



# NEWSLETTER

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ASP - Newsletter

## VITA



Dr. Maria Correa-Freire  
ASP Congressional Fellow  
1984-85

Dr. Maria C. Correa-Freire was selected the 1984-85 Congressional Science Fellow by our Society and the Biophysical Society. Dr. Correa-Freire was born on April 24, 1954 in Lima, Peru. She obtained her B.S. degree at the Universidad Peruana Cayetano Heredia in 1975 and came to this country as a Fulbright Fellow that same year. In 1981 she obtained her Ph.D. in Biophysics at the University of Virginia. Her research dealt with the physicochemical characterization of glucocerebroside and other glycolipids and their interaction and model membrane systems. This work was performed under the supervision of Dr. Thomas E. Thompson and employed fluorescence as well as calorimetric techniques. During this time Dr. Correa-Freire was invited for a period of three months to work at the Hadassah Medical School of the Hebrew University in Jerusalem where she studied the chemical synthesis of fluorescent glycolipids. After graduation, she was selected as an NIH Postdoctoral Trainee at the Department of Microbiology at the University of Virginia where she pursued studies on the introduction of histocompatibility antigens into cellular membranes in order to create model target membranes to study Cytotoxic T Lymphocytes (CTL) recognition and lysis. In 1982, Dr. Correa-Freire moved to the University of Tennessee where she continued her immunological studies. Her main focus was to generate

carriers (liposomes) containing Herpes Simplex Virus glycoproteins to elicit cell-mediated immune responses in vivo. In 1983 she was appointed Research Assistant Professor in the Department of Biochemistry at the University of Tennessee. Dr. Correa-Freire has authored over fifteen scientific publications. She has chosen to broaden her background as a Congressional Science Fellow where she will obtain first hand experience in the legislative process. She has decided to work as legislative assistant to Congressman Norman Y. Mineta (13th District, California). Congressman Mineta has proven to be an excellent choice for her; he is a Deputy Whip, a member of the Science and Technology Committee of the House and is one of the members of the newly formed Science Policy Task force which will be reviewing and formulating scientific policy during the 99th Congress.

## Course - The Design of Optical Systems -- March 25-29, 1985

Course Objective - An optical system is an assembly of elements used as light sources and detectors, lenses, mirrors, prisms, aperture stops, and fiber optics, any of which are used in succession to achieve some particular purpose. The system may involve the eye, a photographic or photoelectric receiver, or the final image may be projected on a screen.

The aim of the course is to give the engineer involved in optics a useful degree of familiarity with these optical elements so that he or she may lay out a system to perform a given task. No attempt is made to teach lens design, but the engineer should know what is or is not possible, and how to proceed with a practical layout. Discussion of aberrations, practical limitations, and tolerances is included. Modern Optical Engineering is the text and will be used as notes. Fee:\$850. Department of Engineering & Applied Science, University of Wisconsin - Extension. Registration, The Wisconsin Center, 702 Langdon St., Madison, WI 53706. Or call 800-262-6243, ask for engineering Registration.

\*NOTE: Under the stress of ever-increasing technological breakthroughs, the editor's university has switched to an in-house phone system. My new numbers are (502) 745-6005/5991. After three rings the call (theoretically) reverts to the department office. Please keep trying. Remember that I will return your call if you leave your name and phone number. As with all improvements, this one is not working well at present, but promises are being made.

## Congressional Corner - Maria Correa-Freire

The months between the end of a Congress and the beginning of the next are traditionally "slow" months in Capitol Hill. Although this year has not been an exception, a number of developments have made these months of particular interest for scientists. Earlier this year Representative Don Fuqua established the eighteen member Science Policy Task Force. "The purpose of the Task Force", Fuqua stated, "... is to do some serious thinking about what a Congressional study of science policy should cover." It is expected that the Committee on Science and Technology will undertake a comprehensive review of national science policy during the 99th Congress. In order to ready itself for the task, Rep. Fuqua, the Science Policy Task Force and the Science and Technology Committee, which Fuqua chairs, have produced a report which will be made public in the next few weeks. The questions and issues which this report addresses are of the utmost relevance and importance to the scientific community and range from establishing the goals and objectives of National Science Policy to the adequacy of funding levels for research and graduate education in Universities to the role of industry in basic and applied research. Perhaps one of the most controversial areas which Congress will look into is the regulatory environment for scientific research. On its Agenda for a Study of U.S. Science Policy the report of the Task Force states: "In various ways societal values and concerns have led to the regulation of scientific research. Concerns about safety have led to the regulation of research on certain diseases and on DNA; social values have led to the regulation of fetal research involving human subjects; and national security concerns have produced an intense debate about the regulation of publication and dissemination of research results. How should the future regulatory environment for science be shaped in order to obtain all the benefits from science while still responding to the need of science for the avoidance of the ill effects arising from regulation?" These questions, along with the many listed in the extensive agenda will be the subject of much interest and debate when the 99th Congress convenes.

Along similar lines, the House Committee on Energy and Commerce had keen interest on the subject of Biotechnology, particularly the regulatory aspects, and has started a series of hearings on the subject. The first hearing was held on November 12th and dealt primarily with a definition of the problem from its most fundamental aspect: trying to arrive at a language which all parties involved (industry, academia, government) would agree on. Although this might appear a trivial task, language and definitions are crucial for determining the legal aspects. For example, what agency has oversight or regulatory capacity over a bioengineered organism? Is "organism" defined as unicellular or multicellular, and is there a difference in regulation depending on the method used for mutagenesis, etc? Of concern to legislators is the fact that there is no single set of regulations, and in many cases there are no laws governing the new field of Biotechnology. There is great constituent and industrial pressure to arrive at a set of regulations which will protect and preserve the environment and the health of individuals while keeping the U.S. in the forefront of the field. The example of High Tech industry, which was assumed clean only to yield, in several instances, contaminated water supplies, has not helped to appease fears. Indeed, although biotechnology companies voluntarily comply by NIH guidelines for their DNA work, they are not compelled by law to do so and it would be for both the public and private benefit to have standards by which to abide. It is this gap that Congress will be addressing during future hearings.

### Other Courses

LASERS, MICROWAVES, ULTRAVIOLET, MAGNETIC FIELDS AND ULTRASOUND: Biophysical and Biological Basis, Applications, and Hazards in Medicine and Industry. University of Stirling, Stirling, Scotland, June 10-14, 1985. The course will emphasize practical considerations in safe and effective use of these modalities in Medical and Industrial practice, e.g. methods and instrumentation for power measurement, calibration, dosimetry, compliance with National and State regulations, etc.

The course will be taught by Professor P.P. Lele, professor of experimental medicine in the Massachusetts Institute of Technology Department of Mechanical Engineering. The deadline for applications is April 15, 1985. For further information write to: Director of the Summer Session, M.I.T., Room E19-356, Cambridge, MA 02139.

### 1985 Request for Proposals

The Lighting Research Institute, Inc. (LRI), a not-for-profit organization formed in 1982 to promote and sponsor basic and applied research and development in North America for all forms of lighting is making its annual request for proposals based on its research agenda. Proposals are being sought for the following research areas with an emphasis on those areas which have direct human application:

PHOTOBIOLOGY - to determine the possible effects of illuminations on human health for:

1. Systemic effects, through the eyes, of the visible component of the spectral power

- distribution of illuminants, such as neuroendocrine effects, and biological rhythms.
2. Systemic effects through the skin, such as ultraviolet induction of skin cancer and immunological effects.
  3. Direct physical-chemical hazards such as retinal degradation, and cataract induction.

VISION - to determine the relationship between light and vision for use in the design of the lighted environment to aid in providing adequate and comfortable conditions for seeing by conducting research toward:

1. Prediction of color appearance and color discrimination.
2. Visual Performance (perception, visibility, and dynamic, e.g. transient adaptation).
3. Cross-cutting areas (color preference, discomfort glare).

SYSTEMS APPLICATION - Engineering, Physical Sciences, and Economic Research on Lighting Systems to formulate and verify:

1. Models of Light
2. Models of Lighting Systems
3. Measurement, Test, Evaluation and Design Methods.

PSYCHOLOGY - to investigate human responses and behavior in real environments by conducting studies of:

1. How the distribution of luminances and color affects human feelings, mood, behavior, fatigue, and productivity.
2. Psychological/aesthetic reaction to street and highway lighting encompassing discomfort glare, safety and fatigue.

OTHER AREAS OF TARGETED RESEARCH - such as, effects of lighting on productivity, interaction of lighting and Visual Display Units. A list of specific topics (related to these areas) will be furnished upon request.

Criteria for selection of proposals for funding will be based on scientific and technical merit, and also on: appropriateness for funding by LRI based on the research agenda; timing - both long and short term will be sponsored with an initial leaning given to short term, risk; and significance of the research based on criteria for a given research area (e.g., health consideration for photobiology).

The deadline for receipt of proposals is July 15, 1985. For a copy of the Institute's Research Agenda, Proposals Application, and further information, please contact: Richard L. Vincent, Program Manager, Lighting Research Institute, 345 East 47th Street, New York, N.Y. 10017, (212) 705-7918.

#### From the Editor - Photochemistry & Photobiology

Editorial Associate Pat Parham Morgan has resigned her job after ten years with the journal. The new Editorial Associate is Trudy Trugello



Editor - Pill Soon Song presenting "Certificate of Appreciation" to departing Editorial Associate Pat Parham Morgan

#### New Books

Current Topics in Plant Biochemistry and Physiology. 1984. Volume 3. Proceedings of the Third Annual Symposium held at the University of Missouri-Columbia, April 4-6, 1984. D.D. Randall, D.G. Blevins, R.L. Larson, and B.J. Rapp, eds. \$12.00. Topics include: Leaf and seed storage proteins; membrane composition and function, mitochondrial DNA and genome; arsenic and new lace; and preparing

today's graduate students for careers in tomorrow's plant science. To order, contact: Dr. Douglas D. Randal, 322 A Chemistry Building, Department of Biochemistry, University of Missouri, Columbia, MO 65211

European Solar Radiation Atlas. Prepared and edited by the Commission of the European Communities in cooperation with the national meteorological offices. Published by Verlag TUV Rheinland, Cologne, F.R. Germany. Distributed by S.I.C., Brussels, Belgium. \$47.00. 1984, format DIN A4, two volumes sold together. Available in English, French or German.

Volume I: Solar irradiation on the horizontal surface. Data for each month and the year. Area covered: geographical Europe and a part of the Middle East, 27 countries in total. Statistical analyses. 300 pages, 26 maps in color, 340 main tables, 96 analytical tables and 16 diagrams, introductory text.

Volume II: Solar irradiation on the vertical and various inclined surfaces, irradiation transmitted through windows. Data for each month and the year. Area covered: geographical Europe, 19 countries, 328 pages, 78 maps in color, 714 tables, introductory text.

Order from: S.I.C., av. de la Toison d'Or 60c, boîte 10, B-1060 Brussels.

Meetings - 1985

June 4-8 Fourth Conversation in the Discipline - Biomolecular Stereodynamics, State University of New York at Albany. Director - Ramaswamy H. Sarma 518-457-8592. Thruway House, 1375 Washington Avenue, Albany, New York 12206.

June 17-19 The Third U.S. Conference on Photovoltaic Applications. Massachusetts Institute of Technology, Cambridge, Massachusetts. Correspondence: New England Solar Energy Association, P.O. Box 778, Brattleboro, Vermont 05301, (802)-254-2386.

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June 23-27 American Society for Photobiology - 13th Annual Scientific Meeting. The Monteleone Hotel New Orleans, LA

Symposia: (1) Light-Harvesting and Energy Transfer in Photosynthetic Membranes, organized by Richard Malkin, dedicated to Warren Butler; (2) Structure and Function of Bacterial Reaction Centers, organized by Mel Okamura; (3) Phytochrome: A Key Environmental Photodetector in Plants, organized by Winslow Briggs, dedicated to Warren Butler; (4) The Rhodopsins I & II, organized by Laura Eisenstein; (5) Near UV Radiation Induced Damage: DNA and Membranes, organized by Stephen Moss; (6) Repair of DNA Photoproducts in Mammalian Cells, organized by Jim Cleaver; (7) The Mechanism of Photosensitization, organized by George Truscott; (8) Cutaneous Responses to UVA, organized by Fred Urbach; (9) Luminescence in Biological Systems, organized by Shiao-Chun Tu; (10) Photosensory Transduction in Microorganisms and Plants, organized by Mary Ella Feinleib; (11) Photomedicine: Cancer, Immunology, Photomolecular Events and a New Therapy, organized by John Epstein and Madhu Pathak

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