: Preparation of a draft on a "Solid Waste Management Master Plan for the City of San Carlos de Bariloche" (Argentina). Main duties included the preparation of a "Feasibility Study for a Solid Waste Management Master Plan", gathering data "in situ", analyzing and assessing different options in order to adapt the most suitable solution regarding the very particular local characteristics. Special consideration has been given to "environmental technology assessment".

The project was declared of "public and municipal interest" by Municipal Authorities, supported by the City's Mayor and Director of Environment.

International funding is being pursued for financing further studies as well as the implementation of additional civil works (Intermediate Facilities, Material Recovery Facilities (MRF), Treatment Plants and Final Disposal Site (Sanitary Landfill)).

Project Stage: Preparation Stage.

Project Evaluation, Analysis, and Follow-up required.

1997- 1999: Appointed as an "Academic, Scientific and Research Advisor" at National University of La Plata.

Duties: Research and methodological guidance to Master's and Ph.D.students pursuing a postgraduate degree at the Faculty of Social Sciences and Law. Emphasis is given to the preparation and design of the "thesis' methodological research framework".

1990: Founder and Fellow Researcher of the Department of Environment and Development of the "Institute of International Relations", Faculty of Law, National University of La Plata. Extensive Academic Research on "Environment and Sustainable Development Issues".

1990: Lecturer of "Physical Geography II" at the Superior Institute of Teaching N°49 of Brandsen, Province of Buenos Aires.

1990: Lecturer at the chair "Introduction to Social Sciences", Superior Institute of Teaching N°49 of Brandsen, Province of Buenos Aires.

1989-1990: Lecturer and Superior Staff Member of "Rio Santiago State Shipyard", Ministry of Defense of the Argentine Republic.

1988-1990: Teaching Assistant licenced in university selection for the chair "Argentine Economic Geography", Department of Geography, Faculty of Humanities and Educational Sciences, National University of La Plata. Academic Research on "Environment and Economic Development in Argentine".

1987- 1990: Environmental Consultant. Assignments on: Environmental Project Management, Urban Environmental Management, Environmental Planning, Environmental Policy Analysis, Natural Resources Management and Sustainable Development Issues. Providing technical assistance, advice and support to the Private Sector, NGOs, Universities, Research Centers, Municipalities/Local Governments.

1984: Professor of Coastal, Electronic, Satellite and Astronomic Navigation.

1981-1983: Civil Servant. Ministry of Economy of the Province of Buenos Aires.

1981-1982: Technical Assistant of the Department of Engineering. INCA S.A. Company contracted by the National Commission of Atomic Energy to carry out civil works at Embalse Rio Tercero Nuclear Plant.

MEMBERSHIP

NAME OF INSTITUTION-DATE

"International Honorary Scientific Advisor" to *Secretariat of the Convention on Biological Diversity (SCBD)- Scientific, Technical and Technological Matters Division (STTM)- for the Seventh Meeting of the Conference of the Parties (COP)*. Special duty: Providing scientific advice through further recommendations, comments and corrections to the Draft-document on "Environmental Impact Assessment and Strategic Environmental Assessment". Montreal, Canada. 2001.

"International Center for Sustainable Development" (ICSD), Getulio Vargas Foundation, Brazilian School of Business Administration- EBAP. Brazil. Active Member and Co-representative in Argentina. 2000- Present.

"Latin American Center of Administration for Development" (CLAD), Inter-governmental Organization. Caracas, Venezuela. Active Member. 2000- Present.

"International Advisory Board and Organizing Member" of the *First International Congress on Petroleum Contaminated Soils, Sediments and Water*, held on August 2001 at London, U.K. 2000- August 2001.

"International Network on Water and Urban Environmental Sanitation" (GESI). London, England. Individual Active Member. Discussion Group Member. 1998-2001.

"Chamber of Construction and Civil Works of Argentina" (CAC). Buenos Aires, Argentina. Individual Member and Honorary Senior Technical Advisor of the Chamber's Commission on Environment. 1998- Present.

"International Journal of Environmental Creation". Japan. International Editorial Board Member. June 1998- Present.

"The International Solid Wastes Association" (ISWA). Denmark. Developing Countries Network Member. February 1996- Present.

"Institute of Environmental Creation International". Japan. Active Member. February 1995- Present.

"The International Solid Wastes Association" (ISWA). Denmark. Active Member. June 1994- Present.

"The Japan Society of Waste Management Experts" (JSWME). Japan. Active Member N°9002897. June 1994- Present.

"Japan Society of Civil Engineers". Japan. Active Member N°9434874. March 1994- Present.

"American Center Sapporo". Japan. Educational Member. February 1994- Present.

"Japan Section of the Regional Science Association International" (RSAI). Japan-United States of America. Active Member. November 1993- Present.

"Society of Environmental Science of Japan". Japan. Active Member. October 1993- Present.

"South Foundation" Non-Governmental Organization (NGO). Argentine. Active Member. June 1990- Present.

"Green Forum" Non-Governmental Organization (NGO). Argentine. Active Member. March 1990- Present.

"Rio de La Plata University Foundation" (FURP). Argentine. Former Scholarship Holder and Active Member. October 1989- Present.

"Association of Geographers of the Argentine Republic". Argentine. Active Member. March 1988- Present.

INTERNATIONAL INVITATIONS. PURPOSE. PLACE AND DATE.

Invited by the United Nations Environment Programme (UNEP), Division of Technology, Industry and Economics (DTIE). Topics: Production and Consumption, APELL, Industrial Pollution Control and Monitoring, Cleaner Production, Environmental Management Systems in Industry. Paris (France), December 4-10, 2000.

Invited by the Inter-American Development Bank (IDB)- Environment Division. Topics: Natural Resources Management, Urban Environmental Management, Environmental Pollution Control and Environmental Impact Assessment (EIA), with

focus on Latin America and the Caribbean Region (LAC). Washington, DC (USA), October 11-17, 2000.

Invited by the German Agency for Technical Cooperation (GTZ) and the Federal Ministry for Economic Cooperation and Development (BMZ), for a technical visit-trip to Germany (November 19-29, 1999). The Program included visiting Germany's most important "Treatment Plants for Hazardous and Urban Solid Wastes" as well as "Secure Landfills for Hazardous Wastes and Sanitary Landfills for Urban Solid Wastes".

ACADEMIC RESEARCH PAPERS/PRESENTATIONS.

TITLE OF MANUSCRIPT- INSTITUTION- DATE PUBLISHED/PRESENTED.

"The Current Operational Framework on Argentina's Urban Solid Waste Management: Alternatives Towards an Integrated Approach. Case Study: CEAMSE" (Author). VI International Congress on the Reform of the State and Public Administration. Organized by CLAD, Latin American Center of Administration for Development. Environmental Policy Section. Proceedings, Buenos Aires, Argentina, November 5-9, 2001. Paper to be published after the Congress.

"Environmental Pollution: Strategies for Environmental Management in Argentina Towards 21st Century" (Author). Paper presented at the "International Seminar on Environment and Development Towards 21st Century", La Paz, Bolivia, September 20-24 1999. Held and sponsored by the Institute of Environmental Creation International (Sapporo, Japan).

"Towards an Integrated Urban Solid Waste Management in Argentina: Transforming the Management of Waste from a Burden into a Resource" (Author). Paper presented at the "International Seminar on Environment and Development Towards 21st Century", La Paz, Bolivia, September 20-24 1999. Held and sponsored by the Institute of Environmental Creation International (Sapporo, Japan).

"The Regional Economic Structure of Argentina: An Analysis Focusing on Recent Major Macroeconomic Changes and Trends" (Author). In "Studies in Regional Science", Journal of the Japan Section of the Regional Science Association International (RSAI). Vol.24 N°1. December 1994.

"A Study on the Buenos Aires Metropolitan Region Urban Environment Focusing on Environmental Management and Economic Development" (Author). In "Reviews of the Hokkaido Water Front Research", Issue N°5. March 1995.

"A Study on the Functional Elements of the Buenos Aires Metropolitan Region Solid Waste Management System Focusing on Its Current Operational Framework" (Author). Ph.D. Thesis presented at Hokkaido University, Graduate School of Environmental Science, Sapporo, Japan. January 1995.

"A Study on the Buenos Aires Metropolitan Region Urban Environment Focusing on Environmental Management and Economic Development" (Author). Paper presented

on November 6th 1994 in Sapporo, Japan, at the Annual Meeting of the Hokkaido Water Front Society at Gakuen University.

"A Study on the Functional Elements of the Buenos Aires Metropolitan Region Waste Management System Focusing on the Relation between Economic Performance and Solid Waste Generation" (Author). Paper presented on November 1st 1994 in Ebetsu, Japan, at the 32th Meeting of the Hokkaido Urban Planning Society. Published in the Journal of the Hokkaido Urban Planning Society.

"A Study on Solid Waste Management in the City of Buenos Aires and Greater Buenos Aires Focusing on Its Current Operational Framework" (Author). Proceedings of the 49th Annual Meeting of the Japan Society of Civil Engineers, Sapporo, Japan, September 15-17 1994.

"World Conference on Reduction of Natural Disasters" (Attended as Special Guest). Held by the United Nations (UN) at Yokohama, Japan, May 23-27 1994.

"A Case Study of Solid Waste Management in the City of Buenos Aires and the Greater Buenos Aires" (Author). Proceedings of the Annual Meeting of the Society of Environmental Science of Japan, Tsukuba, Japan, November 29 1993.

"An Analysis on the Argentine Economy Focusing on Recent Major Changes and Trends" (Author). Proceedings of the 30th Annual Meeting of the Japan Section of the Regional Science Association International (RSAI), Tokyo, Japan, October 19 1993.

"The Asia-Pacific and Global Geopolitical Change" (Attended as Special Guest). Held by the International Geographical Union (IGU) Commission on the World Political Map and the United Nations University (UNU), Tokyo, Japan, September 3 1993.

"Environment and Development and their International and National Implications" (Author). Journal of the Graduate School of Environmental Science, Hokkaido University, Sapporo, Japan, Vol.15 N°2: 109-130. December 1992.

"Environment and Development at International Level" (Author). Institute of International Relations. National University of La Plata. Journal of International Relations N°2: 97- 108. May 1992. La Plata, Argentina. Presented on Author's Behalf by the Director of the Institute of International Relations at the United Nations Conference on Environment and Development (UNCED), held at Rio de Janeiro (Brazil), June 3- 14 1992.

UNPUBLISHED RESEARCH PAPERS

"The Problematic of Oil in Comodoro Rivadavia in 1910". Faculty of Humanities and Educational Science, Department of Geography, National University of La Plata, 1986.

"Moving the Federal Capital to Viedma-Carmen de Patagones Complex". Faculty of Humanities and Educational Science, Department of Geography, National University of La Plata, 1986.

"The Fishery Sector in the National Economic Context". Faculty of Humanities and Educational Science, Department of Geography, National University of La Plata, 1987.

"Towards a Latin American Crisis Typology. Alternatives". Faculty of Law, Graduate School of International Relations, National University of La Plata, 1989.

"The Perestroika and its Relationship with the East-West Conflict". Faculty of Law, Graduate School of International Relations, National University of La Plata, 1989.

SEMINARS-COURSES

"World Geopolitics and Argentina". Lecturer: Dr. Luis A. Morzone. Held by the Cultural Affairs Department of the Municipality of La Plata, 1986.

"Applied Geography". Lecturers: Dr. Rabassa (Remote Sensing); Dr. Maria Isabel Andrade (Integrated Natural Resources Management); Prof. Elena Chiozza (Human Settlements); Dr. Raúl Perdomo (Cosmography and Astronomy); Dr. Eduardo Schaposnick (Geopolitics and Latinamerican Integration). Held by the Department of Geography, Faculty of Humanities and Educational Science, National University of La Plata, 1986.

POSTGRADUATE COURSES

"Latinamerican Congress on Culture, Ethics and Religion Facing the Ecological Challenge" (Co-organizer). Held by Non-Governmental Organization "South Foundation", 1990.

"IV Latinoamerican Congress on Human Environmental Systems". Topic: "Environment and Poverty" (Co-organizer). Held by Non-Governmental Organization "South Foundation", 1990.

"Postgraduate Course on Environmental Management". Lecturer: Lic. Cesar Tomassi (Director of the Environment Department of the Municipality of La Plata). Held by the Faculty of Natural Sciences, National University of La Plata, 1990.

"IV Regional Seminar on Environment". Held by the Environment Department of the Municipality of La Plata and Faculty of Natural Sciences of the National University of La Plata, 1990.

"Introduction to Social Ecology". Lecturers: Dr. Eduardo Gudynas and Dr. Graciela Evia. Held by Non-Governmental Organization "South Foundation", 1990.

"Seminar on Natural Resources Management". Lecturer: Former Adviser to United Nations Environment Programme (UNEP), United Nations Education and Science Commission (UNESCO) and National Scientific and Technical Research Council (CONICET), Prof. Dr. Santiago Raúl Olivier. Held by the Department of Geography, Faculty of Humanities and Educational Sciences, National University of La Plata, 1989.

"Contemporary International Politics". Lecturers: Several Diplomats and Ambassadors appointed in Argentina. Held by Belgrano University, 1989.

"Seminar France Today- Bicentenary of the French Revolution". (Attended as Special Guest). Held by the Honorable Chamber of Senators of Buenos Aires Province and the Bicentenary of the French Revolution Committee, H.C.S. of Buenos Aires Province, 1989.

"International Symposium on Hazardous Environmental Pollutans". Held by the Buenos Aires Province Congress, the National Scientific and Technical Research Council (CONICET) and the Buenos Aires Province Scientific Research Commission (CIC), 1989.

"The IV Federal Country Seminar". (As Scholarship Holder Representative of National University of La Plata and La Plata City), Awarded by Rio de La Plata University Foundation-FURP, Selected by University Competition at National University of La Plata, 1989.

"II Seminar on National Defense". Lecturers: Dr. Angel P. Tello; Admiral Ferrer; Admiral Ossés; Minister of Education and Justice, Prof. Antonio Salonia and National Defense Minister Dr. Italo Luder. Held by the Navy School and National University of La Plata, 1989.

"Crisis, Conflict and Decentralization". Lecturer: Dr. Marcos Gerber. Held by the Department of Geography, Faculty of Philosophy, University of Buenos Aires, 1988.

"Floods in the Pampean Region". Lecturer: Eng. Bruno Ferrari (Former Minister of Hydrical Resources). Held by the National Academy of Geography, 1988.

"Territorial Complexes". Lecturer: Prof. Dr. José Luis Coraggio. Held by the Department of Geography, Faculty of Philosophy, University of Buenos Aires, 1988.

"Conflict Situation Analysis". Lecturers: Several Specialists in Strategy and International Relations. Held by the National Defense Ministry at the National Defense School, 1988.

"Research Methodology for Regional Planning". Lecturer: Prof. Dr. José Luis Coraggio. Held by the Department of Geography, Faculty of Philosophy, University of Buenos Aires, 1987.

SOCIAL WORKS (HONORARY)

DATE- NAME OF INSTITUTION

1990- Present. "Permanent Ecological Assembly", Non-Governmental Organization (NGO) with seat in the National Congress of the Argentine Republic. Member-Collaborator. Buenos Aires.

1990- Present. "South Foundation", Non-Governmental Organization (NGO), researcher and standing member of the "Environment and Popular Habitat Institute". Buenos Aires.

1989- Present. "Green Forum" Non-Governmental Organization (NGO) committed to environmental education and public awareness in La Plata City and surrounding areas. La Plata.

1981-1982. Voluntary collaborator to "Foundation for Development in Peace and Justice" FUNDAPAZ, Non- Governmental Organization (NGO), non-profit civil society for human development and technical-financial assistance to northern Argentine's indigenous marginal and poor groups.

LANGUAGE ABILITY

SPANISH: Reading, Spoken, Written. EXCELLENT.

ENGLISH: Reading, Spoken, Written. EXCELLENT.

JAPANESE: Spoken, Listening, Written (Katakana, Hiragana and Basic Kanjis).
GOOD.

PORTUGUESE: Reading, Spoken. GOOD.

ITALIAN: Reading, Spoken. FAIR.

FRENCH: Listening (Elemental Level). FAIR.

PROFESSIONAL PROFILE. QUALIFICATIONS AND SKILLS:

- Environmental Scientist; Environmental Planner; Senior Consultant and Researcher. Geographer.
- Ph.D. in Environmental Science specialized in Environmental Planning and Management.
- In-depth knowledge of relevant scientific issues related to "Environmental Planning and Management" such as: Environmental Engineering, Environmental Pollution Control, Environmental Technology Assessment, Environment & Sustainable Development, Environmental Analysis, Environmental Impact Assessment (EIA), Environmental Policy Analysis and Environmental Economics.

Ph.D. Thesis:

"A Study on the Functional Elements of the Buenos Aires Metropolitan Region Solid Waste Management System Focusing on Its Current Operational Framework".

- * Earned Doctorate and other Postgraduate studies. Strong Technical Background on Environmental Science (Environmental Planning, Environmental Management, Environmental Engineering, Integrated Solid Waste Management).
- * Demonstrated leadership capacity in planning, management and policy development of relevant environmental issues. Ability to lead and stimulate interdisciplinary work. Entrepreneurial spirit yet diplomatic.
- * Excellent communication skills. Strong "Decision-Maker". Ability to interact effectively with International Organizations, the Private Sector, Government Officials, Community Members and NGOs.
- * Broad experience in Advice, Consulting, Research, Teaching and Training in the environmental field.
- * In-depth knowledge of International and Multilateral Organizations' "Project Cycle" as well as "Environmental Requirements" for Projects financed/funded by the above mentioned Organizations. Special features: Project Design, Evaluation, Implementation and Follow-up. Experience in International Technical Co-operation.
- * Extensive knowledge of the United Nations System, The World Bank, Inter American Development Bank and other International Organizations.

INTERNATIONAL REFERENCES:

Prof.Dr.Eng.Etsuo Yamamura, Chairman. Hokkaido University, Graduate School of Environmental Earth Science. Japan.

E-mail: yamamura@ees.hokudai.ac.jp

Prof. José A. Puppim de Oliveira, Ph.D. (M.I.T.). Getulio Vargas Foundation, International Center for Sustainable Development- ICSD, Brazilian School of Business Administration- EBAP. Brazil.

E-mail: puppim@fgv.br

Prof. Hilary Inyang, Ph.D., University Professor and Director, Global Institute for Energy and Environmental Systems (GIEES), University of North Carolina at Charlotte, NC, USA.

E-mail: hiinyang@uncc.edu

Dr.Eng.Carl Bartone, The World Bank, Urban Development Division, Senior Environmental Engineer. USA.

E-mail: CBARTONE@WORLDBANK.ORG

Dr.Osvaldo M. Sonzini. Former Secretary (Minister) of Environmental Policy of the Province of Buenos Aires, Argentina.

Mailing Address: Calle Loria N° 533, 3° "A", Lomas de Zamora (1832) Argentina.

Donald W. McCallum
M.A.Sc., P.Eng.
Senior Environmental Engineer
Principal, Vancouver Office
Page 1

Donald W. McCallum

M.A.Sc., P.Eng.
Senior Environmental Engineer
Principal, Vancouver Office

Profile

2002 – Present Senior Environmental Engineer/Principal, Vancouver Office
2000 – 2002 Senior Environmental Engineer/Manager, Gartner Lee, Whitehorse Office
1998 – 2000 Senior Environmental Engineer, Greater Vancouver Regional District, Vancouver, B.C.
1995 – 1998 Environmental Engineer, Greater Vancouver Regional District, Vancouver, B.C.
1994 – 1995 Consultant, Environmental Assessment, Vancouver, B.C.
1992 – 1995 M.A.Sc. – Environmental Engineering, University of British Columbia
1992 – 1992 Consultant, Environmental Management, Whitehorse Yukon
1989 – 1991 Environmental Engineer, Imperial Oil Limited, Sarnia Refinery, Sarnia, Ontario
1987 – 1989 Applications Engineer, Imperial Oil Limited, Sarnia Refinery, Sarnia, Ontario
1985 – 1987 Process Design Engineer, Imperial Oil Limited, Toronto, Ontario
1981 – 1985 B.Sc.(Honours) – Chemical Engineering, Queens University

Experience

Mr. McCallum has over 15 years experience in the fields of chemical engineering, environmental assessment, waste management and environmental planning. His specific expertise is in the planning and environmental assessment of water and wastewater infrastructure. Mr. McCallum's experience in this area ranges from liquid waste management planning in large urban areas to water and wastewater infrastructure planning in small northern communities. He has proven adept at addressing regulatory requirements using a collaborative approach, which results in unique solutions to problems that can benefit both the environment and industrial or utility operations. Mr. McCallum also maintains an active role in professional development, public education, and training issues associated with the field through his roles with the British Columbia Water and Waste Association (past Yukon Director), Professional Engineering Associations in British Columbia and Yukon, and the Water Environment Federation.

Specific examples of several recent projects and initiatives that Don has led are described below.

Water and Wastewater Infrastructure Planning

- *Indian and Northern Affairs Canada*
 - Risk assessment of water and wastewater systems in all First Nation communities in Yukon and northern British Columbia (2001)
 - Review and assessment of all municipal water and wastewater facilities in Nunavut (2001/2002)
- *Lower Post First Nation (British Columbia)*
 - Assessment of water supply, treatment, and distribution options (2001)
 - Environmental assessment of preferred water supply and treatment option (2002)
- *Champagne and Aishihik First Nations (Yukon)*
 - Assessment of water supply, treatment, and distribution options (2001/2002)
- *Taku River Tlingit First Nation (British Columbia)*
 - Site selection for land-based municipal wastewater treatment facility (2001)
 - Environmental outline for proposed municipal wastewater treatment facility (2001)

- *Greater Vancouver Regional District (British Columbia)*
 - Development of a "Receiving Environment" approach to regional Liquid Waste Management (1998-2000)

Environmental Assessment and Management

- *Greater Vancouver Regional District (British Columbia)*
 - Development of receiving environment monitoring programs surrounding wastewater treatment plants discharging to the Fraser River estuary (2002)
 - Environmental assessment of combined sewer overflows, stormwater, and wastewater treatment plant discharges (1995-2000)
- *Fraser River Environmental Management Program (British Columbia)*
 - Assessed historical Fraser River estuary sediment quality data to identify trends and determine areas of potential risk to aquatic health (1994/1995)
- *Government of Yukon*
 - Conducted a detailed Phase II/III contaminated site assessment of a former oil refinery site (2000/2001)
 - Source identification of historical petroleum hydrocarbon contamination (2001)
- *City of Dawson (Yukon)*
 - Environmental assessment of a proposed secondary wastewater treatment facility (2001)
 - Water license application for proposed secondary wastewater treatment facility (2002)
- *Ross River Dena Council / Liard First Nation (Yukon)*
 - Review of proposed Development Assessment Process legislation (2000/2001)
- *Chant Construction Company Ltd. (Yukon)*
 - Land and water permit applications for 230 km hydroelectric transmission system between Mayo and Dawson City (2001)
 - Developed an Environmental Management Plan for transmission system clearing and construction (2001)
 - Environmental audit of line brushing and clearing operations and management (2002)

Publications

McCallum D., R. Macdonald and P. Ham, 2000:

Evolution of Urban Stormwater Environmental Assessment Methods: A case study of the Greater Vancouver Region, B.C., *Watershed 2000, Water Environment Federation Specialty Conference*, Vancouver, B.C., July 9 – 12, 2000. Proceedings on CD-ROM.

Hall, K., D. McCallum, K. Lee and R. Macdonald, 1998:

Characterization and aquatic impacts of Combined Sewer Overflows in Vancouver, British Columbia, *Water, Science and Technology*, Vol.38, No.10, pp 9-14.

McCallum D. and K. Hall, 1998:

Limitations of Sediment Quality Surveys: A case study of an urban watershed in British Columbia, Canada, *Water, Science and Technology*, Vol.38, No.11, pp 201-208.

Hall, K., H. Schreier, D. McCallum, A. Wilson and S. Peters, 1996:

The Fraser River Estuary Environmental Quality. FREMP – Fraser River Estuary Management Program, Burnaby, B.C., 164 pp.

McCallum, D. and K. Hall, 1996:

Tracing the Contaminant History of an Urban Watershed Through an Examination of Aquatic Sediments, in *Watercourses Conference, Canadian Water Resources Association – Proceedings*, Vancouver, B.C., October 22 – 25, 1996.

Donald W. McCallum

M.A.Sc., P.Eng.

Senior Environmental Engineer

Principal, Vancouver Office

Page 3

Berka, C., D. McCallum and B. Wernick, 1995:

Land Use Impacts on Water Quality: Case studies in three watersheds, in *The Lower Fraser Basin in Transition – Proceedings*, Kwantlen University College, Surrey, B.C., May 4, 1995.

McCallum D., 1995:

An Examination of Trace Metal Contamination and Land Use in an Urban Watershed, M.A.Sc. Thesis, University of British Columbia, 217 pp.

Professional Affiliations

- Association of Professional Engineers and Geoscientists of British Columbia (Licensed)
- Association of Professional Engineers of Yukon (Licensed)
- British Columbia Water and Waste Association
- Water Environment Federation

RESUMÉ: **DANILO J. ANTON**

MAIN AREAS OF SPECIALIZATION AND INTEREST

- 1) *Water management, hydrogeology and methods for valuation of water resources*
- 2) *Environmental policies and environmental economics*
- 3) *Community management of natural resources. Traditional strategies for environmental management. Cultural issues in environmental management.*
- 4) *Geomorphology, quaternary geology, sedimentology*

CITIZENSHIP: Uruguayan and Canadian

DATE OF BIRTH: December 2, 1940

LANGUAGES: Fluent: **English, Spanish and French**

Working knowledge: **Portuguese and Italian**

EDUCATION:

- **Doctorate in Geography** at the University Louis Pasteur, Strasbourg, France, 1973
- **Certificats d'Etudes Supérieures** in geomorphology, ecology, biogeography and geography of soils, sedimentology, petrography and mineralogy, 1970- 1973 (same university).
- **General Project Management** course; in Batelle's Columbus Laboratories, 1983, Columbus, Ohio.
- **Sabbatical research** at the University of Waterloo, Ontario, Canada, 1988-89, Invited Professor at the Institute for Groundwater Research, subject of research: Water supply and urban environments in Latin America)
- **B.Sc. level:** Geography, 1967; Geography Department of IPA, Montevideo.

PROFESSIONAL EXPERIENCE

Presently: Independent consultant in environmental impact and policies, water management, sustainable strategies for community development, hydrogeology and geomorphology, and related issues.

Professor at the CREFAL Regional Master Programs teaching short courses dealing with environmental, globalization and cultural issues. Courses are periodically organized in various Latin American countries (once or twice per year). Crefal is a regional organization specialized in education subjects based in Pátzcuaro, México. Last course took place in Universidad de Caldas, Manizales, Colombia, September 2002.

- 1999- 2001 **Professor at the Centro Interamericano de Recursos del Agua (CIRA)** of Toluca, Mexico, Universidad Autónoma del Estado de México, supported by

CONACYT; subjects of research and teaching: basin management methodology, entropic approach to water valuation.

- 1998- 1999 **Invited Professor at the Macalester College of St Paul, Minnesota**, teaching several environmental subjects (Global Cities, Drought in a Water World, Identity and Culture in Latin America, Nature and Farming in Latin America, Urbanization and Development).
- 1997-1998: **Professor of Human and Economic Geography** at the International Relations Program, Facultad de Derecho, Universidad de la República, Montevideo, Uruguay.
- 1995-1998: **Professor of Environmental Policies** at the Universidad Católica del Uruguay, Dámaso Antonio Larrañaga, Montevideo, Uruguay.
- 1997- 1998: **Lecturer** on water management and environmental economics at the Central American Master Program on Water Resources at the Universidad de Costa Rica.
- 1997: **Lecturer** on Development Theory (Teoría del Desarrollo) at the Master Program on Sustainable Development at the Universidad de Pilar, Ñeembucú, Paraguay.
- 1997-1998: **Consultant in Montevideo, Uruguay**
Main contracts during that period
 - a) Responsible for the Environmental and Social Impact Assessment of a large multiinstitutional program (Ministry of Agriculture and Fisheries of Uruguay), financed by a IDB-loan (40 million dollars program).including most aspects of agricultural activities and technological policies in Uruguay.
 - b) Responsible for geomorphological mapping and analysis of the Area de Reserva de la Biósfera de los Bañados de Rocha in Uruguay (GEF- project). Also participated as a consultant for the preparation of the project report.
- 1992-1994: **Director of the Department of Geography** at the Faculty of Sciences, Universidad de la República, Montevideo, Uruguay. Also professor of several geographical subjects in that university.
- 1984-1997: **Senior Program Officer at the International Development Research Center** based in Ottawa, Canada (1984- 1988), Bogota (1988- 1990) and Montevideo (1990 - 1997) ; responsible for the following programs:
Water and environment/ Earth Sciences: 1984 - 1990;
Urbanization and environment: 1991- 1995;
Grassroots environmental management: 1995- 1997.

At IDRC I developed, submitted and monitored more than 50 projects in 30 countries worldwide. Most projects dealt with environmental issues: water management in drylands (Mali, Bourkina Faso, Niger, Benin, Kenya, Tunisia, Morocco, etc), coastal fogs (Chile), snow and ice (Pakistan),urban water supply and groundwater management (Senegal, Uganda,, Colombia, Mexico, Brazil, Argentina, Uruguay, Bolivia, Nicaragua, Indonesia, etc).

- 1980-1984: Coordinator of the Geology and Minerals Division at the University of Petroleum and Minerals, Program Manager of the Sand Research Program and Researcher at the same university, Dhahran, Kingdom of Saudi Arabia. Also Project Manager in several projects in Saudi Arabia some of which were quite large: a) Environmental Study at the Eastern Province International Airport (2 million dollars, 10 volumes report (s), staff of 20 researchers) and b) Jubayl Industrial City (5 million dollars, 5 volumes report, staff of 25 researchers).**
- 1977-1980: Senior hydrogeologist at J.McLaren Engineers, Toronto, Canada. Project Manager and Research Scientist of several water projects including the hydrogeological assessment of 17 sites for hazardous waste disposal (Ontario), survey of mineral resources, soil surveys, environmental impact assessments and various hydrogeological studies, 1977 - 1980.**
- 1975-1977: Professor and Director of the Center for Geographical Research, Universidad Autónoma de Guerrero, Acapulco, Chilpancingo, Mexico, 1975- 1977. In addition, was a Marine Geology and Marine Geomorphology, Professor at the same University.**
- 1973-1975: Geomorphologist at the Ministry of Agriculture (MGAP), Montevideo, 1973 - 1975.**
- 1970-1973: Researcher at the Centre de Géographie Appliquée, Université Louis Pasteur, Strasbourg, France.**
- 1965-1970: Geologist / geographer at the Geological Institute and Ministry of Agriculture (MGAP), Uruguay. Geology Professor at the Instituto de Profesores Artigas, Montevideo, Uruguay as well as Geography Teacher at several high schools in Montevideo.**
- 1988 -1989: Sabbatical: Invited Professor at the Institute for Groundwater Research, University of Waterloo, Canada**

PUBLICATIONS

BOOKS

- *Thirsty Cities*; IDRC Books, Ottawa, On., 1993
- *Sequia en un Mundo de Agua (Drought in a Water World)*, PiriGuazú Ediciones, C.I.R.A.; San José, Costa Rica, Toluca, México, 2000.
- *Diversity, Globalization and the Ways of Nature*; IDRC Books, Ottawa, 1995
- *Villes Assoiffées (translation of Thirsty Cities into French)*; Livres CRDI, Ottawa, 1995
- *Ciudades Sedientas*; (updated translation of Thirsty Cities) IDRC Books, UNESCO y Nordan, Ottawa/Montevideo, 1996

- *Conocimiento sin barreras (Unbroken Knowledge)*, Nordan/IDRC Books, Ottawa, Montevideo, 1996
- *Diversidad, globalización y la sabiduría de la naturaleza*; (traducción corregida y actualizada de *Diversity, Globalization and the Ways of Nature*) coedición de IDRC Books y Piriguazú Ediciones, San Jose, Costa Rica, 1999.
- *Uruguaypirí*; Rosebud Ediciones, Montevideo, 1994
- *Piriguazú*; Rosebud Ediciones, Montevideo 1996
- *Las claves de una guerra de culturas*, Editorial Fin de Siglo; Montevideo, Noviembre del 2001
- *La Mentira del Milenio*, Piriguazú Ediciones, San José, Costa Rica, 1999.
- *Amerrique, los huérfanos del paraíso*; Piriguazú Ediciones, Montevideo, 1998
- *El Pueblo Jaguar* ; Piriguazú Ediciones; Montevideo, 1998
- Also two books in press to be published in October and November 2002: *Argentina y sus fantasmas* and *Pueblos, Drogas y Serpientes. I*

Articles, papers and reports

Antón, D. 2000; El Valor del Agua (The Value of Water); Revista de Ecología Política, Editorial Icaria, Barcelona

Antón, D. 2000; Drenaje del Estado de México; Enciclopedia Mexiquense, Mexico

Antón, D. 1999; Environmental Impact of Tourism. Presented at the Experts Meeting of the European Union and Latin America, Helsinki, Finland.

Antón, D., 1999; Agua, Vida y Cultura; Presented at the First Congress on Hydrology of Arid Zones, Querétaro, México.

Antón, D. 1998; Saciando la sed planetaria: los problemas del agua en el fin del milenio (Quenching planetary thirst). Keynote speaker. Prepared for the XX Coloquio de Antropología e Historia, Zamora, Michoacan, México

Antón, D. 1997; Los modelos ambientales y de gestión hídrica en América Latina y su sostenibilidad ambiental y social; presented at the Seminario Internacional sobre el Manejo de los Recursos Hídricos. Published at the Universidad Autónoma del Estado de México, Toluca

Antón, Danilo, 1998; Environmental and Social Impact Assessment (of Uruguayan Agricultural Strategies); Programa de Servicios Agropecuarios, impact study of the

40 million dollar IDB-supported program, involving research and technological development projects in the agricultural field in Uruguay

Antón, Danilo, 1998; *Latin America: Five Centuries of Globalization; proceedings of the Macalester International Roundtable. Saint Paul, Minnesota.*

Antón, D. and Cibils I. (Editors), 1997; *Hidrovia: Participative Management of the Parana- Paraguay Basin, Environmental Impact. Compilation of several papers and studies on Hidrovia published by ALADI, Montevideo*

Antón, D. 1995; *Problemas ambientales para la supervivencia de la especie humana, in the book "Vida y Cosmos: Nuevas reflexiones", published at the Faculty of Sciences, University of Montevideo, Uruguay.*

Antón, D., 1990; *Groundwater supply and urban environments in the Latin American and Caribbean region. At Latinoamerica, Medio Ambiente y Desarrollo, pp 157-173, published at IEIMA, Fundación Roulet, Bariloche, Argentina.*

Antón, D., 1990; *Environmental changes and aeolian dynamics during the Quaternary in the Arabian peninsula; "Proceedings of the International Workshop on Sand Transport and Desertification in Arid Lands"; 209- 235; 17-26 November 1985, Khartoum, Sudan, published by World Scientific , Singapore.*

Farvolden, R. and Antón, D.;1990; *Geologic hazards and a growing population, Mexico City; Geological Society of America; Session 153, Dallas, Oct.29- Nov. 1.*

Antón, D., 1987; *Every cloud has a silver lining; IDRC Reports, Vol.17, N.4; Ottawa.*

Antón, D., 1987; *Pêche dans les nuages; Le CRDI Informe, Ottawa.*

Antón, D.;1987; *Cosechando las nubes; El CIID Informa; Ottawa .*

Antón, D., 1987; *Integrated approach to sand control in arid regions, Proceedings of International Seminar on the Integrated control of Land Desertification, Lanzhou, P.R. of China, August 1987.*

Antón, D., 1987; *Urban hydrogeology in the large Third World Cities; paper submitted at the First Conference on Urban Hydrogeology and Aquifer Contamination; Cochabamba, Bolivia.*

Antón, D., 1987; *Relationship between groundwater and aeolian dynamics in sabkhas/ Eastern Province of Saudi Arabia; Proceedings of Symposium on Hydrogeology for Development; XXth Congress of the International Association of Hydrogeologists, Rome*

Antón, D., 1986; *Dwindling water in the sinking cities; IDRC Reports, Vol. 15, N.2, April 1986; Ottawa.*

Antón, D., 1986; *Aguas subterráneas en ciudades del Tercer Mundo*; El CIID Informa, Ottawa.

Antón, D. and Ince F., 1986; *A study of sand color and maturity in Saudi Arabia*; Z.Geomorph. N.F. 30, 3, 339-356, Berlin-Stuttgart, Setiembre 1986.

Antón, D., 1986; *Morpho-stratigraphy and aeolian activity during the late Quaternary in the Arabian Peninsula*; INQUA-ASEQUA Symposium International "Changements globaux en Afrique durant le Quaternaire", Dakar, Editions de l'ORSTOM; Coll. Travaux et Documents No 197; Paris.

Antón, D. and Vincent P., 1986; *Parabolic dunes of the Jafurah Desert, Eastern Province, Saudi Arabia*; *Journal of Arid Environments* (1986) 11, 187-198, Londres.

Antón, D., 1984; *Modern eolian deposits in the East. Province of Saudi Arabia*; *Eolian Sediments and Processes*, pp. 365-378; Elsevier, Amsterdam.

Antón, D., 1994; *Ecosistemas en capilla: la hidrovía*, Tierra Amiga, March 1994.

Antón, D., 1989; *Impacto ambiental de la urbanización en América Latina*; *Second Latin American Meeting of Geographers*, Montevideo.

Antón, D., 1984; *Aspects of geomorphological evolution: Paleosols and Dunes in Saudi Arabia; Quaternary Period in S. Arabia*; 275- 297, Vol. 2, Springer-Verlag, Wien.

Antón, D., 1984; *El medio ambiente y regionalización geomorfológica de la península de Arabia*; *Estudios Geológicos*, 40, 165-175 (1984) Madrid.

Antón, D. et al, 1983-1985; *Sand Control and Environment in Madinat el Jubayl, industrial city, Saudi Arabia*"; report, 12 volumes, 6000 pages, 150 maps; responsibility "Technical Manager"; University de Petroleum and Minerals, Dhahran, Saudi Arabia

Antón, D., 1982; *A geomorphological evolution of Saudi Arabia using existing information and Landsat imaging*, University of Petroleum and Minerals, Saudi Arabia, prepared for the Symposium on Remote Sensing, Cairo, Egypt.

Antón, D. et al, 1981-1983; *Sand Control Study at the Eastern Province International Airport, Saudi Arabia*"; Report, 10 volumes, 5000 pages, 100 maps, responsibility: "project manager".

Antón, D., 1980; *Climatic influence in the Cenozoic evolution of the Arabian Shield*; (abs) prepared for the 26th Geological Congress, Paris.

Antón, D. et al; para J.F. McLaren Eng. of Toronto, 1979-1980; Remote sensing monitoring needs of Manitoba; responsibility: project manager; prepared for the "Canadian Center for Remote Sensing", Ottawa.

Antón, D. et al; para J.F. McLaren Eng., Toronto. 1979; Mineral aggregates of the Southern Interlake region, Manitoba; report, 2 volumes, 600 pages, 21 maps; responsibility, principal investigator; prepared for the Ministry of Mines of Manitoba; Canada.

Multidisciplinary team including D. Antón in the hydrogeological section, 1979; Hydrogeological Assessment of 17 proposed sites for hazardous waste disposal, prepared for the Ministry of the Environment of Ontario, Toronto.

Antón, D., 1979; Relaciones entre evolución geológica y relieve en Uruguay; submitted at the 4th Geological Latin American Congress, Port of Spain, Trinidad y Tobago.

Multidisciplinary team including D. Antón in the geological section, 1977-1979; in Agricultural development of the Arabian Shield South; for J.F. McLaren Eng.; the geological section included 2 volumes, 40 maps, drilling of 200 wells, etc; Taif and Toronto

Charlesworth, D., Antón, D. et al, 1977-1979; Groundwater computer model; Wadis Bishah and Habawnah, Saudi Arabia. Models of these basins and forecast of their future behavior; 1 volume, 300 pages; prepared for the Ministry of Agriculture of Saudi Arabia,.

Antón, D., 1978; Pliocene-Quaternary morpho-stratigraphy of the state of Guerrero, Mexico; Latin- American Congress of Geology, Port-of-Spain, Trinidad y Tobago.

Antón, D., 1977; Acapulco y sus problemas ambientales; published at the Universidad Autónoma de Guerrero, México, 1977.

Antón, D., 1977; Geología Cuaternaria del Estado de Guerrero; published at the Universidad Autónoma de Guerrero, México.

Antón, D., 1977; La investigación metodológica en agro-geografía; published in Polémica, N 1; June 1977; Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1977; El hombre y el medio en Guerrero, México; published by the Universidad Autónoma de Guerrero, México

Antón, D., 1976; Mapa geomorfológico submarino y batimétrico de la Bahía de Puerto Marques, México, Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1976; Mapa geológico de Tecpan, México; printed at the Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1976; *Guía para la encuesta de unidades de producción*; published by the Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1976; *Dinámica erosiva del valle de Iguala, México*; prepared for the Primer Encuentro sobre la Erosión Agrícola, Chilpancingo, México.

Antón, D., 1976; *Origen de las formas de la tierra*; libro; published by the Universidad Autónoma de Guerrero, Chilpancingo, Guerrero, México.

Antón, D., 1976; *Curso de oceanografía*; published by the Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1976; *Metodología para la investigación geográfica*, published by the Universidad Autónoma de Guerrero, Chilpancingo, México.

Antón, D., 1976; *Geología cuaternaria de la región platense*; prepared for the Third Geological Latin American Congress, Acapulco, México.

Antón, D., 1975; *Evolución geomorfológica del norte del Uruguay*; Dirección de Suelos y Fertilizantes, Ministerio de Agricultura y Pesca, submitted at the "International Symposium of Quaternary", Curitiba, Brasil.

Antón, D. y Prost M.T., 1975; *Observaciones sobre las formaciones cuaternarias del borde occidental de la Sierra de Animas*, Ministerio de Agricultura y Pesca, Montevideo, Uruguay, (also submitted at the XXVIII Congresso Brasileiro de Geologia, Porto Alegre, 1974).

Antón, D., 1975; *Relaciones entre las superficies de aplanamiento y los suelos en el Uruguay*; submitted at the Argentinean Congress of Soil Scientists, Bahía Blanca, Argentina, 1975.

Antón, D. y Goso H., 1974; *Estado actual de los conocimientos sobre el Cuaternario en el Uruguay*; Anais do XXVIII Congresso Brasileiro de Geologia, Porto Alegre, 1974.

Antón, D., 1974; *La investigación metodológica: un camino hacia la inserción del geógrafo en el campo profesional*; submitted at the 21 Encuentro de la Nueva Geografía; Neuquén, Argentina; also published at the "Cuadernos de Difusión Cultural" 1976-2, Chilpancingo, México.

Antón, D. and Prost, M.T.(coordination), 1973; *Relevamiento geográfico integrado del medio natural; Sierra de las Animas- Las Flores- Solís*; Uruguay.

Antón, D., 1971; *Acercas de la metodología de trabajo en geografía física*; Third Congress of Geography of Uruguay, Rivera, Uruguay.

Antón, D., 1970; La investigación geográfica; in "Hacia una geografía regional", Nuestra Tierra, N.33, Montevideo, Uruguay.

Antón, D., 1970; Bases generales para el estudio del Cuaternario: metodología y estratigrafía; Separata del Programa de Estudios y Levantamiento de Suelos, Montevideo, Uruguay, Mayo.

Antón, D., 1970; Geografía y recursos naturales de Rocha; Colección Los Departamentos, N.10; Montevideo, Uruguay, 1970.

Antón, D. 1969; El relevamiento geográfico; paper submitted at the Second Congress of Geography in Uruguay, Paysandú, Uruguay.

Antón, D., 1969; Colección Didáctica de Rocas del Uruguay; Fundación de Cultura Universitaria.

Name, Citizenship **DEREK P. SMITH, Canadian and British**

Position **Project Manager;
Solid Waste, Water Supply and Environmental Management
Expert**

Education 1970, B.Sc. (Hons.) Geology, Dalhousie University
1974, M.Sc. Hydrogeology, Waterloo University

 Courses in Computer Science, Environmental Auditing, Business and
Project Management, International Affairs, ISO14000

Experience 32 years since completion of first university degree

Present Employer President, DPS International Inc. Ottawa, Ontario
Senior Associate, Environmental Strategies Ltd, Markham, Ontario.
President, WESA Guatemala Ltd. Guatemala City.
Director of Canora Asia Inc., (Indonesia)
Director, WESAtech s.a de c.v. (El Salvador)

Languages Fluent in English, French, and Spanish. Working knowledge of
Portuguese and Kiswahili.

Pertinent Experience

Mr. Smith has completed and supervised over 5000 consulting projects in Canada and over 20 countries in Asia, Africa and the Americas. He is in demand by the major IFIs (World Bank and Inter-American Development Bank) for team leadership and specialist services in environmental management, industrial audits and environmental business planning, water supply and sanitation, solid waste management, training and institutional strengthening.

Recently, Mr. Smith has acted as a Task Manager on World Bank missions to Kenya, Angola and Honduras and as a project supervisor on Inter-American Development Bank solid waste management projects in Brazil, Jamaica and Belize. Mr Smith is currently developing methods to privatise the solid waste management system in five Guatemalan Municipalities under contract to the World Bank.

In 2001, Mr Smith directed the Solid Waste Master plan project for the Government of the Turks and Caicos Islands. He has undertaken CIDA (Canada) funded assignments in Tanzania, Mexico, India, El Salvador, Cuba and Guatemala.

His water supply work includes the development of new water supply schemes for the City of San Salvador, El Salvador, a study of artificial recharge and aquifer mining in the Valley of the City of Mexico and major aquifer studies in Kenya and Tanzania.

Employment History

2001 – present	President , DPS International inc. Senior Associate, Environmental Strategies Ltd.
1990-2001	Founder and Director, Envir-Eau Inc.
1976-2001	Founder and President, Water and Earth Science Associates Ltd.
1975-1976	Hydrogeologist, Ministry of Environment, Nova Scotia

International Experience (selected recent experience)

Export Development Corporation, Canada (2002-ongoing) Consulting services related to Environmental Assessment of oil and gas projects and ISO 14001 compliance in Mexico.

Guatemala (2002-ongoing) Project Manager of a team of 15 international experts. The study include data collection and analysis, the production of a diagnostic and prioritisation of the problems, and the development of the best methods to privatise the solid waste management system in five Guatemala Municipalities. The four month study was undertaken for the World Bank and was conducted in Spanish.

Brazil (2001-ongoing) Senior Consultant to the InterAmerican Development Bank and the Banco do Nord-Este (Fortaleza, Brazil). Development of a Solid Waste Management program for north-eastern Brazil through the Prodetur II project. The work includes solid waste management, project management, institutional strengthening and training. This study was undertaken in Portuguese.

Turks and Caicos Islands, BWI (January 2001 - ongoing) – Director of Solid Waste Management master planning. The six month study includes waste characterization, landfill remediation, collection system analysis, selection of technologies, financial analysis, environmental assessment, privatisation, training and institutional strengthening.

Angola (November 2000) – Environmental training specialist for the World Bank Social Development fund project in Angola. Work includes the presentation of a two week course on environmental regulations and compliance and Bank environmental assessment procedures to Bank staff in Angola in Spanish and Portuguese languages.

Angola (June 2000) – Environmental Specialist for the World Bank Social Development fund project in Angola. Work includes environmental assessment of the loan and institutional strengthening of Angolan Department of Fisheries and Environment.

El Salvador (1999-ongoing) – Project Manager, Water Supply Development, City of San Salvador for Canadian International Development Agency. Multi- year study of hydrogeology, supply network, regulatory compliance, water chemistry norms, tariff structure, contamination sources. There is a large industrial effluent problem associated with this project.

El Salvador (1999-ongoing) – Hydrological study and environmental impact assessment of the Mirazalcos hydroelectric project (\$4 million development). For Gemira Ltd. of El Salvador.

Belize, Solid Waste Management Master Plan, IDB (August 1997- on going) – Senior solid waste management and environmental specialist for the InterAmerican Development Bank.

Work includes the supervision of all aspects of the development of this project as a Bank staff member and the assessment of the Mile 24 landfill site for waste disposal purposes.

Cuba (1999) – Environmental business analysis of technological requirements of Cuban sugar industry for Industry Canada.

Guatemala (1997-on going) –Senior Environmental Advisor to ASAZGUA (the association of sugar producers) in Guatemala related to remediation of their airborne and aqueous effluent discharges from 8 sugar factories. The work includes environmental monitoring, detailed environmental auditing, technology needs assessment, equipment procurement and training, and regulatory compliance.

Jamaica (1996-1999) – Task Manager, IDB 0035 solid waste management program. Organisation and costing of project for the Inter-American Development Bank and the Government of Jamaica. Work included the production of 13 technical documents in the waste management field upon which the approval of the IDB loan were made.

El Salvador (1998-1999) – Project Manager, biomedical waste study of hospital waste production throughout El Salvador. Work includes audits at 30 hospitals and clinics, evaluation of technology, selection of least cost alternatives, development of a National Master Plan.

Mexico (1998-1999) – Project Manager for the study of the possibility of injecting treated wastewaters into the aquifers in the Valley of Mexico for the InterAmerican Development Bank and CIDA.

Kenya, Mombassa Water Supply Project, World Bank (September 1997-June 1998) – As Task Manager and senior environmental impact assessment expert, services include the supervision of a Canadian and Kenyan Impact Assessment team and negotiations with the Kenyan Government. From July 1996 to October 1996 he acted as the Task Manager and senior environmental expert for the World Bank during the re-organisation of the Third Mombassa Water Project.

Honduras (August 1997-April 1998) – Senior Project Manager on a water quality, hydrology and training project for the World Bank country office in Tegucigalpa.

Colombia (1996) – Senior Solid Waste Management expert on the Inter-American Development Bank project definition mission in the city of Pereira. Work involved assessment of institutional capacities in the water and waste disposal sectors.

Mexico, Second Solid Waste Management Project, World Bank (1994-1996) – Senior environmental scientist for services in landfill design and environmental assessment of waste management systems in 23 municipalities across Mexico. This work involves site evaluations, project management and strategic planning in the hazardous and solid waste management fields.

Jamaica, Solid Waste Management Master Plan, Inter-American Development Bank (Project JA0035) (1995-1998) – Senior solid waste management expert for the development of the countrywide plan. Provided services in supervision and quality control of all environmental and technical aspects of the study as an IDB assessor.

India (1995) – Senior scientist and Project Manager, under contract to World Bank, on a waste management, environmental impact and geotechnical study into coal ash disposal from Indian Coal Generating stations. The \$150,000 study identified handling methods, investigated air and water pollutant problems and examined methods of ash utilisation and reuse.

Tanzania, Dodoma Water Supply Feasibility Study, CIDA INC (1992-1995) – Project Manager and senior water resource expert for this \$600,000 study, for the Department of Water, Energy and Minerals in Dar es Salaam. The project included evaluations of institutional strengthening, financial sustainability, women's issues, environmental impact assessment, surface and groundwater supplies, sewage disposal and sanitation and pipeline engineering. This project is scheduled for financing by the African Development Bank in 1997.

Tunisia, Fourth Water Supply and 8th Sanitation Project, World Bank (1994) – Senior Environmental scientist to undertake environmental impact assessment including field work and reporting related to the construction of new sewage treatment plants and water supply facilities across the country. This was a category B assessment project (World Bank).

Malaysia (1993) – Design and delivery of a two-week training seminar on solid waste and environmental management for the Ensearch (Environmental Management & Research Association of Malaysia) in Kuala Lumpur, Malaysia. Consultation with the University of Kuala Lumpur on the management and remediation of the city's landfill.

Tanzania, Majumbasita Sanitation Study, CIDA INC (1986-1989) – Supervision of the project, which had a strong environmental assessment component. The project included a field drilling program, the gathering of analytical water supply and geochemical data and an analytical study into the causes of shallow groundwater contamination.

Canadian Management Experience (selected)

Thirty-two years of project management experience with Canadian Industry in the field of water supply, industrial audits, regulatory compliance, environmental assessment and solid, hazardous and biomedical waste management. Experience with automotive, corn processing, micro-electronic, food processing, pulp and paper, manufacturing and waste management industries.

Twenty-five years of business and management experience as the Founder and President of a multidisciplinary environmental consulting company with staff of over 50 employees, and gross sales of over \$6 million dollars.

Expert witness in court cases relating to environmental matters over 50 times.

Excellent oral and written communication skills.

Please contact dsmit48@attglobal.net for additional information.

Lee Ringham

M.Sc., P.Geo.
Senior Hydrogeologist

Profile

2001-Present	Senior Hydrogeologist, Gartner Lee Limited
1999-Present	Part-time Instructor, BCIT Environmental Engineering Program
1996-2001	Senior Hydrogeologist, Sperling Hansen Associates, North Vancouver
1995-1996	Hydrogeologist, AGRA Earth & Environmental Ltd., Burnaby, B.C.
1992-1995	Senior Water Management Engineer, B.C. Environment, Surrey, B.C.
1989-1992	Self employed consultant, Duncan, B.C.
1987-1989	Hydrogeologist, Waikato Regional District, Hamilton, New Zealand
1986-1987	Geologist, Heritage Mining, Auckland, New Zealand
1986	Master of Science, University of Alberta, Edmonton, Alberta
1982	Bachelor of Science, McGill University, Montreal, Quebec

Experience

Mr. Ringham is a Senior Hydrogeologist with Gartner Lee Limited. He has worked as a hydrogeologist in both the public and private sector for over 14 years, in Canada and overseas. In addition to his extensive consulting experience, Mr. Ringham has held government positions in British Columbia and New Zealand, where he specialized in the collection and interpretation of groundwater quality and quantity data.

As well as hydrogeological expertise, Mr. Ringham has experience in the contaminated site field, including completing site assessments, site investigations, decommissioning industrial sites and spill clean up. His experience in solid waste management encompasses landfill siting studies, design, operation and closure plans, landfill hydrogeology including contaminant plume migration assessment and environmental monitoring plans. Mr. Ringham has completed water quality studies, water supply assessment and water quality impact investigations. He is familiar with all aspects of project management, such proposal preparation, supervision of sub-contractors and junior staff, client liaison, discussions with regulators and participation in multi-disciplinary teams.

Examples of Mr. Ringham's experience include:

Solid Waste Management

- Instructed landfill operations courses in Thailand, Indonesia, and the Philippines
- Completed design, operation and closure plans for landfills throughout BC including Vancouver, Victoria, Kamloops, Campbell Mountain (Penticton), Terrace, Prince Rupert, Gitlakdamix (Nass Valley) and Barriere.
- Designed and supervised environmental monitoring programs for Norampac Ltd., Thornhill Landfill and five landfills in Regional District of Okanagan-Similkameen.
- Completed Annual Monitoring Reports for submission to regulators for Thornhill, Hope, Princeton, Campbell Mountain and Terrace Landfills.
- Undertook landfill siting study for Regional District Columbia-Shuswap and the Nisga'a Nation (Nass Valley).
- Designed and supervised geotechnical investigations for new and existing landfills for municipal and industry clients.

- Completed water quality and landfill leachate assessments for landfills throughout BC including Vancouver, Victoria, Terrace, Invermere, Prince Rupert and Queen Charlotte Islands.
- Investigated impacts of woodwaste leachate on the surrounding environment for Norampac, Weyerhaeuser, Eurocan and Tolko Industries landfills
- Designed and supervised field investigations for the expansion of existing and siting of new landfills for government and industrial clients such as MacMillan Bloedel (Port Alberni), Howe Sound Pulp and Paper (Port Mellon), Thompson-Nicola Regional District (Barriere, Chase) and Town of Princeton and others.
- Supervised waste stream audit studies in the GVRD.
- Taught Landfill Design and Operations and Environmental Monitoring at Landfills courses at BCIT.

Groundwater Management

- Specialized in the collection, interpretation and assessment of hydrogeological and hydrogeochemical data including:
 - Delineated preliminary capture zones for 178 water supply wells using various delineation methods. The capture zones formed the basis for initial wellhead protection and management plans designed to protect the groundwater supply for each well.
 - Fraser Valley Groundwater Monitoring Program. A two year, \$300,000 dollar study into the quality of the groundwater in the Lower Fraser Valley. Developed Terms of Reference of study, co-authored the final report; presented findings at a peer reviewed, international conference.
 - Groundwater quality study in the Northern Waikato Region, New Zealand.
 - Investigation of arsenic occurrences on the Sunshine Coast, British Columbia.
 - Field investigation to collect aquifer parameters via pumping and slug test data in confined and unconfined aquifers, Kaawa Formation, Manakau Lowlands, New Zealand.
- Planning and supervising monitoring well installations during on site investigations.
- Surface water/groundwater studies such as:
 - Assessment of storm water discharge on groundwater quality in the Vedder Aquifer, Chilliwack;
 - Assessment of septic field installation on groundwater resources, Hopington Aquifer, Langley, BC.
 - Assessment of gravel extraction, Abbotsford-Sumas Aquifer, Abbotsford, B.C.
 - Recharge to sub-surface from infiltration ponds, Chilliwack, B.C.
- Working member of various provincial government committees, including:
 - Groundwater Act Working Group. Regional Representative for a working group developing Groundwater Protection Act for the provincial government.
 - Abbotsford-Sumas Aquifer International Task Force. Project manager for the Canadian delegation of the International Task Force, established under the Environmental Coordination Council, originated by (then) Premier Harcourt and (then) Governor Lowry. Organized and coordinated nine agencies from four levels of government committee member and speaker for international conference on nitrates in the environment; co-authored to two annual reports.
- Participated in public hearings and meetings regarding the impacts of the storage of natural gas in Langley aquifers on behalf of B.C. MoELP.
- Participated in public meetings, planning sessions and industry seminars related to the Stewardship of the Water Initiative for the MoELP.
- Participated in development of regional groundwater use plan, Northern Waikato District, New Zealand.

- Participated in the strategic planning and development of the Groundwater Use Bylaw enacted by the Waikato Regional Council.
- Investigated effects of geothermal heat extraction as team member of the Taupo Groundwater Assessment project, central North Island, New Zealand.
- Undertook fieldwork, data interpretation and report writing for groundwater projects within the Waikato Region, New Zealand.

Contaminated Sites

- Assessment of impacts from long term leak of diesel fuel during decommissioning of bulk fuelling station, Nass Valley, BC.
- Investigation into potential impacts from leaking underground storage tanks, Nass Camp, Nass Valley, BC, included field investigation, collecting soil samples, data interpretation and reporting.
- Assessment of contamination from home heating oil spill, West Vancouver.
- Investigation to determine suitability of land for development in Smithers BC, including surveying, test pit excavation, drilling and installing monitoring wells.
- Contaminated site investigations of small industrial sites in Victoria, Vancouver, and Maple Ridge.
- Review of remediation plan and ongoing soil monitoring data, contaminated soil storage bins, Prince Rupert Landfill.

Surface Water Management

- Peak flow and return period estimations for watersheds throughout the province in support of crossing structure selection, location and sizing for Fletcher Challenge Canada.
- Developed and managed drainage plans for rural landfills, Regional District of Bulkley-Nechako, including:
 - prediction of potential run on and run off volumes from IDF calculations; and
 - design of interception and diversion ditches.
- Design and siting of infiltration ponds and engineered wetlands, Crown Packaging Ltd.

Earth Sciences

- Designing and overseeing test pit excavation and drilling programs including logging test pits and boreholes for geological and geotechnical purposes, collection and interpretation of soil composition and chemical data.
- Project geologist in regional geochemistry surveys, epithermal gold exploration, field and structural geological mapping. Responsible for the design, logging and interpretation of soil and rock drilling programs.
- Surficial geology experience in erosion control, fluvial geomorphology, channel morphology, flood frequency analysis and peak flow estimations.
- Surficial geology experience in terrain mapping including slope stability and hazard mapping.

Professional Affiliations

- Association of Professional Engineers and Geoscientists of British Columbia.
- BC Groundwater Association

Publications/Presentations

- *Fraser Valley Groundwater Monitoring Program*, Province of British Columbia, Ministry of Agriculture, Fisheries and Food; Ministry of Environment, Lands and Parks, Ministry of Health, Victoria, B.C. V. Carmichael, L. Ringham and M. Wei, 1996.
- *Fraser Valley Groundwater Monitoring Program, Part 1: Evaluation of Water Quality Results*. In: Proceedings, Solutions '95, International Association of Hydrogeologists Congress, Edmonton, Alberta. V. Carmichael, M. Wei and L. Ringham, 1995.
- *Fraser Valley Groundwater Monitoring Program, Part 1: Development of Preliminary capture zones and Well Management Plans for Community Wells*. In: Proceedings, Solutions '95, International Association of Hydrogeologists Congress, Edmonton, Alberta. M. Wei, L. Ringham and VV. Carmichael, 1995.
- *Well Water Survey for Arsenic in Powell River and Sunshine coast Communities of British Columbia*. Province of British Columbia, Ministry of Health, Environmental Health Assessment Unit, Victoria, B.C. V. Carmichael, L. Clarkson and L. Ringham, 1995.
- *Groundwater Chemistry of the Northern Waikato District*. Waikato Regional Council Technical Report 1990/5, Hamilton, New Zealand. L. Ringham, P. Cochrane and T. Petch, 1990.

Courses

- First Aid Courses, St. John's Ambulance, 2001.
- Groundwater Monitoring and Leachate Management, SWANA, 2000.
- Self Contained Breathing Apparatus, Justice Institute of B.C., 1998.
- First Nations Sensitivity Training, B.C. MoELP, 1995.
- Sexual Harassment and Discrimination in the Workforce Awareness Training, B.C. MoELP, 1995.
- Capture Zone Analysis for Contaminant Remediation and Wellhead Protection, NGWA, 1993
- Dealing with the Media; Interview Awareness, B.C. MoELP, 1993.
- Dispute Mediation and Conflict Resolution, B.C. MoELP, 1993.
- Meeting Facilitation and Management, B.C. MoELP, 1993.

CURRICULUM VITAE

1. Datos Personales.

Apellidos: GHISLIERI MARCHALES
Nombres: Daniel Enrique
Fecha de Nacimiento: 27/10/52
Nacionalidad: Oriental
Domicilio: A. Zum Felde 1571 ap.307
Teléfono: 613.39.16
e-mail: danielg@fing.edu.uy

2. Títulos y Certificados de Estudio.

2.1 Carrera de Ingeniería Química.

Título de Ingeniero Químico otorgado por la Facultad de Ingeniería de la Universidad de la República.

2.2 Cursos de Posgrado y Actualización.

Inscrito en la Maestría (Académica) en Ingeniería Química en el Tema "Control de Reactores Biológicos para el Tratamiento de Efluentes Industriales" (Facultad de Ingeniería, 2001)

- Asistencia al Seminario de Especialización Docente "Diseño de Reactores Heterogéneos", dictado por los Prof. Oscar Quiroga (Univ. de Salta, Argentina) y Gilbert Froment (Univ. de Gent, Bélgica), (Fac. de Ingeniería, 1995).
- Asistencia al Curso "Tratamiento de las Aguas Residuales Industriales" (35 horas) dictado por C. W. Randall y A. A. Randall, (ACDE-DINAMA, 1995).
- Asistencia al Curso de Actualización Profesional "Tratamiento de Efluentes en Sistemas Naturales" (30 horas), dictado por los M.Sc. Silvana Perdomo y Aramis Latchinian, (Fac. de Ingeniería, 1996).

- Aprobación del Curso de Posgrado "Control de la Contaminación en Aire" (50 horas), dictado por el Prof. Noel De Nevers, (IIQ - Fac. de Ingeniería, 1996).
- Asistencia al Curso de Actualización Profesional "Corrosión Microbiológica y Biofouling en Sistemas Industriales" (25 horas), dictado por los Profs. Dr. Héctor Videla, Dra. Christine Gaylarde, Ing. Mario Ferrari y Dra. Mónica Mele (IIQ – Facultad de Ingeniería, 1997).
- Aprobación del Curso de Posgrado "Transferencia de Oxígeno y Ampliación de Escala" (32 horas) dictado por el Dr. Willibaldo Schmidel, (IIQ – Facultad de Ingeniería, 1997).
- Aprobación del Curso de Posgrado "Biodegradación de Compuestos Orgánicos y su Aplicación en la Biorremediación de Matrices Ambientales Contaminadas" (25 horas), dictado por el Ing. Daniel Ferrari, (IIQ – Facultad de Ingeniería, 1997).
- Aprobación del Curso "Saneamiento Básico" de la carrera Ingeniería Civil (H/S) (IMFIA - Facultad de Ingeniería, 1999).
- Aprobación del Curso de Posgrado "Tratamiento de Efluentes Líquidos", dictado por el Prof. José Roberto Campos (Maestría en Ing. Ambiental, Facultad de Ingeniería, 2001)
- Aprobación del Curso de Posgrado "Introducción a los PLC's", (IIE, Facultad de Ingeniería, 2002)
- Aprobación del Curso de Posgrado "Tratamiento de Residuos Sólidos", dictado por los Prof. Marcel Szantó y Rolando Chamy (Maestría en Ing. Ambiental, Facultad de Ingeniería, 2002)

3. Actividad Profesional.

3.1 Actividad Docente.

a) Privada.

- Profesor de Matemática y Física en el 1er. ciclo de Enseñanza Secundaria (Scuola Italiana Di Montevideo, 1975).
- Docente Particular de Matemática (5º y 6º años de Secundaria) y Química (Preparación para examen de ingreso a la Universidad), (Centro de Enseñanza Integral, 1981 a 1983).
- Docente Particular de Matemática de 6º año de Secundaria (1984 a 1988).

b) Pública.

- Ayudante Honorario en el Departamento de Tecnología y Servicios Industriales, Instituto de Ingeniería Química (Facultad de Ingeniería, desde marzo de 1987 a marzo de 1989).
- Asistente (Grado 2) del Departamento de Tecnología y Servicios Industriales, Instituto de Ingeniería Química (Facultad de Ingeniería, desde marzo de 1989 hasta la fecha).
- Consultor en Asesoramiento Curricular para la Implementación de los Bachilleratos Tecnológicos por Contrato con Unesco, (1996).
- Integrante del Grupo de Química de la Unidad de Fortalecimiento de la Enseñanza Técnica, U.T.U.(1996).
- Docente de las asignaturas "Introducción a la Química Industrial" y "Análisis de Aguas Industriales", para la carrera de Tecnólogo Químico (U.T.U. – Facultad de Química) (2001).

c) Participación en Cursos y Conferencias

- Dictado del curso "Tratamiento de Efluentes Industriales" en conjunto con el M.Sc. Ricardo Kraemer, (AUSPA, 1995)
- Conferencia "La Química en el Agua de Uso Industrial", X Congreso Nacional de Profesores de Química, (Durazno, 1996).

- Orientación del Taller "Contaminación de los Cursos de Agua", X Congreso Nacional de Profesores de Química, (Durazno, 1996).
- Dictado del módulo "Usos Industriales del Agua" en el Curso "El Agua en la Industria y su Tratamiento", organizado por el Programa Bolívar (Cámara de Industrias del Uruguay, 1996).

3.2 Actividades de Investigación.

a) Proyectos Realizados.

- Viñas, M., Borzacconi, L., Martínez, J., Perdomo, S.P., Ghislieri, D., Ono, A., "Determinación de los parámetros de diseño de una laguna aireada para efluentes de cervecería", Informe técnico Convenio FI - CYMPAY S.A. (1991).
- Viñas, M., Perdomo, S.P., Ghislieri, D., "La industria del cuero en Uruguay", Informe técnico Convenio FI - CIID (Canadá) (1990).
- Viñas, M., Borzacconi, L., Martínez, J., Ghislieri, D., "Recuperación de productos valiosos de curtiembres: digestión anaerobia de lodos, recuperación de cromo y sulfuro", Convenio FI - LATU - CIID (Canadá).
- Ghislieri, D., "Tratamiento biológico de efluentes líquidos de curtiembre", Proyecto de Iniciación a la Investigación financiado por la Comisión Sectorial de Investigación Científica de la Universidad de la República (1994-1995).
- Rivero, S., Ghislieri, D., Morales, L., Díaz, V., Martínez, S., "Estudio de los sistemas de tratamiento de aguas residuales de ANCAP, Planta La Teja", Convenio FI-ANCAP, (1998).

b) Trabajos Presentados a Congresos

- Viñas, M., Borzacconi, L., Martínez, J., Ghislieri, D., "Sensibilidad paramétrica del diseño de lagunas aireadas para el tratamiento de efluentes de cervecería", XXIII Congreso de AIDIS, La Habana, Cuba, Noviembre de 1992.
- Peláez, H., Ghislieri, D., De León, A., Reyes, A., Varela, S., "Reingeniería de la oxidación de sulfuros en efluentes de la industria del cuero", II Encuentro de Ingeniería Química, Montevideo, Julio de 2000.

- Castelló, E., Ghislieri, D., Ono, A., Borzacconi, L., "Seguimiento en el arranque y operación de un reactor SBR para tratamiento de efluente de cervecería", aceptado para ser presentado en el VII Simposio y Taller Latinoamericano sobre Digestión Anaerobia, IWA, Méjico, Octubre de 2002
- Castelló, E., Ghislieri, D., Ono, A., Borzacconi, L., "Optimización del funcionamiento de un SBR para la remoción de materia orgánica y nutrientes", aceptado para ser presentado en el XXVIII Congreso Interamericano de Ingeniería Sanitaria y Ambiental, AIDIS, México, Octubre de 2002

3.3 Actividad Industrial.

3.3.1. Tratamiento de Efluentes Industriales

- Asistente de Proyectos en PROAS Ingenieros Consultores (desde abril de 1988) participando en Proyectos de Ingeniería para Sistemas de Tratamiento de Efluentes Industriales para múltiples empresas, pudiendo destacarse los siguientes:
 - Tratamiento primario para la Curtiembre Marty (200 cueros/día)
 - Tratamiento primario para la Curtiembre Cea (50 cueros/día)
 - Tratamiento primario para la Curtiembre Manufactura Uruguaya del Cuero (400 cueros/día)
 - Tratamiento primario para la Curtiembre Unilan S.A. (350 cueros/día)
 - Tratamiento primario para la Curtiembre Curtilan S.A. (300 pieles/día)
 - Tratamiento primario para la Curtiembre Gosta S.A. (600 pieles/día)
 - Tratamiento primario para la Curtiembre Alvarez Hnos. S.A. (1200 pieles/día)
 - Tratamiento primario para la Curtiembre Londer S.A. (200 pieles/día)
 - Tratamiento primario y secundario para la Curtiembre Pedro Gutman S.A. (4500 pieles/día)
 - Tratamiento primario para la laminadora de aceros INLASA

- Tratamiento primario para la planta de galvanizado GALMISA
- Tratamiento primario para el lavadero industrial LISA
- Tratamiento primario para SAMIC
- Tratamiento primario para la industria química Derol S.A.
- Reacondicionamiento del tratamiento primario y secundario de Frigoyí (Intercol S.A. y Busincor S.A.)
- Supervisión y control del tratamiento secundario de Central Cooperativa de Carnes (Frigorífico Santos Lugares)
- Tratamiento primario y secundario para Syntex Uruguay S.A.
- Tratamiento primario y secundario para Isidoro Dachs S.A.
- Supervisión y control del tratamiento primario y secundario de Italcolor S.A.
- Supervisión y control del tratamiento primario de Acodike Supergas S.A.
- Supervisión y control del tratamiento primario de Riogas S.A.
- Tratamiento primario y secundario para la Planta 4 de American Chemical I.C.S.A.
- Tratamiento primario y secundario para la Planta 2 de Electroquímica S.A.
- Caracterización de efluentes para Montevideo Refrescos S.A.
- Supervisión y control del tratamiento primario y secundario de Lanasur.
- Diseño de nuevas unidades de tratamiento secundario de Lanasur.
- Diseño del sistema de tratamiento primario y secundario de la Terminal de Ómnibus y Shopping de Salto. (2000)
- Tratamiento primario para Química S.A. (2000)
- Estudio y seguimiento de la remediación del sistema biológico de efluentes de Frigorífico Modelo S.A. (Planta La Boyada). (2001)

- Diseño del sistema de tratamiento primario y secundario de Felisatti S.A. (2001)
- Estudio y proyecto de nueva planta de recuperación de cromo para American Chemical I.C.S.A. (2001)

3.3.3. Otras Actividades

- Caramelos Zabala S.A.. Asistente Técnico a la Gerencia de Producción (marzo de 1979 a junio de 1979)
- Caramelos Zabala S.A., Jefe de Laboratorio (junio de 1979 a febrero de 1981)
- Asistente Técnico en Fortuna S.A. (Industrias Torino del Uruguay)(1983 - 1984)
- Cabaña del Fraile S.A.. Asesor Técnico (junio a noviembre de 1984)
- Equipos Consultores Asociados. Asistente de Investigación en estudios sobre Torres de Enfriamiento y Consumo de Combustibles para Generación de Vapor a nivel industrial (febrero de 1987 a diciembre de 1988)
- Central Cooperativa de Carnes (Frigorífico Santos Lugares). Estudio de Eficiencia de los Generadores de Vapor (1989).
- Frigorífico Carrasco. Diagnóstico del Sistema de Agua de Enfriamiento (1989).
- Frigorífico Carrasco. Estudio de Caracterización de los Efluentes Industriales (1990).
- Realización de un diagnóstico del Lavadero del Hospital de Clínicas realizado por el Depto. de Tecnología y Servicios Industriales del Inst. de Ing. Química de la Facultad de Ingeniería (1991).
- Asesor Técnico de Claricor S.A. - Cooperativa Torino (1992 - 1995).
- Curtiembre Marty S.A.. Estudio de Racionalización de la Distribución de Líneas de Vapor (1992).
- Montevideo Refrescos S.A.. Estudio de Racionalización en el Uso de Agua en Planta Carrasco (1993)

- Asesoramiento Técnico al Lavadero del C.A.S.M.U. en materia de procesos de lavado y selección de productos (1993).
- Asesor Técnico del Lavadero Industrial S.A. en materia de productos a utilizar y servicios industriales (1989-1994).
- Química S.A.. Estudio de las condiciones de fabricación de productos para uso en la terminación de pieles ovinas (1995).
- Pedro Gütman S.A. Diseño del sistema de tratamiento de agua para procesos (2000)

RÉSUMÉ IN ENVIRONMENTAL MATTERS

I.-PERSONAL DETAILS

NAME	Daniel Sztern Goldhar
ADDRESS	Prudencio Vázquez y Vega 1028 Ap.101
DATE OF BIRTH	November 1, 1959
IDENTITY CARD	1.197.715-3
CIVIC I.D.	BNA 35478
PASSPORT	1.197.715
NATIONALITY	Uruguayan
MARITAL STATUS	Married, three children.
TELEPHONE	(598 2)710 90 05
FAX	598 2)710 61 18
E-MAIL	danielsz@intendencias.gub.uy danszt@yahoo.com

II.-EDUCATION

1. Surveyor Engineer
School of Engineering (Universidad de la República, Uruguay), December, 1981.
2. Master's Degree in Environmental Management at the Instituto de Investigaciones Ecológicas (Institute of Ecological Research) (Malaga, Spain), December, 1994
3. Master's Degree in Environmental Impact Assessment at the Instituto de Investigaciones Ecológicas (Malaga, Spain), May, 1996
4. Course of "Project Preparation and Assessment ", UPAE, School of Economics and Business Administration, Universidad de la República, Montevideo (Sept./Dec., 1994)
5. Currently studying for the Certificate of Environmental Economics, Institute of Economics, School of Social Sciences, Universidad de la República
6. Course on Remote Sensors and Digital Treatment of Images. Universidad de la República (ROU), 1982
7. Brazilian Institute of Engineering Valuations and Expert Opinions. (IBAPE). Brazil, 1982
8. Inter-municipal Seminar on Cleaning. Attendant and speaker. Montevideo, 1986
9. Congress on Ecology and Environment. Attendant and speaker. Montevideo, 1987.

10. Seminar on Environmental Preservation. Montevideo, 1987.
11. ENVIRO 88 Congress and Seminar on Sanitary Landfills, Netherlands, 1988.
12. Seminar on Management and Effects of Waste Thrown in Estuary and Coastal Waters. (UNESCO).Montevideo, 1990.
13. Seminar and Assistantship on solid waste management and its relationship with environmental pollution. ICI. Spain, 1991.
14. Latin American Conference for Technicians and Environmentalists (CIID), Argentina, 1990.
15. Updating Course and Assistantship in Management and Better Use of Urban Solid Waste. Generalitat Valenciana, Spain, 1991.
16. Sixth International Congress on Solid Waste. ISWA 92. Attendant and speaker, Spain, 1992.
17. Course on Environmental Impact of Public Works. CEDEX – MTOP (Ministry of Transport and Public Works). Montevideo, 1993.
18. Course on Assessment of the Environmental Impact of Public Management. MVOTMA- Harvard University. Montevideo, 1993
19. Seminar: "Environment and Development". Konrad Adenauer Foundation. Uruguay, 1993
20. Conference on Decentralization and Citizen Participation, Montevideo, 1994
21. Seminar: "Environmental Impact of Mining Concerns", DINAMA , UNESCO, DINAMIGE, Montevideo, November, 1994.
22. Course: "Management of Mining Industry Waste", DINAMA, UNESCO, DINAMIGE, Montevideo, November, 1994
23. "I Theoretical- Practical Course on Spanish Municipalism", House of Representatives of Valencia, FIADELISO, Valencia, February – March, 1995.
24. Seminar: "Assessment and Environmental Impact and Management " Univ. of Aberdeen, Empretec, Montevideo, April, 1995
25. Seminar: "International Trade and the Environment ", OMC, Ministry of Foreign Affairs, DINAMA, Montevideo, May, 1995
26. Course: "Environmental Management of the Local Governments", Environment Chair of University of Cordoba, Spain, October, 1996
27. Seminar on Environmental Education and Sustainable Development, WRI,

- LA BELL, UFRJ, Rio de Janeiro, November, 1996
28. Seminar on Environmental Education and Sustainable Development, WRI, LA BELL, UFRJ, Maldonado, June, 1997
 29. First National Engineering Congress, Uruguay, 1997. Speaker
 30. VIII Ibero-American Course on Environmental Impact, Uruguay, 1997
 31. Seminar on Projects and Territorial Ordering, Uruguay, 1998
 32. I International Course on Health Centers Waste Management, Buenos Aires, 1998
 33. I Course on Local Environmental Management, Montevideo. OPP/ UCO
 34. I International Conferences on Waste Minimization and Recycling (ISWA/ARS), Buenos Aires, May, 1999, Speaker
 35. Seminar- Workshop: "Biotechnologies Applied to the Treatment of Solid Waste", OPP/OPS, Fray Bentos, June, 1999
 36. Seminar: "Guidelines for the Preparation of Local Environmental Policies", Tacuarembó, August, 1999, OPP/EGMASA/USIS
 37. Seminar – Workshop: "Compost Experiences in America", Coordinator. Las Cañas, Uruguay, December, 1999
 38. Languages: English (ACU-USA, ICAU)
Technical French (FIA-AF)

III.-PROFESSIONAL ACTIVITIES.

1. Engineer for the Municipal Government of Montevideo. Road Maintenance Section (1981-1984)
2. Engineer for the Final Waste Disposal Service, IMM – DLU, 1985.
3. –Coordinator of the Urban Cleaning Section (IMM) 1986 - 1988.
4. –Technical Counterpart at the IBRD's mission for Urban Solid Waste Management and Better Use in Montevideo.
5. –Technical Delegate for the DOS at the committee in charge of preparing the PPC for hiring urban cleaning services in Montevideo.
6. Head of the Unit in Charge of Removals from Public Ways. IMM. 1988
7. Delegate for the IMM before the Inter-Institutional Unit, (UNASI). 1988.

8. Head of the Executory Unit in Charge of Supervising the 1215 Contract for Urban Cleaning in Montevideo. 1989-1991.
9. Advisor in environmental issues for the Mayor of Maldonado, 1988-1990; in charge of the solid waste management plans during summer seasons, in which the population increases due to the entry of tourists.
10. Advisor for the Municipal Authorities of Rivera in environmental issues, 1988 to 1994. Among other activities, in charge of the urban solid waste management plans, including the recycling alternatives by the informal sector.
11. Member of the environmental studies group at the Manuel Oribe Institute. 1988 -. (Coordinator since 1998)
12. During 1990 and 1991 he acted as technical coordinator of the project on recycling alternatives with the informal sector, with the development of emergency plans in: Rivera, Las Piedras, Nueva Helvecia, together with the Friedrich Naumann Foundation.
13. Coordinator of the National Plan of Urban Solid Waste at the Public Works Minister, since May, 1990 to November 1994
In this capacity he gave advice to all the municipal authorities in the country in all issues regarding urban solid waste: production, collection, and final disposal, recycling and composting alternatives.
Some of the tasks carried out in said capacity:
Coordination of the MTOP - OPS Seminar in June, 1991.
The Plan for Recycling Cellulose Materials in Public Offices was implemented, and the same project was planned for all the schools in the country.
14. Member of the team in charge of carrying out the study "Maldonado 2000" for the FONADEP. 1991-1992.
15. Technical Coordinator of the recycling by the informal sector (IMO-Naumann Foundation) 1992
16. Advisor in Waste Management for the "Hospital Policial" of Montevideo, (1992- 1994)
17. Local Consultant for the UNDP in Environmental Impact Studies, 1993.
In this capacity, more than thirty Environmental Impact Studies were carried out by the IDB in our country, regarding drinking water, sewage, rain waters and road improvement IDB, within the Municipal Works Program II (POM II).
18. Environmental Advisor for the Dirección Nacional de Vialidad (National Road Bureau) of the MTOP, from June 1993, to December 1994, acting as a local consultant for UN and AID.

19. Coordinator of the planning and carrying out of the Solid Waste Management Plan in the Department of Paysandú.
20. Project and Work Director of the first landfill of the country, built in Rincón de la Bolsa. (August 1994 - February 1995)
21. Technical Advisor for service-providing companies in different urban waste solid waste issues since 1988, taking part in planning and implementing collection, sweeping and final disposal systems.
22. He acted as a local technical counterpart with Spanish technicians from ABORGASE, in the development and implementation of the ABORGAMA recycling and composting plant in Maldonado, Uruguay. (1990-1991)
23. Environmental Consultant for the Municipal Development Program OPP/IDB from January 1996 to March 2000.
In such capacity he was in charge of carrying out the environmental assessment of the Program and the Municipal Governments, as well as the environmental assessment of the submitted EIA. Assistance in the preparation of the Solid Waste Management Plans.
24. Member of the Non-Permanent Committee of OAS Environmental Experts since 1997. More than 100 environmental projects submitted by different countries were assessed for the financing thereof.
25. Coordinator of the preparation and carrying out of the Solid Waste Management Plan in the Department of San José.
26. Project Assessor from the environmental point of view for the Americas Fund. 1998 (Agricultural, educational and waste appreciation, among others)
27. Member for the PDM III of the "Committee for the Preparation of the National Management and Investment of the Solid Waste Sector Plan" and the "Committee of the Solid Waste Management Plan for Montevideo's Metropolitan Area".
28. I Member of the Coordination Committee of the Sectorial National Plan and the Plan of Solid Waste Investments.
29. Advisor for the Municipality of Rosario (Argentina) for the public tender of waste sweeping and collection, September 1999
30. Consultant for the IDB for the INFOAMBIENTE project and the determination of priority of environmental issues for Uruguay (November 1999 to January 2000)
31. National Director of the Environment for the Republic of Uruguay, from March 1, 2000 to May 30, 2001

32. Delegate before the Biodiversity COP 5
33. Delegate before the COP 6 preparatory conference on climatic changes at Lyon
34. Negotiator before the Parliament of the Environmental Protection Act, which was passed in November 2000.
35. In charge of the implementation of the Protected Areas Act in Uruguay
36. Head of the Uruguayan Delegation before the SGT 6 (Environment) of MERCOSUR – Negotiator of the Environmental Framework Agreement of MERCOSUR, in Florianopolis.
37. Consultant for the UNDP for the Environmental Bureau of Paraguay, as from October 2000.
38. Consultant for the design and implementation of protected areas in Paraguay (GEF/SEAM) from July 2001 to november2002.
39. Manager of the Environmental Management Unit of the State Sanitary Works (OSE) since August 2001.

IV.-MEMBERSHIP OF TECHNICAL ASSOCIATIONS

- 1.-Uruguayan Surveyors' Association. Since 1981
- 2.-International Solid Wastes Association.(ISWA) since 1988
- 3.-Inter-American Sanitary Engineering Association (AIDIS) since 1987.
- 4.- Founding member of the ARS (Asociación para el Estudio de los Residuos Sólidos) (Association for the Study of Solid Waste)
- 5.- International Association of Environmental Assessors, since July 1999
- 6.- Member of the Environmental Management Network of the Regional Policy Dialog of the IDB .
- 7.- Appointed member of the Linking Committee of the RIOB, at the Annual Assembly at Quebec, May 2002.

V.-PUBLISHED WORKS:

- 1.-Published Seminars of the Goethe Institute, Montevideo 1987.

- 2.-Publication of the Second International Inter-Municipal Cleaning Seminar. Montevideo, (1987)
- 3.-Recycling Experiences in Uruguay. (1st International Exhibition of Environmental Technology and Water Treatment, Lisbon 1991). Together with other authors.
- 4.-Conference at the 6th. ISWA Congress, Spain, 1992.
- 5.- Territorial Ordering and the Environment (under preparation) – Conference at the I National Engineering Congress, Montevideo, 1997.
- 6.- Handbook for the preparation of compost, conceptual bases and procedures (OPS, October 1999), together with Pravia, Miguel A.

VI.-TEACHING AND RESEARCH ACTIVITIES:

1. Guest of the INFIA of the School of Engineering (Universidad de la República) to give a six-lesson course on "Introduction to Solid Waste Management" (October-November 1993)
2. Teacher of Environmental Education at the "St. David's School", primary and secondary schools (1994)
3. Academic Coordinator of the Environmental Area, Associate Researcher at ORT University Uruguay, from January 1995 to March 1998.
4. Guest speaker at the Master's Degree in the Environment at the University of Cordoba, Spain, March 1995.
5. Coordinator and teacher at the "I Environmental Management Program for High Managerial Positions ", ORT University Uruguay, September - December 1995.
6. Coordinator and teacher at the "II Environmental Management Program for High Managerial Positions ", ORT University Uruguay, June - September 1996.
7. Guest speaker invited by the Environment Chair of the University of Cordoba, Spain, October 1996.
8. Teacher at the "Course on Sustainable Development: regional development, local development, development at human scale". International University of Andalusia, Ibero American seat at La Rábida, Spain, August 1997
9. Professor of Environmental Management at the University of Cordoba, Spain, April, 1998
10. Coordinator of the "Course on the Environmental Impact of the Electrical

Supply Works”, UTE / UCO Montevideo, 1998

11. Coordinator of the “I Course on Local Environmental Management”, OPP / UCO, Montevideo, 1998.
12. Professor of Environmental Management at University of Cordoba, Spain, in undergraduate, graduate and permanent university courses: May 1999.
13. Professor at undergraduate and graduate courses at the CMA of the University of Cordoba, Spain, April 1999
14. Honorary Assistant Coat the Environment Chair at the University of Cordoba, Spain, since 1998.

PERSONAL REFERENCES:

The Rector of the University of Cordoba, Spain: Mr. Eugenio Domínguez Vilches

The Representative of the Inter American Development Bank in Uruguay: Mr. Martín Stábile

The Representative of the United Nations Program for Development in Uruguay, Mr. Martín Santiago.

MCommH. Sergio Gabriel Meresman

Mario Cassinoni 1085

Montevideo, Uruguay

Phone: 598 2 400 6460

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KEY PROFESSIONAL INFORMATION

Profession: Psychologist. Master in Community Health

Areas of Expertise: International Health and Community Development; Strategic planning and evaluation for Health Promotion, Health Education and Communication; Youth and Adolescent Development; Qualitative studies and community surveys

Professional Background: Consultant in health and education with 10 years experience in planning, implementation and evaluation of community health, education and development projects. Currently working free lance for the Ministry of Education and the Ministry of Health in Uruguay and the Ministry of Education in Cape Verde. Until recently senior adviser to the Ministry of Human Development in Argentina. Consultant with the Human Development Network of the World Bank and the Pan American Health Organization in various projects in Latin America and the Caribbean. Former Senior Associate at large-scale US educational development NGO opening its Latin American unit. Former fellow at the Pan-American Health Organization, Washington DC. Previously a consultant to UNICEF, PAHO, The British Council and national NGOs in Latin America.

PROFESSIONAL EXPERIENCE

Consultant to the Pan American Health Organization

Uruguay, September 2001 – April 2002

- Appointed as part of a technical cooperation with the Ministry of Health, to provide guidance to Health Uruguay 2010. Responsible for facilitating the intersectorial strategic planning that will set goals, select indicators and overview implementation plan towards 2010 with governmental and non governmental organizations in 16 Uruguayan provinces.

Consultant to the Ministry of Education

Uruguay, March 2001 – April 2002

- Adviser for an education initiative to strengthen health education and promotion in primary schools in Uruguay. Includes an appraisal of the existing capacity and needs and propose interventions in the areas of curriculum development, teacher training and introduction of incentives for community involvement in school based health promotion.

Consultant to the Ministry of Education

Cabo Verde, February 2001 – on going

- Integrating a multi-disciplinary team to assess several areas of the basic education system in Cape Verde. Responsible for the assessment of the School Health and Nutrition component of the project, which is aimed at assessing the existing program and introduce innovation in the areas of: school feeding, health education, teacher training and community participation.

PROFESSIONAL EXPERIENCE (cont.)

Advisor to the Ministry of Human Development

Argentina, February 2000 – February 2001

- Integrating a small team of specialists that is responsible for facilitating a strategic planning process for the Ministry.
- Adviser at the International Cooperation Unit
- Coordinator of a network of programs implemented by the Ministry through local NGOs working in the area of social capital protection.

Principal Evaluator

Espacios Consultores Asociados/Disaster Emergency Committee, Costa Rica, January 2000

- Responsible for the independent evaluation of the health assistance provided by DEC (Disaster Emergency Committee) from the UK to the countries affected by Hurricane Mitch in 1998 (Honduras, Guatemala, Nicaragua y El Salvador)

Coordinator, Initiative for School Health in Latin American and the Caribbean

World Bank/Pan American Health Organization, Washington DC, USA, June 1998-on going

- With the Human Development Network to coordinate the development and strengthening of the partnership, and facilitate a network of supporting activities with USAID, UNICEF, OAS and the offices of the First Ladies of the Americas.
- Preparing background documents on cross-cutting “good practices” for the Partnership, and facilitating support to managers at the World Bank and PAHO to design school health components within current health, education and social protection projects.
- Research coordinator for the first joint Regional Study on School Health and Nutrition in LAC.

Senior Associate, Education Development Center Inc.

Washington DC, USA, January - June 1998

- Worked with the vice president of EDC and other senior staff to design EDC’s scope of work and plan-of-action as a collaborative center of the World Health Organization to promote health in schools and communities.
- Led the foundation of the EDC Latin American Unit.

Fellow, Pan-American Health Organization

Washington, DC, USA, January - December 1997

- Resident in International Health.
- Provided on-site monitoring and technical support of PAHO health promotion and education projects. Assisted preparation of project proposals and research protocols.
- Regularly evaluated and documented health promotion activities carried out in Latin America.
- Conducted training workshops for community leaders, teachers and health personnel
- Represented PAHO in international activities such as the First Ladies of the Americas Summit (Panama, October 1997), II Inter-American Meeting of Secretaries of Health (Cuba, June 1997) and field visits to Latin American countries.
- Prepared proposals for funding of various Division projects and activities. Negotiated grants and fund trusts with the World Bank, IDB, Inter-American Dialogue and other agencies.

PROFESSIONAL EXPERIENCE (cont.)

Researcher, for the Liverpool School of Tropical Medicine, UK and the Health and Education Ministries of Ghana

Central Region, Ghana, August-September 1996

- Conducted participatory needs assessment combining: Rapid Appraisal; mapping; surveys; focus groups; drawing-as-a-dialogue; and other community-orientated techniques.
- Facilitated workshops for community leaders, teachers and nurses on the role of civil society and community organizations in health and education projects.
- Developed a report for the Regional Ministries of Health and Education analyzing points of entry for community involvement in health education campaigns. Report identified environmental, water and sanitation issues as local priorities, recommending strategies for youth participation through schools, churches and traditional-based activities.

Program Director, "Health Generating Schools" Project, University of Buenos Aires/PAHO

Argentina, February 1995 - December 1996

- Developed participatory planning, implementation and evaluation to increase community involvement in health education and promotion initiatives (focus included violence & accident prevention).
- Selected, trained and supervised facilitators.
- Managed multi-sectorial co-ordination.

Consultant for COFEPAC (Violence and Accident Prevention NGO)

Buenos Aires, October 1994 - December 1995

- Advised local governments on violence and accident prevention.
- Planned, monitored and evaluated "Safe Community" and "Safe Schools" programs.

Consultant, UNICEF (Argentina)

Buenos Aires, March - August 1994

Coordinator of Emergency Mental Health Assistance Programs

Clynos Program, National University of Heredia, Costa Rica, April-November 1991

- Worked with earthquake-hit communities to organize self-help orientated activities to overcome disaster-inflicted trauma and post-traumatic stress symptoms.

EDUCATION

Master in Community Health (MCommH)

Liverpool School of Tropical Medicine, University of Liverpool, UK

Specialization: Community Participation (Dissertation Grade: Distinction)

Post-graduate Certificate in Health Education and Promotion

University of Buenos Aires, Argentina

Degree in Psychology

National University of Rosario, Argentina. Specialization: Institutional Psychology.

Diploma in Social Psychology

Rosario Institute of Social Studies, Argentina

PUBLICATIONS

- a) *Entre Todos: el desarrollo de una agenda multisectorial para Salud Uruguay 2010*, joint publication of the Pan American Health Organization and Health Uruguay, 2001
- b) *Alianzas Multisectoriales por la Salud: la experiencia de Agita Sao Paulo*, Pan American Health Organization, 2002
- c) *Life skills education in Latin America: a conceptual and operational framework for implementation in the Latin American context*, Technical Papers, Education Development Center/Pan American Health Organization, December 1998
- d) *The Ten Who go to School*, LCSHD papers, The World Bank, February 1999 (also in Spanish: “Los Diez que van a la escuela”, April 1999)
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- g) *Cuadernos de Salud: el niño de 6 a 12 años*, (Health Notebooks: the school-age child) notebook no. 4, UNICEF Argentina, 1996
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- j) *Psicoanalisis: entre la orientacion y el optimismo* (Psychoanalysis: between orientation and optimism) Interview with N. Ferreyra and co-authored by L. Corti. Kaos No. 2, Rosario 1993
- k) *Psicologia y Educacion* (Psychology and Education) article, Institute of Investigation in Education (IICE) No. 2, University of Buenos Aires, 1993

LANGUAGES

Spanish (mother tongue)
English (fluent)

Portuguese (fluent)

References available on request.



Corporate Profile Gartner Lee Limited

Gartner Lee is a professional services company that provides *environmental science, planning and engineering consulting services*. Since the company's founding in 1973, it has successfully completed more than 10,000 projects for domestic and international clients in more than 30 countries around the world. This depth and breadth of experience has established Gartner Lee as a leader in developing thoughtful, well-balanced solutions to complex environmental challenges.

The company's general service areas include:

- ◆ **Project Management**
- ◆ **Environmental Planning**
- ◆ **Ecological Assessments & Management**
- ◆ **Surface Water & Groundwater Resources Management**
- ◆ **Solid, Hazardous & Radioactive Waste Management**
- ◆ **Environmental Site Assessment & Remediation**
- ◆ **Regulatory Compliance, Permitting & Auditing**
- ◆ **Public Consultation, Facilitation & Mediation**
- ◆ **Specialized Engineering**

Gartner Lee's strength lies in its people, who have in excess of 1,000 years of cumulative experience: highly qualified professionals and technicians, including:

- ◆ **Environmental Planners**
- ◆ **Geologists & Hydrogeologists**
- ◆ **Aquatic & Terrestrial Biologists**
- ◆ **Environmental, Geotechnical & Chemical Engineers**
- ◆ **Socio-economists**
- ◆ **Information Specialists**
- ◆ **Skilled Technicians & Technologists.**

The company has more than 150 employees delivering services from 8 offices across Canada.

An employee-owned Canadian firm, Gartner Lee has earned the trust of its clients by focusing on their needs and responding with high-quality, high-value solutions. The firm begins each project by developing a thorough understanding of the issues before developing plans and engineering solutions. Gartner Lee's strategic approach yields solutions that integrate client needs and long-term environmental sustainability. It is also this approach that allows Gartner Lee to maintain one of the highest levels of repeat business in the industry.

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11. 事業事前評価表 (ドラフト)

事業事前評価表 (開発調査)

作成日：平成14年12月27日
 担当部・課：社会開発調査部社会開発調査二課

1. 対象事業名
 ウルグアイ東方共和国モンテヴィデオ首都圏水質管理強化計画調査

(1) 現状及び問題点

ウルグアイ東方共和国(名目GNP6,070ドル)は、約310万人の人口に対し、比較的広大な国土(日本の約半分)を有していることから、これまで水質汚濁等の環境問題は軽視される傾向にあった。

他方で、モンテヴィデオ県を中心とする首都圏には、全人口の約6割(約190万人)が集中しており、農産品加工工場等が多数存在している。さらに、産業廃棄物によるクロムや鉛等の重金属による土壌汚染や大量の固形廃棄物処理問題が深刻化しつつある。かかる背景から、モンテヴィデオ首都圏における飲用水の汚染は地域住民の脅威になりつつある上、パンタノソ川、ミゲレテ川等の中小河川は大量の生活排水、産業排水、及び廃棄物の不法投棄等により水質の悪化が深刻化しつつある。このような背景から、2001年6月に、同国政府は我が国に対し、首都圏における水資源管理にかかるマスタープラン作成のための本調査実施を正式に要請した。

しかしながら、本件に関しては、上述のとおり下水処理問題、廃棄物問題、及び地下水汚染等の多岐に渡る他、要請内容に不明確な点があったことから、予備調査団を同年10月に派遣した。その結果、予備調査団派遣後の補足調査により、米州開発銀行支援による類似案件が存在し、当該案件と重複する可能性が高いことが判明した。そのため、当初想定していた調査内容を修正し、実施機関である住宅・土地整備・環境省の環境局(以下DINAMA)に対するキャパシティディベロップメントを機軸とした政策支援型の調査案件として検討を開始した。

しかしながら、その後の情報収集の結果、IDB支援による同様の類似案件に係る新たな情報に接した。そのため、外務公電により照会を行ったところ、ウ国政府は、①IDBのプロジェクトは実施しないこと、②DINAMAの行政能力の向上とモンテヴィデオ流域の水資源管理の二つの要素からなるプロジェクトを要望することが確認された。さらに、外務公電により、ウ国政府より、案件名を、当該案件名に変更を了承する旨、口上書を接頭した。

これらの背景から、JICAは2002年12月に事前調査団を派遣し、12月5日にS/Wの署名交換を行った。

表 過去5カ年のモンテヴィデオ首都圏の主要河川の水質の変化

評価項目	モニタリングデータ					主要河川の水質悪化を示すデータとしては、モニタリングポイントの設定はあるが、過去に年度ごと、季節ごと等定期的に入手している系統だったデータがない。
	1990.06	1990.1	1991.03	1992.02	2002平均	
BOD	86	1	40	11	86	
COD	210	160	980	180	210	

出典：DINAMA水質課 (Carrasco川とManga川、Canteras沢との合流点)

(2) 国家開発計画、地域開発計画、分野別計画などの計画と当該案件の整合性

国家開発計画は策定されていないが、5カ年ごとの事業計画が策定されている。なお、住宅・土地整備・環境省予算は国家予算の1.8%(2002年)で、近年、減少傾向にある。他方で、DINAMAの予算は、2001年に急増し、同省予算の約7割を占めるに至っている。

(3) 他国機関との関連事業との整合性

米州開発銀行がモンテヴィデオ県庁を対象に「UR-138」計画により、下水道整備事業(廃棄物施設、下水道施設の改善強化を中心に、(1)DINAMAの効率性・有効性の改善、(2)環境管理重点項目の組織内調整、(3)環境問題解決の検討への市民参加を行う(総予算570万ドル。期間5年間)が予定されていたが、ウ国側からの申し入れによりキャンセルとなった経緯あり。当該プロジェクトは、主に水質管理のための行政能力の向上を目的としており、関連諸機関との連携協力が期待される。

(4) 我が国の当該国への基本的援助方策との整合性

国別事業実施計画は未作成。ただし、我が国は、中南米に対して貧困対策、環境保全、広域協力を力を入れて協力を実施しており、本案件は環境保全対策に合致する。

3. 事業の目的

- (1) モンテヴィデオ首都圏の総合的な水質管理強化のための統合M/P(注)を策定する。
(注) 既存の類似M/Pのレビューを図った上で、実効性の高い行動計画等を想定
- (2) DINAMAに対し、関連機関と連携しつつ水質管理向上に必要な行動を実行するための技術移転を行う。
- (3) DINAMAと関連諸機関に対し、オーナーシップに配慮しつつキャパシティビルディングが図られる。

4. 事業の内容

- (1) 対象
 - (a) カウンターパート(本事業の最終的な責任を有し、関係機関との調整を担う)：DINAMA
 - (b) 関係機関(本事業に参加しC/Pと共に行政能力の向上を図る)：国家水利局、ナンアヴィデオ県、カネローネス県、サンホセー県(IC/R時に要確認)
 - (c) 対象地域：モンテヴィデオ首都圏(モンテヴィデオ県、カネローネス県、サンホセー県)
- (2) アウトプット
 - (a) 計画策定：行動計画を含むマスタープラン
 - (b) 技術移転：水質管理強化のために必要な関連技術(関係機関との調整手法を含む)

(3) インプット：以下の投入による調査および技術移転の実施

(a) コンサルタント (分野/人数)

分野	人数	分野	人数
総括	1	産業排水管理	1
環境政策	1	廃棄物管理	1
地域水質管理	1	普及啓蒙活動	1
水質モニタリング・システム	1	財務計画	1
水質分析/施設管理	1	調整員	1

(b) その他

技術移転セミナー、ワークショップ

(4) 総調査費

(5) 調査のスケジュール

2003年8月～2005年1月 (18ヶ月)

(6) 実施体制 (上記「(1) 対象」を参照)

(a) 協力相手国実施機関名：DINAMA

(b) 協力相手国実施機関の責任者：DINAMA局長

5. 成果の目標

(1) 提案計画の活用目標

策定されたアクションプランに基づき水質管理に必要な具体的な行動が実施される。

(2) 活用による達成目標

モンテヴィデオ首都圏における水質管理体制が強化される。

6. 事業実施上の外部要因リスク

(1) 協力相手国内の事情

(a) 政策的要因：政権交代等による政策変更

(b) 行政的要因：人事異動による提案事業の優先度の低下、行政機関間の調整の不備

(c) 経済的要因：資金協力の不足による事業化の困難性

(d) 社会的要因：対象地区における治安の急激な悪化
国際情勢の緊迫化による急激な臨戦態勢への移行

(2) 関連プロジェクトの遅れ：特になし。

7. 今後の評価計画 (PDM参照)

(1) 事後評価に用いる指標

(a) 活用の進捗度

・本調査結果による行動計画に基づきウルグアイ側で水質管理関連業務が効率的に実施されているか

(b) 活用による達成目標の指標

・水質管理関連業務の実施の有無

・関連組織の定例会の実施状況

・整備された水質関連情報の活用度 (例：水質環境白書の発行状況)

(2) 上記(a)および(b)の評価タイミング

事後評価：本事業 (5年後) 及び (10年後)