

MINUTES OF MEETINGS  
 BETWEEN THE JAPANESE EVALUATION TEAM AND  
 THE AUTHORITIES CONCERNED OF THE UNIVERSITY OF COSTA RICA  
 ON THE THIRD COUNTRY TRAINING PROGRAMME  
 IN THE FIELD OF BASIC RESEARCH  
 FOR CONTROL OF INFECTIOUS / COMMUNICABLE DISEASES

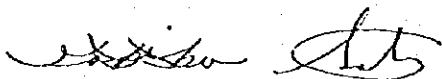
The Japanese Evaluation Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Tokiko SATO, visited the Republic of Costa Rica from November 28 to December 6, 1996 for the purpose of evaluating the training course in the field of basic research for control of infectious/communicable diseases at the Electron Microscope Unit (hereinafter referred to as "UME") of University of Costa Rica (hereinafter referred to as "UCR") under the Third Country Training Programme of JICA, which has been carried out since the Japanese Fiscal Year (hereinafter referred to as "JFY") 1993 in the Republic of Costa Rica.

During its stay in the Republic of Costa Rica, the Team had a series of meetings with the representatives of UCR with respect to the progress and achievement of the Course.

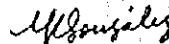
As a result of the meetings, both parties shared the view that the Course had contributed to the development of knowledge, skills and experiences in the respective field among Latin American countries.

A list of the attendants to the meetings is attached as APPENDIX I. A summary report based on the meetings is attached as APPENDIX II.

Costa Rica, December 4, 1996



Dr. Tokiko SATO  
 Head of the Japanese Evaluation  
 Team,  
 Japan International Cooperation  
 Agency



Dr. Yamileth GONZALEZ  
 Vice Rector for Research,  
 University of Costa Rica

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*J.S.*

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## LIST OF ATTENDANTS

COSTA RICA SIDE

## 1) University of Costa Rica

Dr. Yamileth GONZALEZ Vice Rector for Research  
 MSc. Laya HUN Academic Director  
 Eng. Jose Miguel PAEZ Professor of School of Electronical  
 Engineering (Technical Advisory Committee)  
 Dr. Patricia CUENCA Professor of Microbiology, Research  
 Institute of Health (Technical Advisory  
 Committee)

## 2) Electron Microscope Unit

Mr. Oscar A. SABORIO Chief of Administration

## 3) Ministry of Foreign Affairs

Mr. Alexis ARIAS M. Coordinator,  
 International Cooperation Office, Asia Section

## 4) Ministry of National Planning and Economic Politics

Ms. Marta VEGA R. Coordinator, International Cooperation Unit  
 Mr. Oscar MENDEZ Officer, International Cooperation Unit  
 Mr. Sigifredo GUEVARA Officer, International Cooperation Unit

JAPANESE SIDE

## 1) Evaluation Team

Dr. Tokiko SATO Head of Japanese Evaluation Team  
 Development Specialist,  
 Japan International Cooperation Agency

Dr. Yoshimichi KOZUKA Ex-Expert,  
 Japan International Cooperation Agency

Ms. Hiromi FUJISAWA Staff, Second Training Division,  
 Training Affairs Department,  
 Japan International Cooperation Agency

## 2) Embassy of Japan

Mr. Noriyuki AYUKAWA Advisor

SUMMARY REPORT

I. BACKGROUND

Electron microscope is one of the indispensable and highly effective tools for the research work in the fields such as bio-medical sciences. In Latin American countries, some institutions installed electron microscope. However, systematic training programmes were not established in the 1970s.

Therefore UCR, that had established UME and had accumulated knowledge and technics through the Project Type Cooperation of JICA in JFY 1974-1981, requested from the Government of Japan assistance for it in training and extension of electron microscope in this region. The Government of Japan favorably responded to this request and under the Third Country Training Programme of JICA, the "Electron Microscopy Course" was organized by UCR at UME for JFY 1981-1991.

At the completion of the course above mentioned, the Government of Japan sent an evaluation team to UCR to review planning, implementation and achievements of the courses and both parties shared the view that the course had been effective for the human resource development in the field of electron microscope.

After the evaluation, responding the considerable needs for the more applicable technics of electron microscope concerning control of infectious/communicable diseases, the Government of Japan and UCR agreed to start the advanced course.

UCR initiated in 1993 this advanced course entitled "Regional Training Course on Basic Research for Control of Infectious/Communicable Diseases" for the purpose of providing participants from Latin American countries with an opportunity to improve and upgrade their knowledge and technics concerning early detection of infectious diseases at the ultrastructural level as well as diagnosis of viral hepatitis, AIDS, Malaria, Filariasis and Chagas Diseases for human beings and Viral, Bacterial pathogens for livestock and crops, based on the Record of Discussions (hereinafter referred to as R/D) signed on May 11, 1993.

The course has been conducted by UCR at UME supported by the Government of Japan through JICA once a year from JFY 1993 to 1996,

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## II. ITEMS OF EVALUATION

Evaluation work was carried out based on the following four (4) items.

1. Course Needs
2. Attainment of Course Objectives
3. Adequacy of Initial Plan
4. Administration and Management  
by acquiring information through the following methods.
  1. Discussions with the authorities concerned
  2. Interview with all the participants in this year's course and with some selected ex-participants from the previous years
  3. Data obtained from UME and UCR.
  4. Mail questionnaires, responded by the ex-participants.
  5. Final course reports submitted by UME.

## III. EVALUATION

### 1. Course Needs

The course was opened for applicants from eleven (11) Latin American countries, i.e. Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Peru, Dominican Republic, Venezuela, and Chile which has joined since 1994.

Although no applicants have been nominated from Guatemala and Honduras, judging from the number of applicants and participants shown in ANNEX 1, the ratio of application (number of applicants/number of participants), which was between 300-500%, indicates high needs for the Course.

The reason for no applicants from Guatemala and Honduras has been explained to be owing to no coverage of salaries at their home countries during the participation of the programme due to worsening of the country economy and a risk of discharge from the job.

Sudden decrease in the number of applicants in 1996 has also been explained to be due to no coverage of salaries at their home countries.

### 2. Attainment of the Course Objectives

The degree of attainment of the course objectives is evaluated based on the inputs by both parties (JICA and UCR) and the outputs of the Course.

#### (1) Inputs

##### a. By the Government of Japan

##### -Budget

The Government of Japan provided necessary funds through JICA, as mentioned in R/D, for the invitation of overseas participants, covering international economy-class air fare, accommodations, per-diem.

The funds for the operational costs for the courses were provided such as honoraria for external lecturers, arrangement of meetings and study tours, teaching aids, expendable supplies, copies, reprints, and secretarial services.

The total operational cost borne by JICA from JFY 1993 to 1996 summed up to around \$342,000.00.

Financial reports by each year are shown in ANNEX 2.

The purchase list of books worth \$7,000.00 in 1993 has been promised to be submitted to JICA through the Embassy of Japan as soon as possible.

-Dispatch of Japanese experts

Eight (8) Japanese experts on short-term basis have been dispatched from JFY 1993 to 1996. The name and duration of the experts are shown in ANNEX 3.

The equipment and materials necessary for the technical transfer such as dryer for RC paper, scale, fiber light system, electrical mill ruter, video copy processor, digital tester, film punch and others were donated.

b. By the Government of Costa Rica

-Budget

Besides the expenses financed by the Government of Japan, UCR has taken budgetary measures to bear the expenses necessary for conducting the Course, such as salaries, telephone, water and electricity bills, health and transport services, library and information systems.

-Assignment of lecturers and other staff

UCR assigned its academic staff, laboratory assistants and administrative assistants to carry out the Course.

Besides, several external lecturers were assigned for the effective implementation of the Course, who were financed by JICA according to R/D.

The detailed data of staff and external instructors are shown in ANNEX 4.

-Provision of facilities and equipments

UCR made available its laboratory facilities and research equipments necessary for the Course.

There was a limitation of laboratory space in the past, but the problem was solved by constructing a new laboratory worth about \$350,000.00 in 1995.

(2) Outputs

a. Accepted Participants

Nine (9) overseas applicants were received annually. The number of overseas participants were thirty-six (36) in total for the last

four (4) years.

Moreover, three (3) Costaricans participated in the Course annually during 1993-1995, and two (2) in 1996.

#### b. Attainment of Objectives

At the end of the Course, the participants are expected to acquire basic knowledge of;

-Identification, analysis of the mechanism of infection and multiplication of pathogens, such as virus and other microorganisms.

-Application of the electron microscope as a tool for the studies of biological characteristics and host-parasite relations on the ultrastructural level.

It is noted the curriculum has not completely reflected the objectives, but has been closely related to the subject of infectious and communicable diseases.

In conclusion, there was a big progress among the participants judging from their written report and oral presentation and the final report submitted to JICA by UCR.

#### (3) Impact of the Course

The following observations were made on the impact of the Course.

a. In Colombia which the Team visited from 25th to 28th of November to interview with ex-participants and to observe their activities, the impact of the course is worthy of notice. They are making the best efforts to upgrade the knowledge and exchange the views and information through the establishment of the association of electron microscope whose vice president is an ex-participant of the Course in phase I.

b. In Costa Rica, many ex-participants maintain contact with UME to develop their research work.

#### 3. Adequacy of Initial Plan

##### (1) Course Objectives

The course objectives were not adequate because the scope was too narrow to find a sufficient number of qualified candidates in Latin American countries where the field of electron microscope is not very well developed yet.

##### (2) Duration

Six (6) months were scheduled for the Course every year. This duration is considered to be adequate for acquiring basic and essential knowledge and techniques of electron microscopy, and in addition, for the difficulty in taking a leave for more than six (6) months.

### (3) Qualification of Applicants

The R/D stipulates that applicants should ;

- a. Be nominated by their respective Governments in accordance with the procedure mentioned in the R/D,
- b. Be under thirty-five (35) years of age,
- c. Be university graduates as a minimum, holding B.S. or higher academic background in the area of biology, medical science, veterinary science, agronomy and pharmaceutical science,
- d. Be presently engaged in an organization equipped with electron microscope installation,
- e. Have practical experience of more than two (2) years in related research activities, and
- f. Be in good health, both physically and mentally, to complete the Course.

Certain applicants who have not met the qualification above were accepted due to an insufficient number of qualified candidates.

It is agreed that the following changes will be made to meet the current Latin American situations.

- People over thirty-five (35) years old may be included as candidates
- People who have access to using electron microscope are eligible.
- Length of experiences in research activities may be lowered to one and half years only for those who satisfy all other qualifications.

### (4) Number of Expected Participants and Invited Countries

The number of participants from the invited countries, who are receiving financial support from JICA, was set not to exceed nine (9) in R/D.

Judging from the high needs for the Course, it may be considered that the number is very limited. But in terms of UCR's capacity to accept participants as well as effective course implementation, the number is considered to be adequate.

### (5) Procedures for Application, Selection, and Nomination

UCR sent out information, usually six (6) months prior to the start of the Course, to related organizations.

All the procedure mentioned in R/D has fair limited the timely and smooth implementation of application, selection and nomination of participants.

It is pointed out that the technical advisory committee which takes responsibility for the selection has stopped functioning for sometime. It is agreed that this will play its expected role again.

### (6) Curriculum

The contents of the Course taking into consideration of the capability of UME staff and the needs of the Latin-American countries have been adequate.



(7) Instructors

There was a sufficient number of UMB staff and external lecturers from UCR in the beginning of the Course.

4. Administration and Management

(1) Implementing measures by the Costarican side

a. Measures taken by the Government of Costa Rica

A necessary procedure mentioned in R/D has not been taken in the past years. It is agreed that the Government of Costa Rica will follow the procedure.

b. Measures taken by UCR

The following improvements will be made;

- Improve brochures with correct information and send more detailed programmes to the accepted applicants well in advance before the Course starts.
- Provide the participants with comfortable accommodation.

(2) Procedure for Remittance and Expenditure

JICA has announced to remit the assessed amount of the expenses to the account of UCR through the Embassy of Japan for the purpose of making easier to follow up the expenditure in 1997.

(3) Course Conduct

a. Instructors.

The teaching staff have composed two (2) groups.

One is a technical engineering staff in charge of training the operation of both Transmission Electron Microscope (TEM) and Scanning Electron Microscope (SEM), practice of photography and accessory equipments for specimen preparation, excluding part of ultramicrotomy.

The other is a teaching staff, electron microscopists who are specialized in bacteriology, plant morphology and general morphology. They are in charge of teaching theory and practice of specimen preparation including practice of the operation of ultramicrotome and theory of photography.

It is natural that these three are not able to cover all the areas described in R/D.

Therefore, the fields such as virology, parasitology and other biomedical sciences were covered by invited lecturers who usually participated in specimen preparation for viral and bacterial specimens by applying Negative Stain Techniques and Shadow Casting Technics.

Under the circumstances, the following observations were made;

- Teaching staff of the Course for 1993 and 1994 were assigned

satisfactorily.

-In 1994 one microscopist was discharged, which made difficult in organizing teaching staff. It was not easy to recruit invited lecturers having experiences in electron microscopy. Therefore, UME assigned persons who did not have any experiences in using both TEM and SEM.

-In fact, only one out of the two microscopists who remained was capable of handling specimen preparation and operation of accessory equipments. The other microscopist knew only theory acquired through books, thus with lack of experience in operation of equipments and practical handling of specimens. As a result, newly recruited staff have not been able to cover all the subjects indicated in R/D.

However, the practice of the operation of TEM, SEM and accessory equipments has been carried out without difficulty due to the guidance by technical staff.

In conclusion, in the later stage of the programme operation the teaching staff became short, which resulted in the modification of the course contents.

#### b. Training Facilities and Equipments.

##### (Facilities)

The space of a new building is large enough to provide ample space for 12 students as well as the installation of equipments.

##### (Equipments)

Equipments installed in UME can facilitate conducting research and teaching in the following areas:

-Biomedical application from the level of light microscope to that of electron microscope.

-Application to Enzyme Histo- and Cyto-chemistry, Immunological technique, Cryotechnics with certain limitation and to general Histology and Cytology.

They are well maintained including the models out-dated and the majority were observed to be well used.

However, some equipments were under utilized. They are as follows;

##### -HITACHI HU-12 A TEM

This is an old model but should be encouraged to be used since this is still commonly used in Latin American countries.

##### -Reichert/Leica Ultramicrotome (installed 1991) and HITACHI 2360 N SEM ( installed 1993 )

They were not used in the Course from 1993 to 1995 because these

were prohibited to be used except for those who were given permission by the Director of UME. However, it is noted that these equipments were included for use in this year's course.

-Sorval JB-4, Rotary microtome of Yamato for preparation of semi-thin section and conventional paraffin section and LKB Histo-Knifemaker for the preparation of glass knife. They were less utilized during the Course.

-LKB Pyramitome

This had a damage of the driving belt. Although it was repaired in 1995, the equipment was not used during the Course of 1996. It is recommended that this should be utilized to facilitate the accuracy of ultrathin sectioning.

-Software for image analysis, Scanner, MO Drive for quantitative analysis of image

They were once installed in the UCR Computer Center because of insufficient computer memory at UME. But UME disconnected Scanner and MO Drive and left it untouched.

It is promised that image analysis system is scheduled to be reinstalled for practical application.

-Video printer

This has been installed at the laboratory of Clodomiro Picado. UCR will request to return it within a short period of time.

C. Training Materials.

Chemicals, Photographic materials and other expendable items for the Course has been secured by using the JICA budget and there was no trouble of shortage during the Course.

However, some problems were observed. They are as follows;

-Outdated ( expired ) photographic films for TEM offered in Course of 1994.

-Some texts and manuals given to students for laboratory practice were outdated.

-Many existing copies of articles, books and reference materials are out-dated.

-Audio visual self-teaching materials were not prepared during the courses from 1993 to 1996. However it is informed that UME is under processing audio visual materials to facilitate further understanding of the courses.

-Text for specimen preparation of TEM and SEM must be revised and updated to match the objectives of the Course.

-Data sheets and instruction leaflets of different chemicals directly related to specimen preparation need to be collected.

#### D.Reconsideration of Curriculum.

The following improvements are proposed to be made;

-The lectures should be reorganized to focus on certain theories to acquire sufficient knowledge to operate both Transmission and Scanning electron microscopes irrespective of the model.

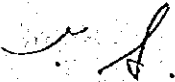
-Increase the hours of practice.

-Preparation of specimen should vary according to the objective and nature of specimen.

The reason for it is because the new technics of specimen preparation have been rapidly developed for the last few years, so that training of only a few technics for general purposes is not adequate.

-Emphasis should be put on the correlation between light and electron microscope images to identify the location of the area of interest with precision.

-Apply some knowledge of digital image processing and digital photographic to technics in photography and incorporate updated information on photographic materials into manuals.



#### IV. CONCLUSIONS AND RECOMMENDATIONS

The Course has been conducted since 1993, and it makes a count of four (4) times in this JFY 1996. During these years, UCR through UME has accepted forty-seven (47) participants from Latin American countries.

Based on this evaluation study, the Team and UCR came to the following conclusions.

The programme has improved and upgraded the knowledge and technics of the participants and also contributed to the human resource development of the invited countries and Costa Rica.

UME has a sufficient infrastructure and equipments for the Course and UCR has academic and technical staff. The Course produced a good outcome with maximum efficiency although the Course has slightly changed its objectives. Further improvement will be made to upgrade the programme according to the suggestions and agreements made by both parties.

Currently, UME is a unit of service to all the persons who require the equipments and technics of electron microscope. UCR will bring back personnel to UME who used to work before, so that the staff of UME will be able to conduct research. Small training programmes for local researchers in specific fields are also planned to be offered.

In the future, UCR will seek the way to develop UME as a Center of Research.

#### LIST OF ITEMS TO BE EVALUATED (SUMMARY)

- ANNEX-1 ; The Comparison of Applicants and Participants
- ANNEX-2 ; The Relation of Budget and Expenses of Course provided by JICA
- ANNEX-3 ; Japanese Experts for the Course by Year
- ANNEX-4 ; External Instructor for the Course by Year

## The Comparison of Applicants and Participants

JFY	1993		1994		1995		1996		TOTAL	
	A	B	A	B	A	B	A	B	A	B
A. The Number of Applicants										
B. Participants										
Colombia	11	2	15	2	18	2	4	2	48	8
Ecuador	2	1	6	2	5	1	3	2	16	6
El Salvador	1	0	0	0	1	1	0	0	2	1
Guatemala	0	0	0	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0	0	0	0
Mexico	5	2	4	2	12	2	5	1	26	7
Panama	0	0	1	0	0	0	2	1	3	1
Peru	7	2	10	2	5	1	4	1	26	6
Dominican Rep.	3	1	4	0	3	1	2	1	12	3
Venezuela	3	1	3	1	3	1	5	1	14	4
Sub Total	32	9	43	9	47	9	25	9	147	36
Costa Rica	5	3	4	3	3	3	2	2	14	11
Total	37	12	47	12	50	12	27	11	161	47

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## Relation of Budgets and Expenses of Course JICA, (1993-1996)

	1993		1994		1995	
	Budget	Expenses	Budget	Expenses	Budget	Expenses
<b>I. Invitation Expenses</b>						
1. Air Tickets	6000,00	6407,20	6300,00	7268,46	8100,00	6175,56
2. Accommodation Per - diem	32400,00	32046,83	32400,00	32513,44	36180,00	36495,71
3. Transportation						
4. Medical Insurance						
<b>Sub Total</b>	<b>38400,00</b>	<b>38454,03</b>	<b>38700,00</b>	<b>39781,90</b>	<b>44280,00</b>	<b>42671,27</b>
<b>II. Training Expenses</b>						
1. Honoraria	11000,00	8900,43	12975,00	13018,39	14921,25	14973,15
2. Employment Fee Secretary	2000,00	1631,93	3552,00	3696,12	4248,00	4248,00
3. Transportation						
4. Material Procurement	21600,00	12967,41	4935,61	4059,11	21600,00	22971,00
5. Textbook	1800,00	1942,23	1800,00	1800,00	1800,00	1807,57
6. Others	19000,00	6239,58	11430,00	11441,53	11880,00	12347,48
<b>Sub Total</b>	<b>55400,00</b>	<b>31681,58</b>	<b>34692,61</b>	<b>34015,15</b>	<b>54449,25</b>	<b>56347,20</b>
<b>Grand Total</b>	<b>93800,00</b>	<b>70135,61</b>	<b>73392,61</b>	<b>73797,05</b>	<b>98729,25</b>	<b>99018,47</b>

	1996		Total	
	Budget	Expenditures <sup>(*)</sup>	Budget	Expenditures
<b>I. Invitation Expenses</b>				
1. Air Tickets	6500,00	7040,83	26900,00	19851,22
2. Accommodation	36180,00	36216,93	137160,00	137272,91
3. Per - diem				
4. Transportation				
5. Medical Insurance				
<b>Sub Total</b>	<b>42680,00</b>	<b>43257,76</b>	<b>164060,00</b>	<b>164164,96</b>
<b>II Training Expenses</b>				
1. Honoraria	15000,00	13760,54	53896,25	36891,97
2. Employment Fee Secretary	6372,00	6115,73	16172,00	15691,78
3. Transportation				
4. Material Procurement	21600,00	23504,77	69735,61	63502,29
5. Textbook	1800,00	1800,00	7200,00	5549,80
6. Officers	11880,00	10682,59	54190,00	40711,18
<b>Sub Total</b>	<b>56652,00</b>	<b>55863,63</b>	<b>201193,86</b>	<b>177907,56</b>
<b>Grand Total</b>	<b>99332,00</b>	<b>99121,39</b>	<b>365253,86</b>	<b>(**) 342072,52</b>

(\*) Estimated and tentative data, because the expected cost that is expected in November and December has not summed up yet.

(\*\*) There is a difference between this amount and the amount provided by JICA, because \$16,664.39 which remained unused in 1993 was transferred to the budget in 1994, and the \$7,000.00 was used for the purchase of textbooks.

*L.S.*

*U.K.*



Japanese experts for the Course by Year(1993-1996)

JFY	NAME	DURATION
1993	Dr.yoshimichi KOZUKA Dr.kiichiro SAITO	July 23,1993-December 15,1993 October 22,1993-December 21,1993
1994	Dr.Kiichiro SAITO Dr.Yutaka FUTAESAKU	July 17,1994-December 4,1994 August 10,1994-August 30,1994
1995	Dr.Akira MITSUSHIMA Dr.Kiichiro SAITO	July 19,1995-August 25,1995 July 29,1995-August 26,1995
1996	Dr.Akira MITSUSHIMA Dr.Yoshimichi KOZUKA	August 13,1996-September 15,1996 October 5,1996-November 2,1996

External Instructor for the Course by Year (1993-1996)

JFY	NAME	ORGANIZATION	SUBJECT	HOURS
1993	HERNANDEZ FRANCISCO	UNIV. DE COSTA RICA	PROFESOR CATEDRATICO	480
	LORIA GUILLERMO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
	JIMENEZ RICARDO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
1994	HERNANDEZ FRANCISCO	UNIV. DE COSTA RICA	PROFESOR CATEDRATI.	480
	LORIA GUILLERMO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
	JIMENEZ RICARDO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
1995	HERNADEZ FRANCISCO	UNIV. DE COSTA RICA	PROFESOR CATEDRATICO	960
	LORIA GUILLERMO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
	JIMENEZ RICARDO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
1996	LORIA GUILLERMO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20
	JIMENEZ RICARDO	UNIV. DE COSTA RICA	PROFESOR ASOCIADO	20

4 コスタ・リカ側予算実績

UNIVERSIDAD DE COSTA RICA  
VICERRECTORIA DE INVESTIGACION  
UNIDAD DE MICROSCOPIA ELECTRONICA

COMPARACION ABSOLUTA Y RELATIVA DE INGRESOS  
EN EL CONTEXTO DEL CONVENIO UCR-JICA  
(Periodo comprendido entre el año 1993 y 1996)

	1993			1994		
	Colones	Dólares	%	Colones	Dólares	%
Unidad Microscopia Elect.	14720776	103997	52.38	17626981	113942,99	56.24
Japan International Cooperation Agency	13277390	93800	48.42	11353836	73392,61	36.23
				2358844	16664,39	7.53
Totales	27998166	197797	100	31339663	203999,99	100
	1995			1996		
	Colones	Dólares	%	Colones	Dólares	%
Unidad Microscopia Elect.	21613774	123183,48	55.51	27865829	144877,18	59.33
Japan International Cooperation Agency	17323034	98729,25	44.49	19105364	99332,00	40.67
Totales	38936808	221912,73	100	46971193	244209,18	100

Fuente: Oficina de Administración Financiera y Archivos UME.

Además como aporte de la Universidad de Costa Rica se construye el edificio que alberga actualmente la Unidad por un valor superior a los ₡ 70.000.000,00 (Setenta millones de colones)

5 コロンビア電子顕微鏡学会情報

From trilobite.ingeomin.gov.co!lsgomez Fri Jun 28 16:53:42 1996  
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Date: Fri, 28 Jun 1996 16:52:02 +0500 (GMT)  
From: lsgomez@trilobite.ingeomin.gov.co  
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Andrey Payan Gonzalez

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**SOCIEDAD COLOMBIANA DE MICROSCOPIA ELECTRONICA**  
**BOLETIN No 1**

Santafe de Bogota D.C. Febrero de 1996

La Sociedad Colombiana de Microscopia Electronica fue creada en Julio 10 de 1995, como acto final del Primer Seminario Colombiano sobre Aplicaciones de la Microscopia Electronica en Investigacion y Diagnostico, realizado en Santafe de Bogota en las instalaciones del Instituto Nacional de Investigaciones en Geociencias, Minería y Química INGEOMINAS.

Las entidades participantes fueron INGEOMINAS, Instituto Nacional de Salud, Universidad Nacional de Colombia, Universidad EAFIT, Departamento Administrativo de Seguridad, Instituto Colombiano del Petroleo, Instituto de Ciencias Nucleares y Energías Alternativas, Instituto Colombiano Agropecuario, Colegio Odontológico Colombiano, Gemas y Tecnología, Instituto Colombiano Gemológico, Universidad Pedagógica y Tecnológica de Tunja, Universidad Javeriana, PHILLIPS, Cientifocos, Kaika Ltda. OTC, Xilopalos Ltda.

Conto con la asesoría y apoyo del Committee Interamerican of Societies of Electron Microscopy CIASEM y la Federacion Interamericana de Sociedades de Microscopia Electronica IFSEM.

Actualmente la sociedad hace parte del Comité Interamericano de Sociedades de Microscopia Electronica, la Federacion interamericana de Microscopia Electronica y la Federacion Mundial de Microscopia Electronica.

**Funciones Principales**

=20

Propiciar el desarrollo de la investigacion en el campo de la Microscopia Electronica.

Asociar a los especialistas que cultivan las disciplinas de las distintas ramas de la Microscopia Electronica.

Adquirir, incrementar, difundir y promover el intercambio de conocimientos y de informacion sobre la Microscopia Electronica.

Fomentar el intercambio científico entre las personas que se dediquen a la =

Microscopia Electronica y aquellas que la utilicen como auxiliar de investigacion.  
Estimular la formacion de científicos y técnicos en Microscopia Electronica.  
Crear un Centro Nacional de documentacion bibliografica en Microscopia Electronica.

#### Junta Directiva

Presidente Luz Stella Gomez- Geologa INGEOMINAS  
Vicepresidente Maria Leonor Caldas- Biologa- INS  
Secretario Zarith Pachon- Quimica ICP  
Fiscal Raul Henao- Fisico- DAS  
Vocal: Gloria Romero de Perez Biologa Universidad Nacional  
PROYECTOS ACTUALES

Simposio sobre Aplicaciones de la Microscopia Electronica de Barrido en la investigacion en Geociencias

Informacion: Luz Stella Gomez INGEOMINAS  
Evento Pre Congreso Colombiano de Geologia  
Telefono: 2221811 fax 2223764

#### Informacion General:

Dirigido a profesionales que se desempeñen en los campos de la geologia, mineria y quimica. En especial los relacionados con la microscopia, incluyendo petrologia, mineralogia, beneficio de minerales, quimica de procesos mineralurgicos, mineralogia de procesos, geologia de arcillas y carbonos, quimica ambiental. El objetivo final es proporcionar a los asistentes informacion necesaria para continuar con la investigacion y profundizar en nuevos metodos analiticos.

Cupo libre. Lugar y fecha: 21-23 de Agosto de 1996. Auditorio Benjamin Alvarado INGEOMINAS Bogota valor US \$100

Seminarios de actualizacion en Microscopia Electronica Aplicada a Ciencias Biologicas

Organizador: Biologa Maria Leonor Caldas INS

Objetivos: Desarrollo de un calendario academico de seminarios de actualizacion, enmarcado en proyectos y trabajos con aplicaciones de tecnicas especiales y de rutina tanto en investigacion como en diagnostico.

Esta actividad esta dirigida a profesionales que se desempeñen en el campo de las ciencias biologicas, medicas y usuarios de la microscopia electronica.

Duracion: Agosto 1996

Fecha de iniciacion : Marzo de 1996

Lugar : Auditorio Instituto Nacional de Salud

Direccion : Avenida El Dorado - Carrera 50 . Bogota.

Telefono: 2220975- 2220577-ext 456

Curso teorico practico de entrenamiento en Microscopia Electronica de Transmision

Organizador: Biologa Gloria Romero de Perez- Universidad Nacional

Informaci=F3n general:

Dirigido a profesionales del area biomedica.

Temas:

Toma de muestras, fijacion, inclusion, seccionamiento, contraste de seccion=  
es ultrafinas, observacion e interpretacion de imagenes.

parte teorica: 15 cupos

practica con microtomo: 4 personas

Fecha Julio de 1996

Lugar : Universidad Nacional . Centro de Microscopia Vicerrectoria de recur=  
sos. Lugar: Facultad de Medicina. Laboratorio 177

Tel=E9fono 3681343

#### IV Congreso Interamericano de Microscopia Electronica

Dirigido a profesionales que se desempe=F1en en las areas biologicas y de m=  
ateriales.

Lugar y Fecha: Guayaquil (Ecuador) Septiembre de 1997

Informacion: Luz Stella Gomez. Fax 2223764 INGEOMINAS Bogota

Maria Leonor Caldas Telefax 2220975 INS Bogota

#### Congreso Mundial de Microscopia Electronica

Dirigido a profesionales que se desempe=En en las areas biologicas y de mat=  
eriales.

Lugar y Fecha: Cancun (Mexico)

Septiembre de 1998

Informacion: Luz Stella Gomez

Fax 2223764 INGEOMINAS Bogota

Maria Leonor Caldas INS Bogota Telefax: 2220975

Las personas interesadas en participar como expositores deben informar lo m=  
as pronto posible , incluyendo el tema de simposio que proponen realizar.

#### Curso Regional de Microscopia Electronica

Programa de enfermedades infecciosas=20

Universidad de Costarica- San Jose

Formacion de recursos humanos en el campo de la microscopia electronica en =  
especial en la biomedicina.

Requisitos: Menores de 40 anos, profesional universitario, conocer el idi=  
oma ingles.=20

Fecha del curso: Junio 17 a Noviembre 29 de 1996

Fecha limite de inscripcion : Abril 1 de 1996.

Programa:

Conceptos basicos de microscopia electronica de transmision y barrido. Prep=  
aracion y observacion de materiales biologicos y no biologicos , tecnica de=  
cortes ultrafinos. Criotecnicas e inmunocitoquimica, procesamiento de foto=  
grafia cientifica, revision bibliografica de temas especificos en microscop=  
ia y citologia.

Universidad de Costa Rica. Unidad de Microscopia Electronica . Ciudad Unive=  
rsitaria "Rodrigo Facio" Codigo Postal 2060 San Jose, Costa Rica, America=

Central

Tel: (506)2075145 =F3 2074104

FAX (506)2249367 =F3 207-4647

Introducción a la Microscopía Electrónica de Transmisión

Dirigido a biólogos, bacteriólogos, médicos, veterinarios, agrónomos y personal relacionado con las ciencias biológicas.

Lugar: Instituto Neurológico

Organizadores: Universidad INNCA Bacterióloga Luz Marina Lizarazo. Rosalia Perez Instituto Neurológico 2877700 ext 107

Duración : 20 Horas

Programa: Construcción y función del Microscopio Electrónico de transmisión, procesamiento de muestras en bloque y en material particulado.=20

Sociedad Colombiana de Microscopía Electrónica Sede Principal: INGEOMINAS S= subdirección de Geología -Laboratorio de Microscopía Electrónica=20

Diagonal 53 No. 34-53 Bogotá Colombia Fax: 2223764

e mail: ingeomin @colciencias.gov.co

lsgomez@ trilobite.ingeomin.gov.co

cordialmente

Luz Stella Gomez Presidente

## 6 年度別研修応募者リスト

## 研修応募者リスト (1993年度)

NAME	AGE	PROFESSION	COUNTRY
Germán David Cortina G.	32	Biologist	Colombia
Beatriz Eugenia Vélez Arango	31	Biologist	Colombia
Gerardo A. Torres Rodríguez	33	Biologist	Colombia
Lilliana Paz Aguilar	25	Biology Student (Licentiate)	Colombia
Zerith del Pilar Pachón C.	26	Industrial Technologist	Colombia
Gloria Esperanza Coboledo	35	Magister in Physic	Colombia
Luz Marina Melgarejo Muñoz	27	Biologist	Colombia
Gloria Cecilia Camayo Vélez	23	Biology Student (Licentiate)	Colombia
Isabel Adriana Gutiérrez Montes	30	Biologist	Colombia
Kallia Molina de la Hoz	23	Chemistry Engineer	Colombia
Guillermo Rodríguez Contreras	32	Physicist	Colombia
Vanessa Ramírez Mayorga	24	Biologist	Costa Rica
Alexandra Rucavado Romero	25	Microbiologist	Costa Rica
Rita Vargas Castillo	32	Biologist	Costa Rica
Jorge Alfaro Montoya	31	Biologist	Costa Rica
María Gabriela Abarco Mora	29	Microbiologist	Costa Rica
Lorena Manzo Grisoli	29	M.D., Surgeon	Ecuador
Marco Antonio Herdoiza Holguín	30	M.D., Surgeon	Ecuador
Victor Manuel Shul Brito	31	Biologist	El Salvador
Felipe E. Rosas Morales	26	Biologist	México
Alberto Fouilloux Morales	24	Veterinary	México
Minerva Lázos Ochoa	38	M.D., Surgeon	México
Guillermina González Mancera	32	Biologist	México
Martha Eugenia Mendoza Sánchez	34	Veterinary	México
Andrés Ricardo Salazar	32	Biologist	Perú
Gustavo Cerrillo Sánchez	32	M.D., Surgeon	Perú
Francisco Yupanqui Gaxcia	39	Chemistry Engineer	Perú
Walter E. Manya Agurto	34	Biologist	Perú
Melba Ruth Salazar Gutiérrez	24	Biology Student (Licentiate)	Perú
Egma Maita Huatuco	39	Biologist	Perú
Quirico G. Sibille San Miguel	57	Physicist	Perú
David O. Figueroa	29	M.D.	Rep. Dominicana
Sora Yillni Benitez	24	Bioanalyst	Rep. Dominicana
Ruben Darío Rosario Almanzar	34	M.D.	Rep. Dominicana
Luis A. Albornoz Marcano	36	Pharmacist	Venezuela
Carmen Elena Fuenmayor Pleza	33	M.D., Surgeon	Venezuela
Maricela Alfaro Montano	31	Biologist	Venezuela

Total Candidates' Number: 37



## 研修応募者リスト (1994年度)

NAME	AGE	PROFESSION	COUNTRY
Adriana Cuellar Avila	24	Bacteriologist	Colombia
Claudia Patricia García García	29	Geologist Engineer	Colombia
Luz Marina Melgarejo Muñoz	27	Biologist	Colombia
Gerardo A. Torres Rodríguez	33	Biology	Colombia
Ricardo Zerda Moriega	34	Biology	Colombia
Juan Manuel Gonzalez	33	Pathology M.D.	Colombia
Martha L. Fontalvo Herazo	22	Microbiologist Student	Colombia
Astrid L. Pimienta Rueda	20	Microbiologist Student	Colombia
María X. Rodríguez Bocanegra	21	Microbiologist Student	Colombia
William Neira Sánchez	31	Bacterologist	Colombia
Nelson Forero Chacón	31	Physical	Colombia
Liliana Salazar Monsalve	39	MQ. Morfología	Colombia
Marta Ceballos Bonorquez	35	Biochemist Licentiate	Colombia
M. Teresa Gonzalez García	34	Bacteriologist	Colombia
Gerardo Torres Rodríguez	35	Biologist	Colombia
Ana Eugenia Jiménez Rocha	32	Biologist	Costa Rica
Alberto H. Salazar Rodríguez	33	Biologist	Costa Rica
Oriando Calvo Calvo	40	Microbiologist Dr.	Costa Rica
Ingrid Salas Campos	29	Microbiologist	Costa Rica
Soledad Toledo Carrión	31	M.D.	Ecuador
Marco Herdolza Holguín	30	M.D.	Ecuador
Yerónica Pancho Gamboa	28	Chemistry Licentiate	Ecuador
Wilson Miño Quelal	31	Odontologist	Ecuador
Guillermo Toaja Urbina	40	Geologist Engineer	Ecuador
Dayce A. Romero Flores	35	M.D. Technologist	Ecuador
Roberto Peralta Rodríguez	41	Optometrist	México
Guillermina González Mancera	32	Biologist	México
Crisóforo Mercado Marquez	28	Veterinary Zoot. M.D.	México
José Carrera Gonzalez	30	M.D.	México
Benito P. Cisneros	41	Laboratory Technician	Panamá
Guiliana Romero Barrenechea	30	Lic. Tec. Medica	Perú
Alicia Yasquez Mendoza	30	Biologist	Perú
Gustavo Cerrillo Sánchez	32	M.D.	Perú
Maximiliano Romero Rojas	46	M.D.	Perú
Violeta Valenzuela Recavarren	29	Geologist Engineer	Perú
Magaly Peralta Guzmán	24	Biologist	Perú
Augusto Cabrera Vizcarra	26	Biologist	Perú
César A. García Espinoza	37	Engineer	Perú
Edda Guerra Soto de Guzmán	46	Biologist	Perú
Guillermo Arevato del Agulla	39	Biologist	Perú
Rubén Darío Rosario Almanzar	34	M.D.	Rep. Dominicana
Florinda Jiménez de Romero	31	M.D.	Rep. Dominicana
Sara Vittini Benitez	25	Bioanalista	Rep. Dominicana
Zoila M. Escobar Ruiz	37	Bioanalista	Rep. Dominicana
Carmen Fuenmayor Meza	33	M.D.	Venezuela
Luis A. Albornoz M.	36	Pharmacist	Venezuela
Javier A. García	36	M.D.	Venezuela
<b>Total</b>		<b>Candidates' Number: 47</b>	

## 研修応募者リスト (1995年度)

NAME	AGE	PROFESSION	COUNTRY
Ricardo Zerda Noriapa	35	Biologist	Colombia
Jaine Calle Osorio	37	Biologist	Colombia
Luz Marina Melgarejo Muñiz	28	Biologist	Colombia
William Naira Sánchez	33	Bacterologist	Colombia
María Teresa González García	35	Bacterologist	Colombia
Victoria E. Murillo	28	Medical	Colombia
Angélica León Chávez	26	Bacterologist	Colombia
Hilda Rocío Ariza Barrera	24	Bacterologist	Colombia
Andrey Payán González	28	Bacterologist	Colombia
Luis Hilibrando Alzola	27	Medical	Colombia
Gloria Amparo Giraldo Alfaro	28	Biologist	Colombia
Enochio Cárdenas Salgado	40	Physical	Colombia
Luis Alfredo Castrillón	47	Biologist	Colombia
Rubén D. Luegas C.	30	Biologist	Colombia
Juan Carlos Zapala J.	21	Bacterologist	Colombia
Freddy Rodríguez García	36	Surgeon Medical	Colombia
César A. Ortiz Olvera	36	Physical	Colombia
Nelson Forero Libardo	32	Physical	Colombia
Eduardo García Villanueva	31	Agronomist Engineer	México
María Concepción López Román	23	Veterinary Medical	México
Bujak Manuel Jean Bojorges	23	Surgeon Medical	México
María Esther Sánchez Espindola	29	Biologist	México
Jesús Bendezu Gavilano	31	Biologist	Perú
Alicia Yáñez Méndez	31	Biologist	Perú
César A. Cabrera Vizcaino	27	Engineer	Perú
Liliana V. Morales Castillo	28	Bachelor of Sciences	Perú
Luis A. Carrasco Yencas	35	Chemist Engineer	Perú
Rubén Darío Rosario Altamirano	35	Medical	Rep. Dominicana
Sora Yillini Benítez	25	Bioanalyst	Rep. Dominicana
Mildre E. Disla	33	Bioanalyst	Rep. Dominicana
Ivis J. Graterol	37	Surgeon Medical	Venezuela
Carlos H. Valencia	30	Medical	Venezuela
Yilma J. Llovera S.	33	Bioanalyst	Venezuela
Cynthia Barboza Aguilar	22	Biologist	Costa Rica
Kallia Ugalde Vargas	25	Microbiologist	Costa Rica
Carlina Arguedas Y.	25	Odontologist	Costa Rica
Verónica Alex. Pantoja Cumbua	29	Chemist	Ecuador
Wilson E. Miño Quiral	32	Odontologist	Ecuador

NAME	AGE	PROFESSION	COUNTRY
Geovanny Novillo Andrade	33	Mechanical Engineer	Ecuador
Guillermo E. Teala Urvina	40	Geologist Engineer	Ecuador
Dayce A. Romero Flores	36	Med. Technologist	Ecuador
Roberto Guillén Paredes	37	Teacher Biology and Chemical	El Salvador
J. Roberto Peralta Rodríguez	42	Optometrist	México
Claudia Zúñiga Pacheco	28	Marine Biologist	México
Guadalupe Valdovinos Ponce	28	Biologist	México
María Lourdes Pérez Chabela	30	Med. Veterinary	México
Anastasio de Jesús Alanís	38	Med. Veterinary	México
Ana Ines Rivas Salas	29	Biologist	México
José E. Carrera González	31	Medical	México
Margarita Acuña Castro	25	Dental Surgery	México
<b>Total</b>		<b>Number of Candidates:</b>	<b>50</b>

## 研修応募者リスト (1996年度)

NAME	AGE	PROFESSION	COUNTRY
Hilda Rocío Ariza Barrera	25	Bacterologist	Colombia
José Albeiro Acevedo Gamboa	36	Biologist	Colombia
Rubén Darío Giraldo Castro	41	Doctor	Colombia
Diana Ma. Sierra Alzate	26	Biologist	Colombia
Emilia M. Solís Fallas	45	Biologist	Costa Rica
Maribelle Vargas Montero	27	Marine Biologist	Costa Rica
Dayce de Lourdes Romero Flores	37	Biologist	Ecuador
Mónica Jadán Guerrero	26	Biologist	Ecuador
Renán Armas Rubio	33	Doctor	Ecuador
Jorge Hernández Espinosa	27	Vel.	Mexico
Luis Ignacio Montesinos Ramírez	35	Vel.	Mexico
José Alberto García Lizano	21	Biology Student	Mexico
Marco Antonio Olivares Cardenas	22	Biology Student	Mexico
María del Carmen Torres	20	Biology Student	Mexico
William Antonio Uzaga Canelo	31	Doctor	Nicaragua
Roberto Quintero Ibarra	29	Pharmacy Assitent	Panamá
César I. Valdes C.	28	Electronic Ing.	Panamá
Hernán Baltazar Castañeda	34	Forest Ing.	Perú
Wimpper Daniel Montero	40	Physician	Perú
Ana Victoria García Pino	33	Biology and Microbiology	Perú
Gilberto Santillán	34	Vel.	Perú
Omar Paíno Perdomo Sánchez	24	Biologist	Rep. Dominicana
Artismendi Jiménez	26	Doctor	Rep. Dominicana
Luis E. Rebolledo Iglesias	30	Doctor	Venezuela
Antonio J. Maldonado	34	Biologist	Venezuela
Antonio José Gomez Guzman	30	Tecnichian	Venezuela
Aura Chavez Zobel	40	Teacher	Venezuela
Jesús E. Camacho Bracho	31	Doctor	Venezuela

**Total Candidates' Number: 28**

7 年度別研修参加者リスト

参加の年	国名	氏名	自宅の住所	会社の住所
1993	グレネズエラ	Maricela Alfaro Montano		Centro Nacional de Investigaciones Agropecuarias (CENIAP), Dpto. Proteccion Vegetal, Apartado Postal 4653, Maracay 2101, Venezuela
1993	エクアドル	Maria Lorena Manzo	Cdla Kennedy Calle 1 Oeste #101 y F.J. Bolona, Ecuador	Julian Coronel #. y Esmeraldas Institute Nacional de Migiene y Medicina Tropical "L.I.P.", Ecuador
1993	コスタリカ	Maria Gabriela Abarca Mora	La Paulina, Apartamentos, San Fernando contiguo, Sterling Products Apto. 4, San Jose, Costa Rica	
1993	コスタリカ	Rita Vargas Castillo	Apto. 1290-2100, Guadalupe, Goicoehea, San Jose, Costa Rica	Museo de Zoologia, Escuela de Biologia, Universidad de Costa Rica, Costa Rica
1993	コロンビア	Beatriz Eugenia Velez Arango		Centro Nacional de Investigaciones de Cafe "Pedro Uribe Mejia" (CENICAFE), Chinchina Caldas, Colombia
1993	コロンビア	German David Cortina		Instituto de Investigaciones Cientificas y Medicina Preventiva Arthur Stanley Gilom, Division de Genetica, Calle 100 No. 1-1A12, Bogota Colombia
1993	ドミニカ共和国	David O. Figuereo		Departamento de Patologia del Laboratorio Nacional dr. Defillo, Calle Santiago #4, Ens, Gazcue, Sto. Domingo., D.R.
1993	ペルー	Walter F. Manyá		Universidad Nacional Mayor de San Marcos, Facultad de Ciencias Biologicas, Departamento Academico de Biologia Celular y Genetica, Av. Venezuela S/N Lima,
1993	ペルー	Andres Ricardo Chavieri Salazar	Calle 11, #S99 Urb. La Florida Lima 25, Peru	Laboratorio de Criminalistica, National Police of Peru, Aramburu #550-6 to Piso Surquillo, Lima, Peru
1993	メキシコ	Minerva Lazos Ochoa		Unidad Patologica, Hospital General de Mexico, S.S. Dr. Balmis No.148, Col. Doctores, Mexico, D.F.
1993	メキシコ	Alberto Fouilloux Morales	X'ochitl #91, Colonia San Pablo Tepetlapa, Deleg. Coyoacan, C.P. 04620, Mexico, D.F.	Fac. de Medicina Veterinaria y Zootecnia / U.N.A.M. Depto. de Morfologia, Cd. Universitaria C.P. 04510, Mexico, D.F.

参加の年	国名	氏名	自宅の住所	会社の住所
1994	グエネスエラ	Luis Alberto Albornoz		Instituto Venezolano de Investigaciones Cientificas (I.V.I.C.), Venezuela
1994	エクアドル	Marco Antonio		Hospital Carlos Andrade Marin, Depto. de Hematologia, Lab. Hemopatology, Ecuador
1994	エクアドル	Luz Maria Soledad Toledo Carrion	Grecia 166 y Mariana de Jesus, Quito, Ecuador	Centro Medico Comunitario, Av. Abdon Calderon y Riofrio 926, Sangolqui, Ecuador
1994	コスタリカ	Orlando Calvo Carvo	Residencial Jose Ma. Zeledon, Curridabst. 125, ms Oeste del Rest. El Rancho #12B San Jose, Costa Rica	Lab. Clin. Sta Marta, CB Av. 10, Altos Farmacia, Sta Marta. Frente a Bamba la Castellana, Costa Rica
1994	コスタリカ	Jorge Alfaro Montoya		Escuela de Biologia, Universidad Nacional, Heredia, Costa Rica
1994	コスタリカ	Ingrid Salas Campos	Heredia, Urb. San Formando, Casa #6, Costa Rica	Universidad de Costa Rica, Facultad de Microbiologia, Costa Rica
1994	コロンビア	Adriana Cuellar Avila	Carrera 68D No. 41-48, Apto. 704, Santafe de Bogota, Colombia	Carrera 7a Calle 45, Pontificia Universidad Javeriana, Dep. Microbiologia, Unidad de Inmunologia, Colombia
1994	コロンビア	Gerardo Andores Torres Rodriguez	Carrera 12 Nro. 3-73, Popayan, Colombia	Universidad del Cauca, Cra. 2a Nro. 1A-25, Centro de Investigaciones y Servicios, Colombia
1994	コスタリカ	Ana Eugenia Jimenez Rocha	50mts. oeste Abastecedor los Bauces, San Francisco, Dos Rios, Costa Rica	Escuela de Medicina Veterinaria, Universidad Nacional, Barreal de Heredia, Costa Rica
1994	ペルー	Violeta Carmen Valenzuela Recavarren	Santa Mariana de Paredes 106 Urb. Pando 3ra. Etapa-Lima 01, Peru	Victor Alzamora 480, Surquillo, Barrio Medico Lima, Peru
1994	ペルー	Giuliana Mercedes Romero Barrenchea	Jr. Pinar Del Rio 2074, San Martin de Porras, Lima, Peru	Jose santos Chocono 199, Bellavista Callao, Peru Tropical Medicine Institute "Daniel A. Carrion" Medicine Faculty, University of San Marcos

参加の年	国名	氏名	自宅の住所	会社の住所
1994	メキシコ	Guillermina Gonzalez Manara	Av. San Angel #65, Col. Metropolitana, 3era. Seccion, CD. Nezahualcoyotl, C.P.57750 Estado de Mexico	Facultad de Quimica, Edificio "D", Laboratorio de Microscopia Electronica, Cto. de Los Institutos, Ciudad Universitaria, 04510, D.F.
1994	メキシコ	Crisoforo Mercado Marguez	Calle Rio San Fernando No.8, Col. El Socorro Cuautitlan Izcalli, Mex. CP. 54800	Facultad de Estudios Superiores Cuautitlan, U.N.A.M., Carretera Cuautitlan Teoloyuca Km. 2.5 Cuautitlan, Mex., C.P.

会社の住所

自宅の住所

氏名

国名

参加の年

参加の年	国名	氏名	自宅の住所	会社の住所
1995	ヴェネズエラ	Carlos H. Valencia		Decanato de Medicina, UCLA
1995	エクアドル	Wilson Edison Mino Quetal	C/General Enriquez 131, Ecuador	C/General Enriquez #325, Sangolgui, Ecuador
1995	エルサルバドル	Roberto Guillen Paredes	Residencial Universitaria No.2, contiguo a Autopista Norte, casa No.30, San Salvador, El Salvador	Escuela de Biologia, Final 25 Av. Norte San Salvador, Universidad de El Salvador, El Salvador
1995	コスタリカ	Cynthia Barboza Aguilar	Zapote 200m Sur, 75m Oeste, Plaza de Toros, San Jose, Costa Rica	U.C.R. Escuela de Biologia y Centro Inv. Biol. Celul. y Molec., Costa Rica
1995	コスタリカ	Kattia Ugalde Vargas		Universidad de Costa Rica, Unidad de Microscopia Electronica, Costa Rica
1995	コスタリカ	Celina Arguedas V.		Universidad de Costa Rica, Facultad de Odontologia, Costa Rica
1995	コロンビア	Andrey Payan Gonzalez	Cl SA #19-53 Apto 402. Cali, Colombia	AA : 25360, Universidad de Valle, Colombia
1995	コロンビア	Ricardo Zerda Noriega	Cra 52A No. 186-31, Apto. 301 Int., Santafe De Bogota D.C., Colombia	Clinica F. Santa Fe De Bogota, Cra 7 No.116, Depto. De Patologia, Santafe De Bogota, Colombia
1995	ドミニカ共和国	Mildre Evancelina Disla Melendez	C/Mercedes #360 Zona Colonial D.R.	Autonomus University of Santo Domingo, Science Faculty, Department of Microbiology
1995	ペルー	Jesus Bendez Gavilano		AGROICA, Hacienda La Maquina, Peru
1995	メキシコ	Guadalupe Valdivinos Ponce	Unidad Loma Hermosa Edif. 27A 101 Colonia Irrigacion C.P. 11200 Mexico, D.F.	Colegio de Postgraduados, Instituto de Fitosanidad Programa de Fitopatologia. Km 35.5 Carretera Mexico Texcoco SG230



参加の年	国名	氏名	自宅の住所	会社の住所
1995	メキシコ	Maria Concepcion Lopez Romahn	Rey Moctezuma, Manzana 102 Lote 21, Col. Ajusco Coyoacan, C.P. 04300 Mexico, D.F.	Laboratorio de Diagnostico Clinico, Facultad de Medicina Veterinaria y Zootecnia, Av. Universidad #3000, 1ER. Edificio, P.B., Ciudad Universitaria.

会社の住所

自宅の住所

氏名

国名

参加の年

1996	グエネスエラ	Luis Eduardo Rebolledo Iglesias	Apartado Postal 287, Barquisimeto, Estado Lara, Venezuela	Escuela de Medicina, Universidad Alvarado, Departamento Anatomia Microscopias, Venezuela
1996	エクアドル	Monica Beatriz Jadan	El Dorado, Vista Hermosa, Guillermo Lopez, Casa A7 y Yaguachi, Ecuador	Avenida "El Progreso" Quito : Escuela Politecnica Del Ejercito, Ecuador
1996	エクアドル	Dayce de Lourdes Rorero Flores	Condominios "El Inca", BL 53-1A, Quito, Ecuador	Hospital de Ninos Baca Ortiz, Ave. 6 De Diciembre y Ave. Colon Quito, Ecuador
1996	コスタリカ	Soils Fallas Emilia	700 Mts Sur B.N.O.R. San Pedro Montes de Oca, San Jose, Costa Rica	Universidad Estatal a Distancia, Sabanilla, San Jose, Costa Rica
1996	コスタリカ	Maribelle Vargas Montero	Guadalupe, Cartago, Urbanizacion Las Tres Marias, Casa #32, Costa Rica	Escuela de Biologia, Universidad Nacional Heredia, Costa Rica
1996	コロンビア	Diana Maria Sierra Alzate	Calle 69, #53-58, Itagui, Medellin, Colombia	Laboratorio de Leishmaniosos, Universidad de Antioquia, Colombia
1996	コロンビア	Hilda Rocio Ariza Barrera	Carrera 48 A No.128-51, Las Villas, Santa Fe de Bogota, Colombia	Transversal 5 No.49-00, Hospital Militar Central, Santa Fe De Bogota, Colombia
1996	ドミニカ共和国	Omar Pairo Perdomo	Autop. 30 de Mayo, RLM 7, UR8, Tropical C/Bani 20, Santo Domingo, R.D.	Avda. Republic of Colombia, Esp. Los Proceres, Santo Domingo, R.D.
1996	パナマ	Roberto Quintero Ibarra	St. Maria, Bethania John Paul II, Edif. 12 A-12, Panama	Estafeta Universitaria, Entrega General, Republic of Panama, Panama
1996	ペルー	Hernan Baltazar Castaneda	Jr. Tarapaca No. 854 A, Huancayo, Peru	Calle Real No. 160 Huancayo Peru, Universidad Nacional del Centro del Peru
1996	メキシコ	Jorge Hernandez Eseinosa	Calle V-16-1, A.P.R. Fovisste, C.P. 04800, Mexico D.F.	Departamento de Morfologia, Facultad de Medicina Veterinaria, Unam, Ciudad Universitaria, 04510, Mexico D.F.

8 1996年度終了時評価調査結果要約表

1. 対象案件の概要

国名	コスタ・リカ		
案件名	第三国集団研修「感染症・伝染病対策基礎研究」		
分野	保健・医療	協力形態	第三国集団研修
担当部課	研修事業部研修第二課		
協力期間	1993年度～1997年度		
先方関係機関	コスタ・リカ大学(UCR)	我方協力機関	なし
案件概要	<p>・協力の背景と経緯</p> <p>1974年度から1981年度まで実施されたプロジェクト方式技術協力、1981年度から1991年度まで実施された第三国集団研修「電子顕微鏡」の成果を踏まえ、1993年度から5年間の予定で開始された。</p> <p>・協力内容</p> <p>1. 上位目標</p> <p>人のウイルス性肝炎、エイズ、マラリア、糸状虫症、シャガス病、家畜および穀物のウイルス性・細菌性病原体の超構造レベルでの早期同定と診断に関する知識・技術を改善・向上する機会を中南米からの参加者に与える。</p> <p>2. プロジェクト目標</p> <p>①ウイルス・微生物の同定と、感染・増殖メカニズムの解析ができる。</p> <p>②超構造形態学レベルで、生物学的な感染微生物と宿主の関係について電子顕微鏡を手段として応用できる。</p> <p>3. 成果</p> <p>4年間で研修員を47名受け入れた。</p> <p>4. 投入</p> <p>4年間の投入実績は次のとおりである。</p> <p>①日本側 (34万2072.52USドル、短期専門家8名、および携行機材)</p> <p>②コスタ・リカ側 (施設運営費、講師・スタッフ配置)</p>		

2. 評価調査の概要

調査者	終了時評価調査団 (佐藤都喜子団長、小塚芳道団員、藤沢ひろみ団員)
調査実施年月	1996年11月25日～12月8日
評価の段階	第4年次
評価報告書	あり

### 3. 評価結果概要（原因分析を含む）

#### (1) 対象案件の現状（実績）

予定どおり研修コース実施し、4年間で47名の研修員を受け入れた。

中南米諸国の電子顕微鏡技術者層の薄さ、研修実施機関、講師などの制約から、必ずしも上位目標およびプロジェクト目標を正確に反映したコース内容にならざるを得なかった。

#### (2) 計画の妥当性

##### ① 協力開始時における計画の妥当性

ほぼ妥当であったが、コース目標は対象を絞りすぎた。

##### ② 実施中の変化に対する対応

コスタ・リカ側負担の新建物の移転にあたっては、短期専門家を派遣して据えつけなどの対応した。

##### ③ 評価時における当該案件のニーズの高さ

毎年、定員の3～5倍の応募があり、ニーズは高いといえる。ただし、各国の開発計画のなかでの重要性については不明。

#### (3) 効率性

##### ① 技術移転内容の適正度

当初目標を必ずしも直接反映した内容ではなかったものの、さまざま制約のなかで実施した技術移転の内容はほぼ適当であったといえる。ただし、カリキュラムの内容や時間配分について改善が必要。

##### ② 効率性に貢献/阻害した要因

中南米諸国の本分野の層の薄さ、研修実施機関の講師の不足。

#### (4) プロジェクト目標達成度

① 達成の度合い：上記(3)に同じ。

② 達成に貢献/阻害した要因：上記(3)に同じ。

#### (5) 効果（見通し）

##### ① 計画された受益者に対する効果発現の度合い

医療・保健分野以外の研修員もいたが、ほとんどは業務に研修成果を生かしている。

##### ② 波及効果

帰国研修員は講義・セミナーなどを通じて、また帰国研修員間の情報交換による研修成果の普及に努めている。

③ マイナス効果：なし

④ 効果発現に貢献/阻害した要因

自国の設備・機器の欠如、予算の貧弱など。

(6) 自立発展性（見通し）

① 自立発展の度合い

研修実施機関独自で本研修を継続させる予定はない。

② 自立発展に貢献／阻害した要因

コスタ・リカ政府の外交政策・教育方針の動向。

4. プロジェクトに影響を与えた横断的課題・開発諸要因

構造調整の影響により、国家予算のなかで教育費の占める割合が減った結果、大学教育は財政的に苦しい状況にある。

今後、社会・経済の生産性向上に結びつくような分野では自活の道を模索していく方向にあるなか、UCR事業計画のなかでのUMEの役割について明確ではないため、今後の周辺国への技術移転については取りあえず中断することとした。

5. 結論

(1) 今後のあり方

第5回の研修については、評価調査団指摘事項をきちんと改善して実施する。その後の新たな協力事業は、UMEの将来展望を明確に提示するまで見合わせる。

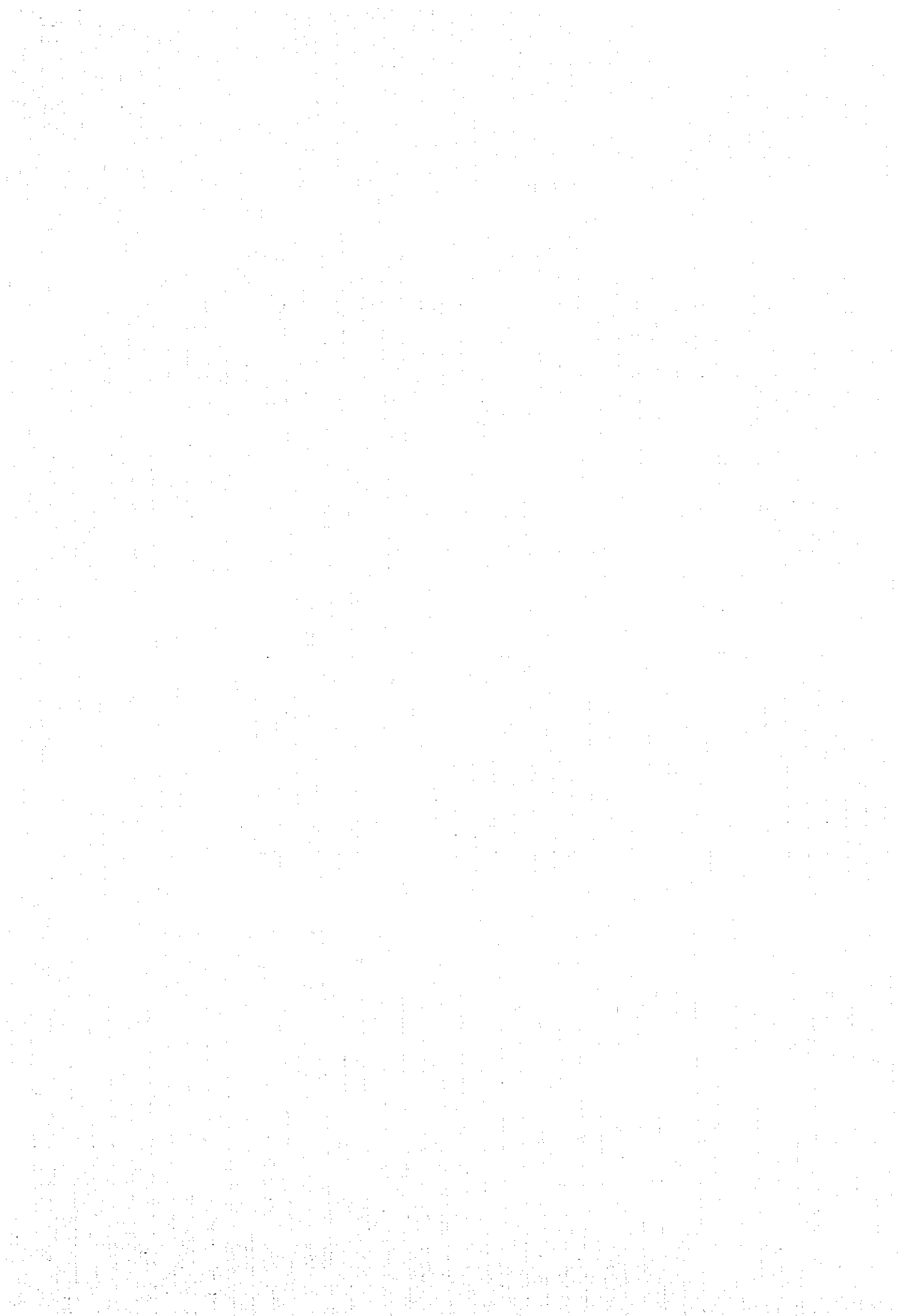
(2) 教訓・提言

① 教訓

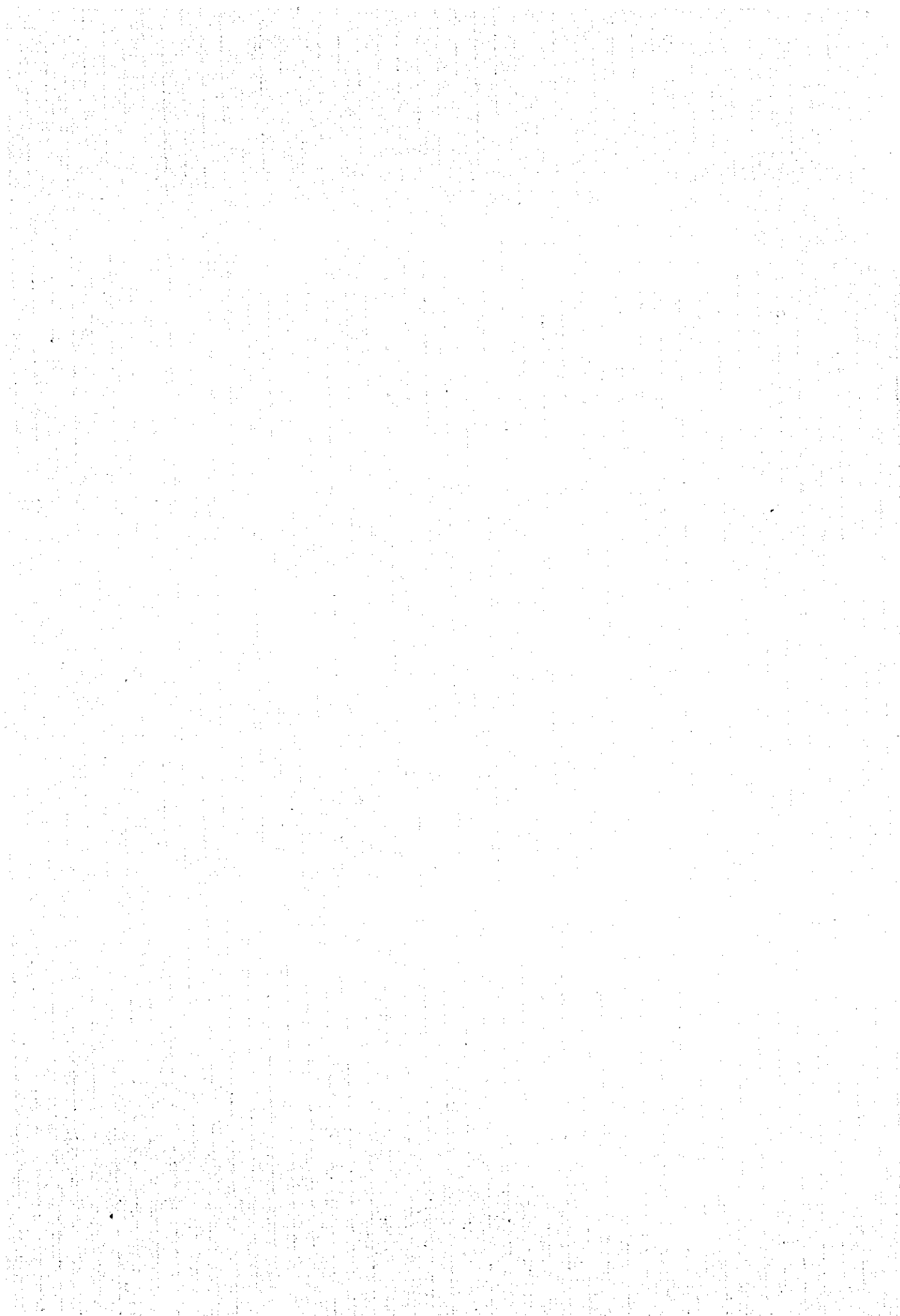
- a. 計画時：ニーズ調査に基づく研修目標、資格案件などの設定。
- b. 実施時：単なる講師としてではなく、コース運営のアドバイザーとしての日本人専門家の活用。
- c. 終了時：相手側機関の運営方針を確認しながら、自立の助けとなる無理のない協力事業を実施すること（本研修はUMEにとって負担であった）。

② 提言

- a. 相手国政府機関、実施機関への提言
  - ・UCR事業計画のなかでのUMEの役割の再検討
  - ・コスタ・リカ教育省、外務省など関係機関の支援
- b. 案件担当事業部への提言
  - ・短期専門家報告などの翌年度計画へのフィードバック
- c. JICAの制度的改革に関する提言









JICA