

NEWS and NOTES

This department furnishes information concerning institutions, organizations, and individuals engaged in work on leprosy and other mycobacterial diseases, and makes note of scientific meetings and other matters of interest.

1993 DAMIEN-DUTTON AWARD RECIPIENT



Dr. Charles K. Job, recipient of the 1993 Damien-Dutton Award.

The winner of the Damien-Dutton Award for 1993 is Dr. Charles Kamalam Job. The presentation was made at the International Leprosy Association (ILA) Opening Banquet at the 14th International Leprosy Congress on 29 August 1993 in Orlando, Florida, U.S.A. In his introduction of Dr. Job, ILA President Dr. Wayne M. Meyers said, "Dr. Charles Kamalam Job has travelled a long way in a broad circle since his birth in

South India, in Tamil Nadu. He was born into a nurturing and caring home, and received his M.B. and B.S. degrees from Madras University in 1953, and his M.D. in 1959. During this time he began a long association with the Christian Medical College and Hospital at Vellore, India. At Vellore he lectured in pathology, was the superintendent at Karigiri (at the Schieffelin Leprosy Research and Training Centre), lat-

er became head of the Pathology Department, then the Medical Superintendent, and in 1978 the Principal.

"In 1981, Dr. and Mrs. Job left India to come to America, where he had been invited to join the staff of the Gillis W. Long Hansen's Disease Center in Carville, Louisiana. For 11 years, until early last year, Dr. Job was Chief of the Pathology Research Department at Carville. In addition, he lectured at Tulane University School of Medicine in New Orleans as Clinical Professor of Pathology.

"Dr. Job lived among leprosy patients. He saw them daily and worked with them. He understood their human needs and their spiritual longings. Over the years, his research interests centered on the pathology and immunology of leprosy. His published writings include more than 150 papers on leprosy, plus more than 25 on other topics, such as bone tumors, and an especially significant work on the cause of tropical eosinophilia. He studied postmortem findings in leprosy. He pointed out progressive nerve damage in patients whose leprosy had been cured or arrested. He studied the mechanisms of nerve damage, using both light and electron microscopy. During his years at Carville, Dr. Job made many observations on experimental leprosy in armadillos, as well as naturally occurring leprosy infections in wild armadillos in Louisiana.

"In the prime of life, Dr. Job retired in 1992, back to his native India, where he is now the Consultant Pathologist at the St. Thomas Hospital and Leprosy Centre in Chettupattu, Tamil Nadu, South India. St. Thomas is a treatment center renowned for excellence, and Dr. Job has organized a new pathology laboratory there and is again involved daily with leprosy patients, training, lecturing, and researching. In a way, he has come full circle.

"A quiet, self-effacing, hard worker, Dr. Job has demonstrated a life-long dedication as a servant of God and humanity by helping all people his life touches, but especially those with leprosy or its sequellae. His work has laid strong foundations for many other scientists and health-care workers to build upon.

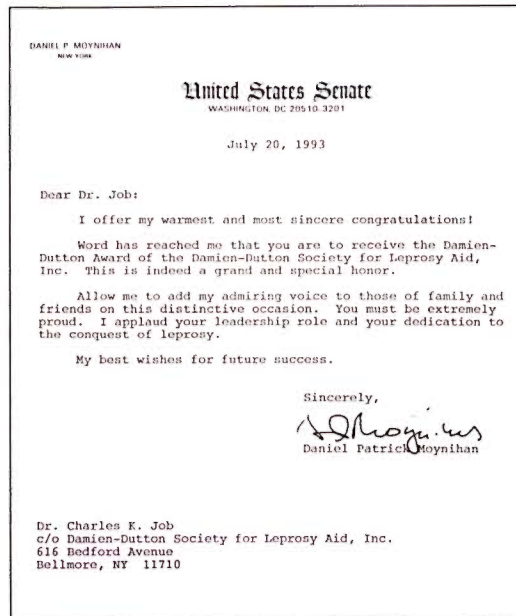
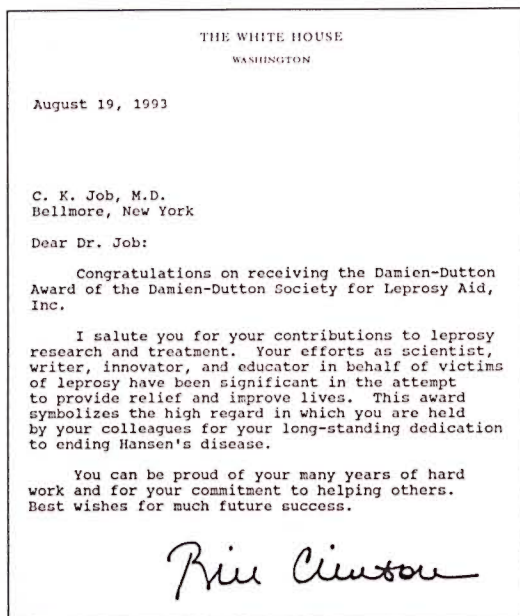
"Through the years, Dr. Job has been giv-

en many honors. He was a Rockefeller Fellow, and served as President of the Indian Leprosy Association. He was awarded the Professor K. C. Sahu Gold Medal in 1971 as the "best leprosy research worker in India," and in 1981 was named Honorary Physician to the President of India. In the International Leprosy Association he has served as Councillor, Vice-President and Honorary Vice-President. He is a Fellow of the Indian Academy of Medical Sciences, and a Fellow of the Royal College of Pathologists (London).

"We are proud, today, to honor him again, with the Damien-Dutton Award for 1993. I personally am honored to have known Dr. Job for 30 or more years, and to have been actively associated with him in shared efforts in leprosy research. I know that he is honored equally by his scientific colleagues and the many patients with leprosy who are beneficiaries of his dedicated work to better understand the leprosy bacillus and to help those whom it afflicts in body, soul, or mind."

The Damien-Dutton plaque presented to Dr. Job reads: "1993 DAMIEN-DUTTON AWARD PRESENTED TO DR. C. K. JOB CHETTUPATTU, INDIA FOR HIS LIFE-LONG INTEREST IN LEPROSY, HIS ACKNOWLEDGED EXPERTISE AS PATHOLOGIST WITH REGARD TO LEPROSY LESIONS, HIS UNREMITTING, PAINSTAKING RESEARCH AND HIS LEGENDARY 175 CONTRIBUTIONS TO SCIENTIFIC LITERATURE ON THE DISEASE, AND MOST NOTABLY HIS DEDICATED AND INNOVATIVE TEACHING OF GENERATIONS OF STUDENTS AND TRAINEES, CITING IN PARTICULAR HIS LUCID, FOCUSED AND ACCURATE EXPOSITION, FROM DIAGNOSIS TO TREATMENT, WITH OUTSTANDING GENTLENESS AND UNFAILING COMPASSION. AUGUST 1993, ORLANDO, FLORIDA."

In addition to the Damien-Dutton plaque, Dr. Job was presented with congratulatory letters from the President of the United States Bill Clinton and U.S. Senator from New York Daniel Patrick Moynihan (shown below).



Previous Recipients of the Damien-Dutton Award

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|---|---|
| 1953 Stanley Stein, U.S.A. | 1973 Dr. Jacinto Convit, VENEZUELA |
| 1954 Rev. Joseph Sweeney, KOREA | 1974 Dr. José N. Rodriguez, PHILIPPINES |
| 1955 Sister Marie Suzanne, FRANCE | 1975 Dr. Oliver Hasselblad, U.S.A. |
| 1956 Perry Burgess, U.S.A. | 1976 Dr. Yoshio Yoshie, JAPAN |
| 1957 John Farrow, U.S.A. | 1977 Drs. Paul and Margaret Brand, U.S.A. |
| 1958 Sister Hilary Ross, U.S.A. | 1978 Dr. Fernando Latapi, MEXICO |
| 1959 Dr. H. Windsor Wade, PHILIPPINES | 1979 Dr. Stanley G. Browne, U.K. |
| 1960 Mgr. Louis Joseph Mendelis, U.S.A. | 1980 Robert Watelet, ZAIRE |
| 1961 Dr. Kensuke Mitsuda, JAPAN | 1981 American Leprosy Missions, U.S.A. |
| 1962 Rev. Pierre de Orgeval, FRANCE | 1982 Dr. Ma Haide, CHINA |
| 1963 Eunice Weaver, BRAZIL | 1983 Murlidhar D. Amte (Baba Amte), INDIA |
| 1964 Dr. Robert G. Cochrane, U.K. | 1984 Mother Teresa, INDIA |
| 1965 John F. Kennedy, U.S.A. (Posthumous) | 1985 Dr. John H. Hanks, U.S.A. |
| 1966 Peace Corps, U.S.A. | 1986 Samuel J. Butcher, U.S.A. |
| 1967 Dr. Howard A. Rusk, U.S.A. | 1987 Dr. W. Felton Ross, U.S.A. |
| 1968 Dr. Franz Hemerijckx, BELGIUM | 1988 Hermann Kober, WEST GERMANY |
| 1969 Dr. Victor George Heiser, U.S.A. | 1989 Catholic Medical Mission Board |
| 1970 Dr. Dharmendra, INDIA | 1990 Dr. Wayne M. Meyers, U.S.A. |
| 1971 Dr. Chapman H. Binford, U.S.A. | 1991 Dr. Ruth K. M. Pfau, GERMANY |
| 1972 Dr. Patricia Smith, VIETNAM | 1992 Anwei Skinsnes-Law, U.S.A. |

Cameroon. *Fight against leprosy in French-speaking Africa.* "Four days of intensive work were necessary to assess the fight against leprosy in the 14 French-speaking countries of Africa. Meeting in Cameroon at the end of March 1993, following the initiative of the Leprosy Division of WHO, the conference achieved a triple result:

1. a summary of the leprosy situation in the countries concerned.

2. enabling all participants to update their knowledge of MDT treatment.
3. restoring confidence and courage to all those involved in antileprosy campaigns in francophone Africa.

"Dr. Noordeen, Head of the Leprosy Unit at WHO in Geneva, presided over the meeting with support from Dr. Daummerie (Geneva), Dr. Eriki (Brazzaville), Dr. Diallo

(Bamako) and Dr. Bide (currently working in Madagascar).

"The Association of French-speaking Leprologists, OCCGE, OCEAC, CIESPAC, ILAD and the Cameroon Pasteur Center each sent one or more representatives.

"Five ILEP Members (ALES, CIOMAL, DAHW, DFB and AFRF) attended on behalf of the institutes or national coordinators for which they hold responsibility (Benin, Burkina Faso, Cameroon, Ivory Coast, Guinea, Mali, Madagascar, Niger, Central African Republic, Senegal, Chad, Togo and Zaire)." —Pierre Olphe-Galliard, *Association Francaise Raoul Follereau*, in *ilep flash* 3 (1993) 2.

Ethiopia. *Future of ILEP—focusing on the example of Ethiopia.* "Now that leprosy is curable, thanks to the consistent use of MDT, epidemiologists at the World Health Organization (WHO), health ministries and quite a few managers of ILEP Members seem to think that the disease will soon cease to be a problem and wonder what they will be doing tomorrow.

"One should, however, be careful not to be too optimistic when using calculations and estimates. It is important to take into consideration among other things:

- the long incubation period of leprosy,
- the enormous problems of maintaining and ensuring a regular treatment due, not only to a lack of commitment by both medical staff and patients, but also difficulties with infrastructure and other obstacles in many regions of the world;
- the fact that none of the MDT regimens available at present offers the ultimate solution, being too expensive, too difficult to administer or needing to be taken over too long a period of time;
- that *Mycobacterium leprae* still cannot be cultivated, which would most probably be a precondition for the final eradication of the disease.

"But even if we do eventually succeed in solving all those medical problems, once the leprosy patients are released from treatment (RFT) as cured and once those RFT patients are indeed no longer contagious and there are no relapses, we are still left with:

- a) taboos in many circles of society con-

cerning all those who once had leprosy or who bear even the slightest symptom or stigma of having had the disease;

- b) the millions of those who have lost sensation in their hands or feet;
- c) and all those with severe deformities, especially of their hands and feet.

"In Ethiopia, the number of leprosy patients has been reduced from 85,000 to 20,000 over the past 10 years; 65,000 patients have therefore been released from treatment, indicating a significant success for MDT.

"Since 1958 DAHW has supported antileprosy work in Ethiopia. It has supported the National Leprosy Program since 1963. Approximately DM30 million has been spent so far; although this amount also covers large contributions to the physical and social rehabilitation of patients.

"Experienced doctors and senior supervisors estimate that out of the 65,000 RFT patients mentioned above:

- one third have deformities of the hand and foot and therefore need reconstructive surgery and orthopedic care;
- one third have no sensation in their hands or feet and therefore require protective sandals or shoes, gloves or other work aids;
- two thirds remain "lepers" because they once had leprosy, i.e., they are or remain excluded from society and marginalized.

"Only intensive programs of health education and information directed at the public, medical staff and the patients themselves and above all a complete socioeconomic rehabilitation, can help ensure for them the dignity of normal lives." —Herman Kober, Executive Director, DAHW, in *ilep flash* 3 (1993) 3.

India. *Moolgaokar Leprosy Ward of BLP.* The leprosy ward managed by the Bombay Leprosy Project (BLP) at Adams Wylie Memorial Hospital, Agripada, Bombay, India, was named after the distinguished social worker the late Mrs. Leela Moolgaokar at a function held here on 23 July 1993 on the occasion of the ward's 14th anniversary. Dr. A. P. Potdar, Assistant Director of Health Services (Leprosy), Greater Bombay, was the chief guest.

Dr. R. Ganapati, Director of BLP, stated

that the outstanding research work in leprosy undertaken in the ward by BLP since 1979 would not have been possible without the facility offered by the city branch of the Indian Red Cross Society. The research included: a) experiments on splints and grip-aids to facilitate rehabilitation of deformed leprosy patients, b) rationalization of the duration of multidrug therapy (MDT), c) investigations into the role of nutrition in leprosy, d) WHO-sponsored clinical trials on new drugs such as ofloxacin, e) relapse management in leprosy, and f) thalidomide trials, etc. This ward is also the center for research into the task-oriented training aspects of leprosy for the National Leprosy Eradication Program (NLEP) personnel as well as some facets of "integrated" rehabilitation.

Prof. A. R. K. Pillai, President, Indian Leprosy Foundation, who presided over the function, said that it is essentially in the public interest that BLP is encouraged to make use of the ward for many more years to come in the pursuit of leprosy research so badly needed by the NLEP.—Materials from R. Ganapati.

Spain. *Fontilles to take nonleprosy patients.* The Directorate of the San Francisco de Borja Sanatorium has formally decided to increase the scope of the hospital at Fontilles, Spain. The hospital will continue to provide treatment and care for the 300 patients presently at Fontilles, many of whom have been cured of leprosy for decades but are too disabled or too old to leave the Sanatorium and start a new life elsewhere. Following consultation with the health authorities for the region, the association is now to provide residential care for elderly people with disease or disability which is not leprosy related. Major work has been undertaken on the existing buildings and a new residential pavilion has recently been completed. The Sanatorium is situated in extensive grounds overlooking the Mediterranean, where the warm climate and soft sea breeze provide a perfect environment for rest and recuperation.—ilep flash 3 (1993) 4.

Switzerland. *Report of a Meeting on HIV Infection in Leprosy.* The World Health Or-

ganization's published report of this meeting held 1–2 May 1993 in Geneva includes the following Conclusions and Recommendations:

"1. The studies carried out so far on HIV and incidence of leprosy have indicated that there is no convincing evidence for an association between HIV and leprosy. Therefore new, special large-scale studies for this purpose are not warranted. However, occurrence of HIV and leprosy together should continue to be studied through surveillance mechanisms built into ongoing field studies and through well-organized leprosy programs.

"2. Studies on association between HIV and leprosy-related problems, such as relapse, type 1 and type 2 reactions, neuritis, etc., should be encouraged in order to find out whether or not an increased risk for such problems exists for dually infected persons.

"3. Because our knowledge of this immunopathology of leprosy is incomplete, and there is an apparent lack of an effect of HIV-induced immunosuppression on the evolution of leprosy, further research is desirable. Specifically, studies of blood CD4+ T-cell counts, of cellular constituents of lesions, and of blood and lesion cytokines in defined leprosy patients with and without HIV infection, will tell us about the pathogenesis of leprosy. Centers that already perform sophisticated laboratory studies should incorporate HIV+ve patients where feasible. Leprosy control programs can collaborate with national AIDS control programs and obtain measurements of blood CD4 counts in local laboratories.

"4. The management of a case of leprosy, including management of complications in routine leprosy control programs, will continue to be the same, irrespective of the perceived or known HIV status of the individual patient.

"5. The practice of taking a skin smear should continue, following safety precautions (A Guide to Leprosy Control, 2nd edition, WHO, Geneva, 1988). However, the number of examinations and number of sites should be limited to the essential minimum, considering that all skin-piercing methods have the potential risk of transmitting HIV-infection.

"6. Published and unpublished infor-

mation on HIV and leprosy should be periodically reviewed by WHO and the publication of such reviews should be facilitated.”—From the Report.



TDR's new targets and management structure. The UNDP/World Bank/WHO Special Program in Research and Training in Tropical Diseases' (TDR's) research targets, and the appropriate management and decision-making structure to reach those targets, have been thoroughly reviewed during 1992–1993. Proposals made by the Scientific and Technical Advisory Committee (STAC) in March 1993 were accepted by the Joint Coordinating Board (JCB) in June 1993, and will go into effect from 1 January 1994.

As a consequence of this restructuring, TDR will be able to respond more rapidly both to new opportunities in science and to new demands from the field. TDR will also become increasingly pro-active in identifying research targets of critical importance to tropical disease control, and in focusing research on those targets. TDR support of investigator-initiated work will continue, but fewer funds may be available and therefore competition may be greater and more selective.

TDR's new research targets

During the review process, a list of possible research targets for each disease was drawn up. These were then scored and ranked according to six criteria:

- Global need, according to disease burden and the effectiveness of existing control tools to reduce that burden.
- Potential impact on disease of reaching the research target, taking into account the cost-effectiveness, affordability, acceptability, and the expected useful life of the resulting product or solution.
- Scientific opportunity for, and feasibility of, the research required.
- Expected time needed to reach the target.
- TDR's specific ability, compared with other institutions, to reach the target.
- Cost of the work required to reach the target.

Overall, the highest scores in this review of TDR priorities went to topics in applied field research, followed by product research and development and, finally, “strategic research.”*

Wider context

However, it must be stressed the priorities arrived at during the TDR review are specifically TDR's priorities. They should not be taken as a signal for others to follow suit, but must be seen in the context of TDR's mandate, its special capabilities (such as the organization of multicenter field trials), and current budget limitations.

TDR is reducing its effort in certain areas, such as basic and strategic research. However, in order to ensure the continued generation of research leads for product development, TDR hopes that these will remain priorities on the agendas of other organizations working in similar areas. Moreover, TDR's priorities are based on global need; regional and national disease priorities will differ. Therefore, TDR is keen to establish collaborative agreements with other bodies supporting tropical disease research, to partition and share necessary research and development tasks.

New steering committees

In line with the results of its review of priorities described above, TDR's research and development activities will now focus more on product research and development, and on applied field research. The peer review of projects will continue, but under a new steering committee and task force structure. Task forces will be time-limited, highly focused, and will accept proposals only related to closely defined workplans.

TDR's disease-specific R&D steering committees will be phased out and new steering committees established. MACRO-FIL, I-CHEM, IMMYC and THEMYS will remain unchanged. All committees will match and implement TDR's new priority scheme and will introduce a greater degree of flexibility, comparability and interchange

* TDR defines “strategic research” as basic research harnessed to a specific, long-term tropical disease goal, such as blocking the ability of *Anopheles gambiae* to transmit malaria.

among resource lines and projects, across as well as within diseases. Committees will establish time-limited task forces to tackle particular, urgent R&D tasks.

Research and development activities will fall into three main areas: strategic research (SR), product research and development (PRD), and applied field research (AFR).

Strategic research. An advisory group will meet in September 1993 to examine, and make recommendations for, the exact arrangements for the selection and management of strategic research projects. At present, it is envisaged that strategic research will be managed by three steering committees concerned with:

- Malarial mosquitos.—Secretary: B. Dobrokhotov. (covering the present molecular entomology initiative and genetic manipulation of insecticidal bacteria of the existing BCV committee.)
- Protozoa associated with African trypanosomiasis, Chagas disease, leishmaniasis and malaria.—Secretary: F. Modabber. (covering strategic research of the existing TRYPS, CHAGAS, LEISH, CHEMAL and IMMAL committees.)
- Helminths associated with filariasis and schistosomiasis.—Secretary to be appointed. (covering strategic research of the existing FIL and SCHISTO committees.)

Product research and development. Broadly speaking, the Strategic Research Steering Committees will look for new molecules; Product Research and Development Steering Committees will take promising molecules up to and through Phase III trials; and the Product Development Unit will take the best of these through registration and make arrangements for production.

Product research and development will be managed by six new steering committees, focused on downstream work following the discovery of a lead, as follows:

- Drugs for malaria.—Secretary: P. Olliaro. (the more basic and strategic work of the existing CHEMAL steering committee will be covered by the protozoa committee under strategic research, above.)
- Drugs for filarial disease.—Secretary: C. Ginger. (covering the work of the existing MACROFIL.)

- Drugs for African trypanosomiasis, Chagas disease and leishmaniasis.—Secretary: K. Behbehani. (covering the work of the existing I-CHEM.)
- Vaccines against malaria.—Secretary: H. D. Engers. (covering the vaccine product research and development work, including field testing, of the existing IMMAL.)
- Vaccines against schistosomiasis.—Secretary: R. Bergquist. (covering the vaccine product research and development work, including field testing, of the existing SCHISTO.)
- Vaccines against leishmaniasis.—Secretary: F. Modabber. (covering the vaccine product research and development work, including field testing, of the existing LEISH.)

The Product Development Unit (PDU)—Unit Chief: P. Reeve—will continue to manage a few high-priority products proposed by the Steering Committees and recommended by the Product Development Advisory Group to Director, TDR.

The current high-priority PDU products include: diagnostics—malaria drug levels, filariasis, schistosomiasis, and African trypanosomiasis; chemotherapeutics—artemisinin derivatives, the macrofilaricide UMF 078, multidisease therapy (the co-delivery of albendazole and praziquantel for helminth infections); vaccines and biologicals—tumor necrosis factor antagonists and artemether for cerebral malaria in African children, and transmission blocking vaccine for malaria.

Applied field research. Applied field research will be managed by a single steering committee (Secretary: H. Remme) and will encompass activities currently managed by the Social and Economic Research, Epidemiology and Field Research and Applied Field Research in Malaria Steering Committees. Its main activity will be to organize time-limited task force initiatives on specific priority topics. It will also invite investigator-initiated proposals. Applied Field Research activities will be undertaken in close collaboration with WHO Division of Control of Tropical Diseases. The following will be the first AFR Task Forces:

- Gender research, all diseases
Secretary: C. Vlassoff

- School-aged children
Secretary: D. Evans
- Tropical diseases and health financing
Secretary: D. Evans
- Tropical diseases and environment
Secretary: M. Gomes
- Operations research on onchocerciasis
Secretary: H. Remme
- Bednets
Secretary: J. Cattani
- Sick child
Secretary: J. Cattani
- Filariasis field trials
Secretary: C. P. Ramachandran
- Operations research on Chagas disease
Secretary: A. Moncayo
- African trypanosomiasis surveillance
Secretary: F. A. S. Kuzoe
- Leprosy field studies
Secretary: S. K. Noordeen

Investigators are invited to apply to these task forces for workplans and then to propose projects on the basis of these plans.

- Investigator-initiated proposals that clearly fall outside the interests of these task forces may also be submitted directly to the AFR Steering Committee.

Research capability strengthening

Research capability strengthening (RCS) activities will continue to be managed by the Research Strengthening Group, at least for the 1994–1995 biennium. RCS support will be increasingly meshed with ongoing research and development projects in the field (responsible officer: J. Hashmi).

Leprosy

Strategic research and product research and development in leprosy will continue to be managed in collaboration with WHO's Tuberculosis Program and the Program on Vaccine Development, through the two existing mycobacterial steering committees for:

- Immunology: IMMYC
Secretary: P. H. Lambert
- Chemotherapy: THEMYC
Secretary: S. K. Noordeen.

Remainder of the 1992–1993 budget

Seven existing steering committees have meetings planned between July and December 1993. These meetings are empowered

to disburse any funds remaining within the 1992–1993 biennial budget, under present rules and procedures. The committees concerned are: CHEMAL, FIL, MACROFIL, I-CHEM, BCV, SER, and RCS. (MACROFIL and I-CHEM will also continue unaltered under the new structure.)

Renewal of existing projects in 1994 or later

Projects to be renewed in 1994 or later will be considered in the context of TDR's new priorities and structure.

Further information

More detailed research priorities, and immediate and longer-term research needs for each disease, and for SR, PRD, AFR and RCS, are to be described in separate hand-outs now in preparation. These will be available from the address below from October 1993.

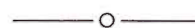
Workplans should be obtained from, and research proposals submitted to, the Steering Committee and Task Force Secretaries responsible (see names above). Further information may be obtained from the newly appointed disease-specific research coordinators (see names below) whose principal responsibilities will be to review the research activities on a specific disease across all three areas (SR, PRD and AFR), to report through this perspective to STAC, and to prepare disease-specific chapters and related material for the biennial Program Report of TDR:

Malaria Research Coordinator
H. D. Engers
Schistosomiasis Research Coordinator
R. Bergquist
Filariasis Research Coordinator
C. P. Ramachandran
African trypanosomiasis Research Coordinator
F. A. S. Kuzoe
Chagas disease Research Coordinator
A. Moncayo
Leishmaniasis Research Coordinator
F. Modabber
Leprosy Research Coordinator
S. K. Noordeen

For further information contact: TDR Communications, World Health Organization, 1211 Geneva 27, Switzerland.—Materials from TDR (TDR/PI/INF/93.1).

U.S.A. Compact Disc of Leprosy Literature 1913–1991. A “Compact Disc of Leprosy Literature 1913–1991” has been prepared by the Leprosy Research Foundation for research in leprosy. Ten years work of collecting, keying in material, and downloading the world’s scientific literature on leprosy has made this possible. Included in this CD-ROM is scientific literature on leprosy, immunity, and nutrition. It has a collection of 41,168 citations from 2874 books and journals; about half of these citations include abstracts, 8148 of the pre-1984 *Tropical Diseases Bulletin* abstracts can be found in no other computer format except on this compact disc of leprosy literature. This CD-ROM is available to any who would like to have it for a consideration of

US\$20.00 to cover postage and handling. Write or FAX Leprosy Research Foundation, 11588 Lawton Court, Loma Linda, California 92354 U.S.A. FAX: (909) 824-1361.—Materials received from Ray Foster.



Leprosy in the United States. Final data from the Centers for Disease Control for 1992 report a total of 172 new leprosy patients. Texas reported 52 cases followed by California with 50 cases, 19 from Hawaii, 15 from New York City, and 14 from the state of Washington.—MMWR 42 (1993) 536, 538, 542.