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<th>Page</th>
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<td>Bosch, Antonio</td>
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<td>Brown, Raymond Allen</td>
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<td>Brown Campos, Richard</td>
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<td>Radioecology, Jobos Bay, Site Selection Study</td>
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<td>Castrillon, Jose P. A.</td>
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<td>Tropical Agro-Sciences</td>
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<td>Chiriboga, Jorge</td>
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<td>Clements, Richard G.</td>
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<td>Colón, Julio I.</td>
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<td>Cuevas de Colón, Elvira</td>
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<td>de León-Dancel, Delfín</td>
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<td>Deshpande, S. N.</td>
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<td>Dietrich Ormachea, René</td>
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<td>Ferguson, Frederick F.</td>
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<td>Ferrer-Monge, Jose A.</td>
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<td>Gileadi, Aviva E.</td>
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<td>Gileadi, Michael</td>
<td>Health &amp; Safety, Joint Radiation Survey</td>
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<td>Gonzalo-Gonzalez, Julio A.</td>
<td>Nuclear Science</td>
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<td>Kay, Mortimer I.</td>
<td>Nuclear Science, Neutron Diffraction</td>
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<td>Kolehmainen, Seppo E.</td>
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<td>Koo, Francis K. S.</td>
<td>Tropical Agro-Sciences</td>
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  - Director
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  - Associate Director for Mayagüez Operations
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- **Víctor A. Marcial, M.D.**
  - Associate Director for Environmental Programs
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  - Associate Director for Medical Programs
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- **Frank G. Lowman**
  - Head
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- **Arthur McB. Block**
  - Terrestrial Ecology
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- **Michael J. Canoy**
  - Director, Jobos Bay, Site Selection Study
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- **Richard G. Clements**
  - Director, Terrestrial Ecology
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- **Elvira Cuevas de Colón**
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- **Alejo Estrada Pinto**
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  - Director, Marine Biology
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- **F. Douglas Martin**
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- **Stephen G. Martin**
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- **Tin Mo**
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## Medical Sciences and Radiobiology Division
- **F. F. Ferguson**
  - Acting Head
  - Page: 35
- **Raymond A. Brown**
  - Director, Schistosomiasis
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- **Jorge Chiriboga, M.D.**
  - Director, Fascioliasis
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- **Julio I. Colón**
  - Director, Virology
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  - Electron Microscopy
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  - Microbiology
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## Clinical Radioisotope Applications Division
- **Aldo E. Lanaro, M.D.**
  - Head
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- **René Dietrich, M.D.**
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Information and Education Services Division
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CURRICULUM VITAE

PERSONAL

NAME : Eugene Theodore Agard

DATE OF BIRTH : August 15, 1932

MARITAL STATUS : Married

PLACE OF BIRTH : Barbados

NO. OF CHILDREN : Four (4)

EDUCATION

INSTITUTION

U. C. W. I.-London
University of London
(The Middlesex Hospital)
University of Toronto

DEGREE

B.Sc. (1st.Class)
M. Sc.
Ph.D.

SUBJECTS

Maths., Physics
Physics
Physics

YEAR

1957
1958
1970

PROFESSIONAL EXPERIENCE

POSITION

Teacher
Asst. Physicist
Lecturer (Asst.Prof.)
Scientist II

INSTITUTION

Harrison College (Barbados)
Mass. Gen. Hospital (U.S.A.)
University of W. I. (T'dad)
Puerto Rico Nuclear Center

DATES

Sept. 1952-Aug. 1954
Nov. 1963-June 1972*
July 1972- Present

* On Fellowship Leave from October 1967 to September 1970.

PUBLICATIONS

Approximately 10 to date.

ADDITIONAL DATA


This work was done in the Department of Physics Applied to Medicine, at the Middlesex Hospital Medical School, London, England.
ADDITIONAL DATA (Cont.)

Ph. D. Thesis: "In Vivo Neutron Activation Analysis and Associated Dosimetry".

Most of the research work was done at the Toronto General Hospital.

B. Membership in Professional Societies:

1. Health Physics Society


D. Staff Representative on Senate, University of The West Indies, (October 1971-June 1972).
Name: Rafael Arce Quintero

Age: 28 (July 21, 1944), Height 5'0", weight 175 pounds

Marital status: Married, one child

Address: 435 Mizar, Urb. Dos Pinos, Río Piedras, 00923

Educational Background:

High School: University of Puerto Rico High School, Río Piedras, (1961)

University of Puerto Rico, Río Piedras, Puerto Rico
B.S. degree, (1965), Major: Chemistry; Minor: Physics

University of Wisconsin, Madison, Wisconsin
Ph.D. degree (1971), Major: Physical Chemistry; Minor: Physics
Ph.D. thesis and training: Photochemistry and Radiation Chemistry

Work Experience

1968-1969: Teaching Assistant for the laboratory course of undergraduate
Physical Chemistry at the University of Wisconsin

1971-1973: Assistant Professor at the Department of Chemistry of the
University of Puerto Rico, Río Piedras

Courses taught:

a) Chemistry 101-102 - general chemistry for sophomore
b) Chemistry 363-364 - Physical Chemistry
c) Chemistry 365-366 - Intermediate laboratory of Physical Chemistry

1971-1973: Scientist II at the Puerto Rico Nuclear Center in the Gamma-
Radiolysis project, research and teaching

Honors and Societies:

Sigma Xi Scientific Society
American Chemical Society
Graduate studies entirely financed by the scholarship program of the
Economic Development Administration of Puerto Rico
Honor registration at the University of Puerto Rico
Rafael Arce-Quintero (curriculum vitae)

Publications:

1) R. Arce, Ph.D. Thesis, University Microfilms, Michigan

Interests:

1) Teaching at the college level, working with students
2) Active in sports (basketball, baseball)
3) Rock and stamp collection
4) Research interests:
   a) Photochemistry of heterocyclics at 77°K in rigid glasses. Purpose of identifying intermediate species, triplet state quantum yields, triplet-triplet extinction coefficients
   b) Photochemistry of di-tertbutylperoxide in alkanes, alcohols, alkyl halides at different temperatures.
   c) Photochemistry of halogens in organic glasses with interests in the halogen disappearance quantum yield, radical yield, radicals produced, products yields. Relationship between liquid and gas phase photohalogenations and solid state photohalogenations
   d) Diffusion controlled radical reactions; reactions of radicals produced by gamma irradiation with small molecules like oxygen, bormine, chlorine as a way to determine diffusion properties of these molecules in organic glasses.
   e) Mercury photosensitization

3-26-1973
ARTHUR MCBRIDE BLOC

Social Security Number - 143-30-5543

Address - 1754 Pafos St., Venus Gardens, Rio Piedras, Puerto Rico

Place and date of birth - Newark, N.J.; June 26, 1938

Education and degrees

High School - Newark Academy, Newark, N.J.: Diploma 1956

College - Cornell University, Ithaca, N.Y.; A.B.; Major in Chemistry and Physics 1961

Post-graduate - Rutgers University, New Brunswick, N.J.; Ph.D.; Major in Physical Chemistry 1967

Thesis - "Laser Light Scattering from Spheres in Water Suspension"

Professional Experience

1961 - 67 Instructor, Analytical Chemistry and Basic (1st year) Chemistry, Rutgers University, New Brunswick, N.J.


1967 Lecturer, University of Puerto Rico, Rio Piedras, Puerto Rico.

1968 Assistant Professor, University of Puerto Rico, Rio Piedras, P.R.

1967 - 72 Scientist - Ad Honorem, Puerto Rico Nuclear Center, Caparra Heights Station, San Juan, Puerto Rico.


Professional Associations and Societies

Colgate-Palmolive Fellow, 1963-64
Sigma Xi Society, New Brunswick Chapter
Associate Member 1965
Member 1972
San Juan Area Club Councillor - 1971
American Chemical Society, 1970
Optical Society of America, 1971
Association of Southeastern Biologists, 1973
Primary Teaching Interests:

Experimental Sciences, Mathematical Sciences, History of Science.

Primary Research Interests

Applications of light-scattering in the characterization of bio-physical systems.

Chemical analysis of eco-systems.

Toxicity and Chemical treatment of non-biodegradable compounds.

Theoretical description of ground state properties of biologically active molecules.

Student Instruction

Courses taught: Basic Chemistry (1st. year), Analytical Chemistry, Physical Chemistry, Instrumental Analysis.

Committees: Academic Affairs (Dept. of Chemistry, U.P.R.), Graduate Student Association (Chemistry Department Representative 1964-1966, Rutgers University), Graduate Admissions (Department of Chemistry, U.P.R.).

Proposals and Funding from Government and non-Government Sources:


Department of Housing, Commonwealth of Puerto Rico: Electronic Components (Surplus) Estimated value: $10-12,000, 1969.

"Radioactivity Incorporation and Amino Acid Content of Glycogen Phosphorylase Enzyme", Submitted to AEC. Approved, Unfunded 1968 - 69.

"Amino Acid Composition and Structure of Active and Allosteric Sites of Glycogen Phosphorylase Isolated from the Muscles and Blue Crabs (Callinectes danae)", NIH, Approved, Unfunded 1971.


"Equipment for a Photochemical Experiment in Intermediate Laboratory Course (Physical Chemistry). (University of Puerto Rico)". HEW, Approved, Approximately $5,000 granted. 1972.

Publications

Approximately 15 to date.
CURRICULUM VITAE

ANTONIO BOSCH, M.D.

Born

Malaga, Spain - June 7, 1930 - U. S. Citizen 1964

Field

Radiotherapy and Cancer

Education

B.S. (premedical) Academia Hispano-Mexicana, México, D.F. 1948
M.D. Universidad Autónoma de México 1955

Certifications

Diplomate American Board of Radiology (Radiotherapy) 1963
Puerto Rico Board of Medical Examiners 1964

Specialty Training

Ciba Laboratory Fellowship for Clinical Cancer Research 1955-56
Fellow in Gynecologic Cancer, Women's Hospital, México City 1955-56
Internship, Elmhurst General Hospital, New York 1956-57
Resident in Malignant Diseases, American Oncologic Hospital, Philadelphia, Pa. 1957-59
Residency in Radiation Therapy, Roswell Park Memorial Institute, Buffalo, N. Y. 1959-60
Residency in Radiation Therapy, I. González Martínez Oncologic Hospital, San Juan, Puerto Rico 1960-61
Research Assistant, Radiotherapy and Cancer Division, Puerto Rico Nuclear Center, San Juan, Puerto Rico 1961-63

Experience

Junior Attending in Radiation Therapy, I. González Martínez Oncologic Hospital, San Juan, Puerto Rico 1961-63

Associate in Radiation Therapy, University of Puerto Rico School of Medicine, San Juan, Puerto Rico 1962-64

Assistant Professor in Radiation Therapy, University of Puerto Rico School of Medicine, San Juan, Puerto Rico 1964-68

Chief Scientist I, Puerto Rico Nuclear Center, San Juan, Puerto Rico 1963 to date

Attending in Radiotherapy, I. González Martínez Oncologic Hospital, San Juan, Puerto Rico 1963-73

Associate Professor in Radiation Therapy, University of Puerto Rico School of Medicine, San Juan, Puerto Rico 1968 to date
Publications

Approximately 20 to date
CURRICULUM VITAE

Raymond Allen Brown  
Pine Grove Condominium Apt. 45 C  
Isla Verde, Puerto Rico

PERSONAL:  
Born, New York, December 27, 1919  
Married, two children

EDUCATION:  
Wagner Lutheran College, Staten Island New York  
B. S. Chemistry, 1941

California Institute of Technology, Pasadena, California  
M.S. Physical Chemistry, 1947  
Advisor - Prof. E. H. Swift

Ph. D. Physical Chemistry of Proteins, 1949  
Minor, Physics  
Advisor - Prof. J. G. Kirkwood

SOCIETIES:  
Fellow, New York Academy of Science  
Member of Sigma Xi

EXPERIENCE:  
1949  1951  

1951  1957  
Lederle Lab., Physical Biochem. research

1957  1958  
Venezuela Institute., Visiting Scientist

1958  1963  
Wistar Institute, Philadelphia, Associate Member

1963  1968 (Dec. 31)  
Biological Division, Oak Ridge National Labs.,  
Immunology

1968 to date  
Chief Scientist II - PRNC

CURRENT INTERESTS:  
Molecular Studies in Immunology & Physical Biochemistry

PUBLICATIONS:  
Approximately 54
CURRICULUM VITAE

Full Name: Richard Brown Campos

Place and Date of Birth: Ponce, Puerto Rico, 10/26/30

Civil Status: Married

Home Address: Cruz Maria Street
Bellas Lomas
Mayaguez, Puerto Rico 00708

Educational Background:
B.S. (Mechanical Engineering) University of Puerto Rico 1953
M.S. (Nuclear Technology) University of Puerto Rico 1962
Radioisotopes Techniques Course Oak Ridge INS 1957
Reactor Supervisor Training Course, Oak Ridge National Laboratories 1958-59
Nuclear Power Reactor Safety, M.I.T. 1973 (Summer)

Professional Experience:

<table>
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<tr>
<th>Institution</th>
<th>Position Held</th>
<th>Year</th>
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<tbody>
<tr>
<td>Commonwealth Oil Refining</td>
<td>Field Engineer</td>
<td>1955</td>
</tr>
<tr>
<td>Ponce Cement Corporation</td>
<td>Field Engineer</td>
<td>1955</td>
</tr>
<tr>
<td>University of Puerto Rico, Mayaguez</td>
<td>Instructor, Department of Physics</td>
<td>1955-58</td>
</tr>
<tr>
<td>Puerto Rico Nuclear Center</td>
<td>Research Assistant, Research Associate, Scientist II, Head, Reactor Division</td>
<td>1958-</td>
</tr>
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Research Activities:
Gamma Ray Dosimetry
Reactor Kinetics
Reactor Instrumentation

Memberships:
Colegio de Ingenieros, Arquitectos y Agrimensores de P.R.
Sociedad de Ingenieros Mecánicos de P.R.
Health Physics Society

Licenses: Puerto Rico Licensed Engineer #2874
MICHAEL JOHN CANOY
Curriculum Vitae

PRESENT ADDRESS: Home
RR 185-F Calle Juanita
Bellas Lomas
Mayaguez, P. R. 00708

Work
Radioecology Division
Puerto Rico Nuclear Center
Mayaguez, P. R. 00708

BIRTHPLACE: Ada, Oklahoma

BIRTH DATE: August 5, 1939

MARRIED: 1960

Wife's Name: Kirsten (Christensen) Canoy. (Birthplace: Denmark)

Children's Names and Ages: Eva Marie Canoy, 12 years
Michelle Jenee Canoy, 6 years

EDUCATIONAL HISTORY: (See attached sheet for details)

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<tr>
<th>Institution</th>
<th>Location</th>
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<tbody>
<tr>
<td>Harding College</td>
<td>Searcy, Arkansas</td>
<td>1956-60</td>
<td>A.B.</td>
<td>English-Psychology</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Zoology-Chemistry</td>
</tr>
<tr>
<td>University of Denver</td>
<td>Denver, Colorado</td>
<td>1960</td>
<td>------</td>
<td>Psychology</td>
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<tr>
<td>Harding College</td>
<td></td>
<td>1961-62</td>
<td>MAT</td>
<td>Counseling-Education</td>
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<tr>
<td>Michigan State University</td>
<td>East Lansing, Michigan</td>
<td>1962</td>
<td>------</td>
<td>Psychometrics</td>
</tr>
<tr>
<td>University of Texas</td>
<td>Austin, Texas</td>
<td>1964-68</td>
<td>------</td>
<td>Zoology</td>
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<tr>
<td>University of North Carolina</td>
<td>Chapel Hill, North Carolina</td>
<td>1968-70</td>
<td>Doctorate</td>
<td>Zoology 1972</td>
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Dissertation: DNA in Ecological Systems. (Supervisor: Dr. H. T. Odum)
<table>
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<tr>
<th>Date</th>
<th>Title</th>
<th>Employer</th>
<th>Description</th>
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<tbody>
<tr>
<td>1959-60</td>
<td>Free-lance Writer, Photographer</td>
<td>Self</td>
<td>Writing copy and furnishing photos for news, adventure, and historical articles.</td>
</tr>
<tr>
<td>1960-61</td>
<td>Photo Lab Technician</td>
<td>Workman Studio</td>
<td>Commercial photo laboratory technician handling industrial, USDA and NASA accounts.</td>
</tr>
<tr>
<td>1961-62</td>
<td>Psychometric Assistant</td>
<td>Harding College</td>
<td>Administration, scoring, and statistical analysis of college entrance and placement tests.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Searcy, Arkansas</td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td>Guidance Counselor</td>
<td>Albion Public Sch.</td>
<td>Administer psychological tests and offer personal and curricular counseling to high school students.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Albion, Michigan</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>Audio-visual Technician</td>
<td>Harding College</td>
<td>Operation of AV equipment, make or edit filmstrips, tapes, movies for educational purposes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Searcy, Arkansas</td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>Teaching Assistant</td>
<td>University of Texas</td>
<td>Laboratory instruction in summer courses in Human Anatomy and Physiology.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Austin, Texas</td>
<td></td>
</tr>
<tr>
<td>1965-66</td>
<td>Laboratory Technician</td>
<td>University of Texas</td>
<td>Biomedical engineering in experimental design for flash blindness studies with lasers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Austin, Texas</td>
<td>Developed EHG detection and analysis equipment, used Computer of Average Transients, helium, argon, and ruby lasers.</td>
</tr>
<tr>
<td>1966-67</td>
<td>Consulting Psychometrist</td>
<td>Self</td>
<td>Developed private firm for contract work with the Office of Economic Opportunity for the administration and analysis of multi-lingual and &quot;culture free&quot; psychological tests.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Austin, Texas</td>
<td></td>
</tr>
<tr>
<td>1967-68</td>
<td>Teaching Assistant</td>
<td>University of Texas</td>
<td>Teaching laboratory sections of Human Anatomy and Physiology</td>
</tr>
<tr>
<td></td>
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<td>Austin, Texas</td>
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<tr>
<td>1968</td>
<td>Teaching Assistant</td>
<td>University of N.C.</td>
<td>Teach laboratory sections of Basic Zoology.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapel Hill, N.C.</td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>Project Director,</td>
<td>Puerto Rico</td>
<td>Supervise a before-after environmental study of a bay where a power plant is under construction.</td>
</tr>
<tr>
<td></td>
<td>Jobos Project</td>
<td>Nuclear Center</td>
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<td></td>
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<td>Mayaguez, P.R.</td>
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### VOCATIONAL EXPERIENCE (cont'd)

<table>
<thead>
<tr>
<th>Date</th>
<th>Title</th>
<th>Employer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>Project Director, Jobos Proj.</td>
<td>Puerto Rico Nuclear Center, Mayaguez, P.R.</td>
<td>Supervise a before-after environmental study of a bay where a power plant is under construction. Supervise an ecological study of a thermally altered bay.</td>
</tr>
<tr>
<td></td>
<td>Guayanilla Project</td>
<td></td>
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<tr>
<td>1972-73</td>
<td>Project Director, Jobos Proj.</td>
<td></td>
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<tr>
<td></td>
<td>Guayanilla Project</td>
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<tr>
<td></td>
<td>Site Selection Survey Project</td>
<td></td>
<td>Environmental survey of potential power plant sites.</td>
</tr>
</tbody>
</table>

### PUBLICATIONS

Approximately 9 to date.
RESUME

Name: José P.A. Castrillón

Citizenship: Argentine

Date and Place of Birth: January 4, 1926, Buenos Aires, Argentina

Marital status: married; 2 sons

Social Security Number: 583-07-0424

Experience:

1950 - Ph.D. University of Buenos Aires, Argentina
Thesis title: "The alkaloids of Argentine cacti: trichocereus candidans and trichocereus terschekii"

1950-52 - Research Laboratories of Atanor S.A.M., Munro, Argentina

1963-5 - Research Laboratories of Squibb S.A., Argentina

1956-64 - Organic Chemistry Laboratory of the Argentine Atomic Energy Commission

1960-1 - Fellowship of the Argentine Council, University of Colorado
under Professor Bert M. Tolbert

1964 - Associate Scientist I. Puerto Rico Nuclear Center.

1967 till present - Associate Scientist II. Puerto Rico Nuclear Center,
Professor of Radiochemistry (ad honorem) University
of Puerto Rico.

1971-2 - One year leave at the University of Asunción, Paraguay
as Professor of Organic Chemistry on an Organization of
the American States Program.

1972 - Acting Head, Physical Sciences Division.

Publications

Approximately 18 publications to date.
CURRICULUM VITAE

Arturo Cedeno Maldonado
Scientist I, Tropical Agro-Sciences Division, PRWC
Assistant Horticulturist, Agricultural Experiment Station, UPR
Assistant Professor, Department of Horticulture, UPR

Education and Experience

1963 - B.S. (Agriculture) University of Puerto Rico, Mayaguez
1966 - M.S. (Plant Science) University of California, Riverside
1973 - Ph.D. (Plant Physiology) University of California, Riverside
1963-66 Research Assistant, Agricultural Experiment Station, UPR, Mayaguez
1966 to present, Assistant Horticulturist, Agricultural Experiment Station (UPR), Mayaguez
1973 Scientist I, Puerto Rico Nuclear Center, Mayaguez
1973 Assistant Professor, UPR, Mayaguez

Publications

Four papers were published.
CURRICULUM VITAE

JORGE CHIRIBOGA M.D.

1. Field - Biochemistry, Pathology

2. Senior Scientist II & Director of the Fasciola hepatica Program

3. Degrees:
   1925-1931 German School of Lima, Perú - Diploma
   1931-1936 High School - Anglo Peruvian Schools, Lima, Perú - Diploma
   1938-1941 University of San Marcos, School of Sciences, Lima, Perú
   1945 University of San Marcos, School of Medicine - B.M.
   1948 University of San Marcos, School of Medicine - M.D.

4. Experience:
   1942-1945 Instructor in Pathology - School of Medicine, Lima, Perú
   1945-1948 Research Associate Public Health Ministry, Lima, Perú
   1949-1951 Fellowship de la Comision de Cultura de la República, Argentina
   1952-1953 Fellowship of Biochemical Institute (Professor Luis F. Leloir) Buenos Aires, Argentina
   1954-1957 Head of the Department of Biochemistry - School of Agriculture, La Molina, Lima, Perú
   1956-1957 Head of the graduate program - School of Agriculture, La Molina, Lima, Perú
   1957-1959 Dean, School of Medicine, Arequipa, Perú
   1957-1959 Head of the Department of Biochemistry, School of Medicine, Arequipa, Perú
   1959-1966 Associate Professor - University of Tennessee Atomic Energy Commission Agricultural Research Laboratory, Oak Ridge, Tennessee.
   1966-present Assistant Director for Scientific Programs, Puerto Rico Nuclear Center, and Professor of Biochemistry, School of Medicine, University of Puerto Rico.

Publications: Has about 100 publications.
CURRICULUM VITAE

Name: Richard G. Clements

Address: Santa Rosa St. #125, Urb. Romaní, Rio Piedras, Puerto Rico

Vita:

Birth: April 28, 1931, Indianapolis, Indiana
Physical: height, 5'10", weight, 155 lbs; health, no defects
Status: married, four children, military classification, 4A

Position: Director, Terrestrial Ecology and Senior Scientist I, Puerto Rico Nuclear Center, Rio Piedras, Puerto Rico.

Degrees: B.S. - 1956 Purdue University
Major: Agronomy (soils), Minor: Botany, Chemistry, Geology
Ph.D. - 1966 University of Georgia
Major: Agronomy; Minor: Botany, Biochemistry

Experience:


1958 - 1961 Quality Control - Head, Quality Control Department, Honduras Division of Standard Fruit & Steamship Co., La Ceiba, Honduras. Supervision of Division handling procedures from harvesting through loading operations at the Port. Development of new and improved methods of handling bananas.

1961 - 1963 Agronomist, Department of Tropical Research, Standard Fruit & Steamship Co., La Ceiba, Honduras. Introduction and screening of annual oil crops as a potential source of vegetable oil for La Fabrica de Manteca y Jabón, S.A., a subsidiary of Standard Fruit & Steamship Co. Project leader of experimental pineapple program dealing with the introduction of Hawaiian varieties, planting, fertilization and growth hormone studies.

1963 - 1966 Research Assistant, Department of Agronomy, University of Georgia. Studies of the effect of fertilization, clipping frequency, and moisture levels on the soil temperature regime under a Coastal Bermudagrass sod, under the direction of Dr. R.A. McCreery.

1966 - 1968 Research Associate, Institute of Ecology, University of Georgia. Field Director of the Terrestrial Ecology Program in Panama and Colombia in conjunction with the Interocceanic Canal Studies.
1968 - 1969  Research Associate, Institute of Ecology. Project Coordinator and one of Principal Investigators of a NSF Grant to study the "Productivity and Mineral Cycling on Natural and Manipulated Watersheds at Coweeta, North Carolina".

1969  Director, Terrestrial Ecology and Senior Scientist I, at the Puerto Rico Nuclear Center, Rio Piedras, P.R.

1972  Prof. of Biology, Ad honorem, University of Puerto Rico, Rio Piedras.

Others:

A. Ad Hoc Committees

1. Interagency Committee on Water Resources, Department of Public Works, Commonwealth, 1972.


3. Advisory Committee to the President of the University of Puerto Rico on Environmental Studies 1972 - 1973.


B. Offices


President, Sigma Xi Club, University of Puerto Rico, Rio Piedras, P.R. 1973.

Publications

Approximately 15
CURRICULUM VITAE

NAME: José Antonio Colón

PRESENT ADDRESS: El Verde Field Station, Terrestrial Ecology Program, Puerto Rico Nuclear Center, Route 186, Km. 19.3, Rio Grande, Puerto Rico.

PLACE AND DATE OF BIRTH: June 10, 19th, Hato Rey, Puerto Rico.

CIVIL STATUS: Married


DEGREES: Bachelor in Science with Major in Biology, 1968.

EXPERIENCE:

1968 to present - Research Assistant and Research Associate at the Terrestrial Ecology Program, Puerto Rico Nuclear Center.

PUBLICATIONS:


CURRICULUM VITAE

Julio I. Colón, Ph. D.
January 1969

Present Assignment:

Associate Professor in Virology, School of Medicine
Chairman Graduate Committee School of Medicine

Education:

a. Primary School- Eugenio María de Hostos, Coamo, P. R. 1943
b. High School- Florencio Santiago High School, Coamo, P. R. 1964
c. College- University of Puerto Rico, Rio Piedras,
   Puerto Rico, B. S. -Chemistry) - 1950
d. University of Chicago, Chicago, Illinois
   Ph. D. Microbiology- 1959

Military Assignments:

U. S. Army Tropical Research Medical Laboratory - 1951-53

Civilian Assignments:

High School Teacher, Puerto Rico - 1950-51
Research Assistant, University of Chicago - 1953-59
Microbiologist, Fort Detrick, Frederick, Maryland - 1960-63
Chief, Microbiology Division, U. S. A. Tropical Research,
San Juan, Puerto Rico - 1963-65

Academic Appointments:

Associate Professor in Virology, University of Puerto Rico
1 1964 to date
Lecturer in Biochemistry, University of Puerto Rico 1964-65
National Academy of Science, National Res. Council, Post
Doctoral Fellowship- 1959-60
Research Assistant, University of Chicago- 1954-59

Memberships in Societies, Professional Groups, and Organizations:

Sigma Xi Society- 1958 (Honor Society)
American Society for Microbiologists - 1958
Biophysical Society- 1963
Tissue Culture Association- 1966
Teaching Assignment:

Participate in the teaching of the following courses:

a. Medical Microbiology
   Laboratory and lectures
b. Graduate Courses in Virology
   Laboratory and Lecture
c. Graduate Course in Tissue Culture
   Laboratory and Lecture

Problems of Investigation

a. Radiation activation of Latent virus in Wild Arthropods and Vertebrates.

b. Effect of Radiation on Interferon Production in Animals and Tissue Cultures.

c. The Microbiology of Infantile Diarrhea.

d. Miscellaneous studies.
   1. Changes Produced in the Intestinal Mucosa due to Viral and Bacterial Infection in Pigs.

Research Grants

United States Atomic Energy Commission
Medical Sciences & Radiobiology Division $40,000

Special Travels

a. The 68th Annual Meeting of the American Society for Microbiology
   Detroit, Michigan May 5-9, 1968

b. 11th Central American Congress for Microbiology
   Panamá City, Panamá Dec. 1-7, 1968

Special Conferences

a. Chairman of a session
   Bacteriology and Mycology. 11th Central American Congress
   Panamá City, Panamá

b. Invited to participate in the Roundtable "Ecology of the Intestinal Flora", in which the following work was presented: "The Viral Etiology of Infantile Diarrhea in Puerto Rico."
c. Effect of Radiation on Coxsackie Virus Infection. Seminar presented at the University of Puerto Rico, Department of Biology

d. Effect of Radiation on Viral Latency, seminar presented at the Nuclear Center, San Juan, Puerto Rico

Research Interests:


Publications:

Approximately 32
CURRICULUM VITAE

NAME:  Elvira Cuevas de Colón

PRESENT ADDRESS:  El Verde Field Station, Terrestrial Ecology Program,
Puerto Rico Nuclear Center, Route #186, Km. 19.3,
Rio Grande, Puerto Rico.

PLACE AND DATE OF BIRTH:  August 20, 1950, Santurce, Puerto Rico

CIVIL STATUS:  Married

PRESENT POSITION:  Graduate Research Assistant, Terrestrial Ecology
Program, Puerto Rico Nuclear Center, Rio Piedras,
Puerto Rico.

DEGREES:  Bachelor in Science with Major in Biology, 1971.

EXPERIENCE:

2 years Teaching Assistant at University of Puerto Rico,
Department of Biology, Rio Piedras, Puerto Rico (1970-72).

Summer-1972, Div. of Solid Waste, Environmental Quality Board
Santurce, Puerto Rico.

July-1972 until present - Graduate Research Assistant, Puerto Rico
Nuclear Center, Terrestrial Ecology Program, Rio Piedras, Puerto Rico.
CURRICULUM VITAE

José Cuevas-Ruiz  
Senior Associate, Tropical Agro-Sciences Division, PRNC  
Assistant Professor (ad honorem), Horticulture Department, University of Puerto Rico, Mayaguez

Education and Experience

1961  B.S.  Agriculture, University of Puerto Rico, Mayaguez
1966  M.S.  Biology, University of Puerto Rico, Mayaguez
1961-67  Research Assistant, Agricultural Bio-Sciences Division, PRNC
1967-71  Research Associate, Agricultural Bio-Sciences Division, PRNC
1968 to present, Assistant Professor (ad honorem), Horticulture Department, UPR, Mayaguez
1971 to present, Senior Associate, Tropical Agro-Sciences Division, PRNC
1967-68  Lecturer and Visiting Scientist during "Atoms in Action" Exhibits at Ecuador and Guatemala

Publications

Fifteen scientific paper were published.

Professional and Honorary Societies Memberships

1. American Society of Agricultural Sciences
2. Caribbean Food Crops Society
3. Institute of Food Technologists
4. Gamma Sigma Delta
5. Colegio de Agronomos de Puerto Rico
CURRICULUM VITAE

Delfin de León-Dancel

I. Personal Statistics

Place and Date of Birth: Manila, Philippines, April 8, 1934

Nationality: Filipino

Religion: Protestant (Baptist)

Civil Status: Married

Wife: Aida Luz Jiménez

Children: Marfa Aidelle, José Ricardo, and Juan Carlos

Address: Calle Pegaso 749, Venus Gardens, Río Piedras, P.R.

Age: 39 years

Heights: 5' 11"

II. Education Background

1. Elementary School - F. G. Calderón, Manila, April 1948

2. High School - José Abad Santos High (8th honors), Manila-April 1952

3. College - College of Veterinary Medicine, University of Phillipines, April 1957, (D.V.M.)

   - Harvard School of Public Health, 1964-65 (Special Student)

III. Employment History

1. Instructor and Veterinarian, U. P. College of Agriculture (December 15, 1957 to October 23, 1962)

2. Assistant Parastiolist, University of Hawaii (November 15, 1962 to August 16, 1963)

3. Post-Doctoral Fellow, School of Tropical Medicine, University of Puerto Rico (September 1, 1963 to August 31, 1964)

4. Instructor, U. P. College of Veterinary Medicine, Diliman, Quezon City (August 26, 1965 to June 30, 1967)
IV. Background in Professional Societies

1. Membership in Professional Societies
   a. Gamma Sigma Delta (Honor Society of Agriculture)
   b. Phi Sigma, Alpha Chi Chapter
   c. American Society of Veterinary Parasitologists
   d. American Veterinary Medical Association

V. Languages Spoken

1. Filipino (Tagalog)
2. English
3. Spanish

VI. Publications

Approximately 25
S. N. Deshpande
Scientist I, Puerto Rico Nuclear Center
Associate Professor of Chemistry, University of Puerto Rico, Mayaguez

Education and Experience

1962 M.S. in Food Technology (with biochemistry and bacteriology as supporting fields), Purdue University

1964 Ph.D. in Food Technology (with chemistry and nucleonics as supporting fields), Purdue University

1964-66 Assistant Professor and Head of the Isotope Technology Department, Tuskegee Institute, Alabama

1965 Summer Research participant at PRNC, sponsored by the Oak Ridge Institute of Nuclear Studies

1966-68 Associate Scientist I, PRNC

1967-68 Assistant Professor of Chemistry (ad honorem), UPR, Mayaguez

1968-69 Assistant Professor of Chemistry, UPR, Mayaguez

1968 to present, Scientist I, PRNC

1969 Research participation at the Max Planck Institute of Biochemistry, Munich, West Germany

1969 to present, Associate Professor of Chemistry, UPR, Mayaguez


Publications

Sixteen scientific papers were published.
CURRICULUM VITAE

NAME
René Dietrich Ormachea, M.D.

BORN
La Paz, Bolivia - March 29, 1940

HOME ADDRESS
Tolosa 296, College Park, Río Piedras, P. R. 00921

ACTIVITY
Nuclear Medicine

EDUCATION
School
Mariscal Braun, La Paz, Bolivia 1947-1949
Sagrado Corazón, Sucre, Bolivia 1949-1952

High School
Sagrado Corazón, Sucre, Bolivia 1953-1957
San Calixto, La Paz, Bolivia, 1957-1958

University
Universidad Mayor de San Andrés
Facultad de Medicina y Cirugía, La Paz, Bolivia, 1959-1965

Degree
Physician-Surgeon, May 1966

POST GRADUATE
Digestive system diseases course, La Paz, Bolivia, 1966
Clinic Endocrinology Course, La Paz, Bolivia, 1966
Basic Course of Radioisotopes Clinical Applications, La Paz, Bolivia, 1966
Pediatrics actualization course, Jujuy, Argentina, 1967
Clinic Radiodiagnostic course, La Paz, Bolivia, 1968
XII Course of Methodology and Medical Applications of Radioisotopes (Institute of Atomic Energy and Hospital of Clinics, San Pablo, Brazil) 1970 under Atomic Energy Institute of Brazil sponsorship
Basic Radioisotope Techniques Course and Clinical Applications of Radioisotopes Courses, Puerto Rico Nuclear Center, San Juan, Puerto Rico under the International Atomic Energy Commission, Vienna, Austria sponsorship, 1971
Lung Scanning Course, Puerto Rico Nuclear Center, San Juan Puerto Rico, 1971
E.C.F.M.C. Certificate, February, 1972
Puerto Rico Board of Medical Examiners, Commonwealth of Puerto Rico License, September 1973
Nuclear Cardiology Course, The John Hopkins Medical Institute, Baltimore, Maryland, U.S.A., 1973

EXPERIENCE
Nuclear Medicine
Assistant Medical Officer in the Nuclear Medicine Center, La Paz, Bolivia, February 1970 - May 1970
Special Training in Nuclear Medicine at the Hospital of Clinics and the Atomic Energy Institute, San Pablo, Brazil, August - December, 1970

Special Training in Nuclear Medicine at the Puerto Rico Nuclear Center, April 1971 to June 1972

Scientist II, Clinical Applications Division, Puerto Rico Nuclear Center, July 1972-present

Other Experience

General Staff of the Armed Forces, La Paz, Bolivia, from February 1961 to June 1962

Department Assistant in Physiopathology in the Universidad Mayor de San Andrés, from March 1963 to November 1965

Resident Physician in Yacimientos Petrolíferos Fiscales Bolivianos, from July 1966 to January 1970

PRESENTATIONS AT SCIENTIFIC MEETINGS

Two up to date

MEDICAL SOCIETIES MEMBERSHIP

Nuclear Medicine Society
Puerto Rican Nuclear Medicine Society
Puerto Rico Chapter, American Heart Association
CURRICULUM VITAE

George E. Drewry

I. GENERAL

Name: George E. Drewry
Present Position: Puerto Rico Nuclear Center
Place and Date of Birth: Nashville, Tennessee
February 10, 1935
Marital Status: Wife: Julia R. Drewry
Children: Steven Bryan - born 1961
Richard Kirk - " 1964
Office Address: Biomedical Building
Puerto Rico Nuclear Center
Caparra Heights Station
San Juan, Puerto Rico 00935
Phone: Area Code 804-767-0350 ext. 251
Home Address: Box 907
Rio Grande, P.R. 00745
No Phone

II. EDUCATION

B.S., June 1958, George Peabody College for Teachers, Nashville, Tennessee,
(major-Biology, minor-Physical Sciences).
M.A., August 1962, The University of Texas, Austin, Texas, (major-Zoology,
minor-Botany, Clark Rubbs, major professor).
Ph.D., in progress, the University of Texas, Austin, Texas, (major-
Zoology, minor-Botany, Clark Rubbs, major professor).

III. AWARDS, HONORS, AND SCHOLARSHIPS

Honorable Mention-Westinghouse Science Talent Search, 1953
Five Undergraduate Scholarships for Tuition and Fees, 1953-1957
Beta Beta Beta, 1954
NSF Cooperative Graduate Fellowship, 1959-1960
Two NSF Predoctoral Fellowships 1960-1962

IV. PROFESSIONAL SOCIETIES

Tennessee Academy of Science - Junior Member
Texas Herpetological Society
Southwestern Association of Naturalist
American Society of Ichthyologists and Herpetologists
Ecological Society of America
Association for Tropical Biology
The Society for the Study of Evolution

V. CRONOLOGICAL LISTING OF POSITIONS

Teaching Assistant in freshman biology laboratory, University of Texas, 1957 - 1959
NSF Cooperative Fellow, University of Texas, 1959 - 1960
NSF Predoctoral Fellow, University of Texas, 1960 - 1962
Teaching Assistant in advanced mammalian physiology, 1962 - 1963
Technical Assistant in Radio Television, University of Texas, 1963
Research Associate, Puerto Rico Nuclear Center, 1963 - 1964
Associate Scientist I, Puerto Rico Nuclear Center 1964 - 1969
Scientist II, Puerto Rico Nuclear Center, 1969 to date

VI. TEACHING EXPERIENCE

Instructor in nature study, Peabody Demonstration School (7th grade), 1955.
Student teacher in high school biology, Madison High, 1956.
Instructor (SP-4 and SP-5) in numerous short courses, U.S. Army Reserve,
including first aid, signal corps practice, and principles of operation
and maintenance of single engine aircraft, 1955 - 1962.
Two years teaching assistant (laboratory instructor) in freshman biology
at the University of Texas, 1957 - 1959.
One year teaching assistant (laboratory instructor) in advanced mammalian
physiology, University of Texas, 1962 - 1963.

VII. PUBLICATIONS

Approximately 19 to date.
CURRICULUM VITAE

Name: Manfred K. Eberhardt

Place of birth: Heidenheim/Brenz, Germany. Date of birth: Dec. 5th, 1930

Marital status: single

Present address: Puerto Rico Nuclear Center, Bio-Medical Building, Caparra Heights Station, San Juan, Puerto Rico, 00935

Educational background:

<table>
<thead>
<tr>
<th>Name and location</th>
<th>Years</th>
<th>Major field</th>
<th>Minor fields</th>
<th>Degree and date</th>
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<tbody>
<tr>
<td>Universitat Tubingen (Germany)</td>
<td>1950-57</td>
<td>Organic Chemistry</td>
<td>Physics, biochemistry, botany, zoology</td>
<td>Ph.D. 1957</td>
</tr>
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</table>

Experience:

<table>
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<tr>
<th>Name and location</th>
<th>Years</th>
<th>Supervisor</th>
<th>Field of research</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Tubingen</td>
<td>1955-57</td>
<td>Dr. H. Hellmann</td>
<td>Mannich reactions, synthetic Organic chemistry</td>
</tr>
<tr>
<td>University of Chicago</td>
<td>1957-59</td>
<td>Dr. W.G. Brown</td>
<td>Radiation chemistry</td>
</tr>
<tr>
<td>University of Arkansas</td>
<td>1959-60</td>
<td>Dr. A. Pry</td>
<td>Isotope effect studies, Isotope tracer work</td>
</tr>
<tr>
<td>University of Notre Dame</td>
<td>1960-62</td>
<td>Dr. E.R. Elie</td>
<td>Free radical reactions, isotope work, conformational analysis</td>
</tr>
<tr>
<td>Mellon Institute</td>
<td>1962-64</td>
<td>Independent Research</td>
<td>Radiation chemistry, photochemistry, free radical reactions</td>
</tr>
<tr>
<td>Technische Hochschule, Munich</td>
<td>1965-67</td>
<td>Independent Research</td>
<td>Radiation chemistry</td>
</tr>
<tr>
<td>Puerto Rico Nuclear Center</td>
<td>1967</td>
<td>Independent Research and Teaching</td>
<td>Radiation chemistry, free radical reactions, quantum chemistry</td>
</tr>
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</tr>
</tbody>
</table>
Honorary appointments:

University of Puerto Rico, Dept. of Chemistry - Ad honorem professor - 1971
University of Puerto Rico, School of Medicine - Ad honorem professor - 1972

Teaching experience:

"Introduction to Radiation Chemistry" and "Introduction to Molecular Orbital Theory"

Publications:

Approximately 17 publications to date.

11/15/73
CURRICULUM VITAE

NAME: Alejo Estrada Pinto


PLACE AND DATE OF BIRTH: July 24, 1936, Rio Grande, Puerto Rico.

CIVIL STATUS: Married

PRESENT POSITION: Research Assistant II, Terrestrial Ecology Program, Puerto Rico Nuclear Center, Rio Piedras, Puerto Rico.

EXPERIENCE:

1955 - 1963 Field worker in the U.S. Forest Service

1963 to present: Terrestrial Ecology Program, Puerto Rico Nuclear Center.

PUBLICATIONS:

1970 - Phenological Studies of Trees at El Verde, Chapter D-14 in A Tropical Rain Forest, H.T. Odum, Editor, AEC Div. of Technical Information.

CURRICULUM VITAE

F. F. Ferguson

Born: July 7, 1908-Knoxville, Tennessee

Educated: University Tennessee-B.A. 1932; M. S. 1934 Univ. Virginia; Ph.D. 1938-Univ. Virginia

Taught: Biology and Parasitology-College of William and Mary, 1941-44; Univ. Washington 1948-50

Service: U.S. Public Health Commissioned Officer for 30 years Scientist Category - Rank 0-6, Captain (Ret.)

Positions: Research Staff, Center for Disease Control, Ecological Investigations Program; Chief, Tropical Disease Laboratory 1954-71; Special Assistant to Director, ELP 1972, Acting Head, Medical Sciences & Radiobiology, PRNC, 1973

Research: Ecology and taxonomy of platyhelminths and Planorbidae; Insecticides of control of arthropod disease vectors; Biocontrol of bilharzia snail vectors

Awards: Du Pont Scholarship in Biology; Isaac Gonzalez Martínez; Silver Beaver (BSA)

Chairmanships: Executive Secretary, P. R. Committee for Bilharzia Control; Caribbean Committee for Bilharzia Research

Publications: Approximately 150 from 1934-73

Consultations: Foreign governments and international agencies (WHO, AID, Smithosincia Inst.) on biology and control of Schistosomiasis

Ad Honorem: Department of Medical Zoology; Department of Public Health, University of Puerto Rico
CURRICULUM VITAE

José A. Ferrer-Monge
Senior Scientist, Tropical Agro-Sciences Division, PRHC
Professor of Biology, University of Puerto Rico in Mayaguez

Education and Experience

1945 B.S. (Agriculture), University of Puerto Rico, Mayaguez
1945-47 Assistant Plant Geneticist, Institute of Tropical Agriculture, Mayaguez
1948 M.S. (Genetics), Missouri University
1948-54 Assistant Professor, Biology Department, UPR, Mayaguez
1954-55 Research Assistant, Missouri University
1955-57 Assistant Professor, Biology Department, UPR, Mayaguez
1957 Radioisotope Techniques Institute, ORINS, Tennessee
1958 Ph.D. (Genetics), Louisiana State University
1958-59 Health Physics Training, ORNL, Tennessee
1959-65 Chief Scientist and Head, Health Physics Division, Puerto Rico Nuclear Center, Mayaguez
1959 to present, Professor, Biology Department, UPR, Mayaguez
1965 to present, Senior Scientist, Tropical Agro-Sciences Division, PRHC, Mayaguez
1968 to present, Member Advisory Committee to the Puerto Rico Radiation Protection Board.

Publications:

Three scientific papers were published.
Name
Gileadi, Aviva E.

Date of birth
26 November 1917

Academic rank
Full Professor, Full Time

Degrees
Ph. D. Physics, 1941 - "Pázmány Péter" Univ., Budapest, Hungary

Service on Faculty
9 years

Other experience

September 1959 - September 1961, Graduate Student Nuclear Engineering Department, University of Michigan, Ann Arbor, Michigan.

October 1955 - November 1963, Senior Lecturer, Technion Israel Institute of Technology, Haifa, Israel.


December 1964 - June 1967, Associate Professor, University of Puerto Rico, Mayaguez Campus, Mayaguez, P. R. Department of Nuc. Engineering, Chief Scientist, Puerto Rico Nuclear Center.

June 1967 - Present, Professor, Nuc. Eng. Department, Univ. of Puerto Rico, Mayaguez, Deputy Director of N. E. Dept. Mayaguez Campus, Chief Scientist, Puerto Rico Nuclear Center, Nuc. Eng. Division, Deputy Division Head.

Summer 1968 - Visiting Scientist, Brookhaven National Laboratory, Div. of Theoretical Reactor Physics.


July 1970 - June 1971, Acting Head NuEg Dept. UPR Acting Head NuEg Div. PRNC

Consulting work
None
States in which registered

None

Membership in scientific and professional societies

ANS, American H. P. Society

Honors and awards

None

Subjects or courses taught this year

Nu Eg 621 Reactor Theory 3 credits
Nu Eg 699 Research 3 Grad. Students

Comité de Asuntos Académicos College of Engineering
Comité de Ascensos

Visiting Scientist: Brookhaven National Lab. 1968 Summer.


Other assigned duties

Programs participated in, to improve competence as teacher

Publications

Approximately 15 to date.
Name: Michael Gileadi

Place and Date of Birth: Poland, May 22, 1911

Civil Status: Married, two children

Home Address: P.O. Box 3242, Mayaguez, P.R. 00708

Educational Background:

Completed the College of X-Ray Technicians at Beilinson Hospital, Petach Tiqua, Israel, 1951.


M.Sc. Sanitary Sciences, 1969. University of Puerto Rico, School of Public Health, San Juan, P.R.

Professional Experiences:

<table>
<thead>
<tr>
<th>Position</th>
<th>Institution</th>
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<tbody>
<tr>
<td>1948-1959 X-Ray Technician, Dept. of Neurosurgery</td>
<td>Beilinson Hospital, Petach Tiqua, Israel</td>
</tr>
<tr>
<td>1960-1961 X-Ray Technician, University Medical Center X-Ray Dept.</td>
<td>University of Michigan, Ann Arbor, Michigan</td>
</tr>
<tr>
<td>1961-1963 Chief X-Ray Technician</td>
<td>Clinic of General Sick Fund, Haifa, Israel</td>
</tr>
<tr>
<td>1964-present Scientist I ; Head of Joint Radiation Survey Project</td>
<td>Puerto Rico Nuclear Center, Mayaguez, Puerto Rico</td>
</tr>
</tbody>
</table>

Societies:

Health Physics Society of Puerto Rico
Health Physics Society (National)
American Public Health Association
World Association of Composers

Research Activities:

Evaluation of Health Hazards Associated with X-Ray Diagnoses in Puerto Rico.
Phantom and in vivo dosimetry.

Publications:

18 publications
CURRICULUM VITAE

Julio A. Gonzalo-González

NAME : Julio A. Gonzalo-González
ADDRESS : Box 5051, College Station
Mayaguez, Puerto Rico
DATE OF BIRTH : April 27, 1936
PLACE OF BIRTH : Donalbay, Lugc, Spain
MARITAL STATUS : Single
PRESENT CITIZENSHIP : Spanish
ELEMENTARY SCHOOL : Escuela I. Almazan, Madrid, Spain
Graduated - June 1947
SECONDARY SCHOOL : Instituto Nacional S. Isidro,
Madrid, Spain
Graduated - June 1954
UNIVERSITY : University of Madrid, Faculty of Physical
Sciences
Licentiateure, (Theoretical Physics) -
September, 1959
Ph.D., High Honors, (Solid State) -
January, 1962
POSTGRADUATE COURSES : "Winter Institute in Quantum Chemistry
and Solid State Physics", University
of Gainsville, Fla. - December 1962,
January 1963.
A one-semester course on "Solid State
Physics" by Dr. B. C. Frazer, Senior
Scientist in the Neutron Diffraction
Program in Brookhaven National Laboratory.
EXPERIENCE : September 1959 to July 1960. Assistant
Professor (Part-time) in the University
of Salamanca, Salamanca, Spain.
Research Collaborator, Neutron Diffraction Group, Brookhaven National Laboratory (1963-64).

Assistant Professor (1962-65), Associate Professor (1965- ), Physics Department, University of Puerto Rico, Mayaguez, P.P.


Acting Head (1966-68), Head (1968- ) Nuclear Science Division

PROFESSIONAL SOCIETIES:

American Physical Society
Asociación de Maestros de Ciencia de Puerto Rico.
Asociación Nacional de Físicos de España.

PUBLICATIONS:

Approximately 23.
Curriculum Vitae

MORTIMER I. KAY

Born - August 27, 1930 - Brooklyn, New York

Status - Married - 1 child

University Education -
B. A. (Chemistry) Brooklyn College, New York - 1952
M. S. (Phys. Chem.) Purdue University - 1953
Ph. D. (Phys. Chem.) University of Connecticut - 1957

Experience
Grad. Assistant, Purdue University (1952-53)
Grad. Assistant, University of Connecticut (1953-56)
Research Assistant in Crystallography, University of Connecticut (1956-57)
Research Associate and Visiting Associate Physicist, Penn. State University and Brookhaven National Lab2 (1957-59)
Post-Doctoral Fellow, Royal Norwegian Council for Scientific and Industrial Research, Institute for Atomenergi, Kjeller, Norway (1959-60)
Research Associate Professor of Chemistry, Engineering Experiment Station, Georgia Institute of Technology (1962-64)
Head, Neutron Diffraction Program, Puerto Rico Nuclear Center (1964 to date)

Societies
American Crystallographic Assn.
American Physical Society
American Chemical Society
Sigma XI
American Association for the Advancement of Science

Publications
About 50 publications.
CURRICULUM VITAE

Seppo E. Kolehmainen
Ecologist
Scientist II, Head of Marine Biology Program
Puerto Rico Nuclear Center

Birth: February 28, 1939, Espoo, Finland
Nationality: Citizen of Finland, permanent resident in U.S.A.

EDUCATIONAL BACKGROUND:

B.S. University of Helsinki, Helsinki, Finland, 1963
Major: Zoology

M.S. University of Helsinki, Helsinki, Finland, 1964
Majors: Zoology and Limnology

Ph. Lic. University of Helsinki, Helsinki, Finland, 1967
Major: Ecology

Ph.D. University of Tennessee, 1969
Major: Ecology

WORKING EXPERIENCE:

Summer Research participant in the Department of Radiochemistry at the University of Helsinki, 1963.

Predoctoral Research Fellow of the Finnish Atomic Energy Commission in the Department of Radiochemistry at the University of Helsinki, 1964-67.

Predoctoral Research Fellow of the Finnish AEC in Radiation Ecology Section at Oak Ridge National Laboratory and at the University of Tennessee, 1967-69.

Research Assistant in the Department of Zoology at the University of Tennessee, 1968-69.

Scientist I in Marine Biology Program at Puerto Rico Nuclear Center, 1969-70.

Scientist II in Jobos Bay Program at Puerto Rico Nuclear Center, 1971

Scientist II, Head of Guayanilla Bay Program at Puerto Rico Nuclear Center, 1972

Scientist II, Head of Marine Biology Program at Puerto Rico Nuclear Center, 1972 - present.
MEMBER IN PROFESSIONAL ORGANIZATIONS:

International Oceanographic Foundation
Fisheries Research Board of Canada
Health Physics Society
National Geographic Society

LABORATORIES VISITED:

Radioecological and Oceanographic Laboratories in the U.S.A., Canada, France, Finland, Germany, Monaco and Sweden.

PARTICIPATIONS IN SPECIAL PROGRAMS:

Scientific cruises:

From California to Puerto Rico in April, May, 1971. Collected fish and plankton samples for trace element analysis.


Saturation diving:

Participated in the Puerto Rico International Undersea Laboratory in Puerto Rico, December 1972. Spent two weeks at 55' studying populations of ascidians on a reef and collecting sediments and plankton samples for trace element analyses.

PUBLICATIONS

Approximately 25 to date.
Francis K. S. Ko
Senior Scientist and Head, Tropical Agro-Sciences Division, Puerto Rico Nuclear Center
Professor of Biology (Ad Honorem)
Professor of Agronomy, University of Puerto Rico

Education and Experience

1950 Ph.D. in Plant Genetics, University of Minnesota

1950-51 Research Assistant, Department of Agronomy and Plant Genetics, University of Minnesota

1951-53 Research Fellow, University of Minnesota

1953-61 Project Leader, Oats and Rye Improvement, University of Minnesota. (Breeder of two oat varieties, Minland and Minhafer, released in Minnesota).

1961-67 Associate Scientist II, Agricultural Bio-Sciences Division, Puerto Rico Nuclear Center

1961 to present, Professor of Biology, (ad honorem), University of Puerto Rico

1966 National Visiting Professor, National Taiwan University, Taiwan

1967-68 Chief Scientist, Agricultural Bio-Sciences Division, Puerto Rico Nuclear Center

1968 to present, Senior Scientist and Head, Tropical Agro-Sciences Division, Puerto Rico Nuclear Center

1972 to present, Professor of Agronomy, University of Puerto Rico

Publications

Some 30 scientific papers and over two dozens of abstracts, short notes, reports, etc. in the field of genetics, cytogenetics, radiobiology, etc. were published.

Professional Society Memberships

1. Genetic Society of America
2. Radiation Research Society

Honorary Society Memberships

1. Sigma Xi Society
2. Gamma Sigma Delta
3. American Association for the Advancement of Science
CURRICULUM VITAE

ALDO E. LANARO, M.D. - Director, Clinical Applications Division
Chief Scientist I, Puerto Rico Nuclear Center

BORN
Buenos Aires, Argentina - January 29, 1920

CITIZENSHIP
Naturalized U. S. Citizen

HOME ADDRESS
Condominio Palma Real, Apt. 4-F
Madrid 2, Miramar, Santurce, Puerto Rico 00907

TELEPHONE
722-6158

ACTIVITY
Nuclear Medicine - Endocrinology

EDUCATION
Teacher, Normal Course, 1937
Bachelor Degree (Equivalent to High School), 1938
Normal Professor in Sciences, 1940
Physician, School of Medicine, University of Buenos Aires, Argentina, 1949
Medicine Doctor, University of Buenos Aires, 1950

LICENSES
Argentine School of Medicine, University of Buenos Aires, Lic. #11,300 - 1949
Puerto Rico Board of Medical Examiners, Commonwealth of Puerto Rico, Lic. #3744 - 1972
American Board of Nuclear Medicine - March 25, 1972

Post-Graduate

Post-graduate courses at the University of Buenos Aires, Argentina:

Endocrinology, 1951-52
Gynecological Therapeutics, 1950
Practical Gynecology, 1951
Preparatory Course on College Teaching, 1952-53
Advanced course on Endocrinology, 1952
Course on Pediatric Endocrinology, 1953
Advanced course on Endocrinology, 1953
Theoretical and Practical Course on Diagnosis and Treatment of Suprarenal Diseases, 1953
Diagnostic in Gynecology, 1954
Graduate training in Biophysics Teaching, 1954-56
Psychoanalysis Course, 1956
Basic Course on Clinical Applications of Radioisotopes, Argentine Atomic Energy Commission, 1957

Basic Radioisotopes Techniques Course, and
Basic Clinical Applications of Radioisotopes Course, Puerto Rico Nuclear Center, 1959,
under World Health Organization Sponsorship.
Visit to several nuclear facilities in the USA, 1959, as part of the World Health Organization training program.

EXPERIENCE

**Nuclear Medicine**

In charge of the Radioisotopes Department of the Research Medical Center at the Torcu Hospital, Buenos Aires, Argentina, 1954-60

Director of the Radioisotopes Department of the Endocrinology and Metabolism Hospital, 1957-63

In charge of the Radioisotopes Department at the Argentinian Institute of Diagnosis and Treatment, 1959-61

Associate Scientist II, Clinical Applications Division, Puerto Rico Nuclear Center, 1963-67

**Courtesy Member, Nuclear Medicine, L. González Martínez Oncologic Hospital, 1969**

Chief Scientist I and Deputy Director, Clinical Applications of Radioisotopes Division, Puerto Rico Nuclear Center, 1967-69

Chief Scientist I and Acting Director, Clinical Applications of Radioisotopes Division, Puerto Rico Nuclear Center, 1969-71

Chief Scientist I and Director, Clinical Applications Division, Puerto Rico Nuclear Center, 1971-present.

**Courtesy Member in Nuclear Medicine, Hospital Meléndez, Bayamón, Puerto Rico, 1972**

**Courtesy Member in Radiology, Auxilio Mutuo Hospital, 1972**

**Other Professional Experience**

Endocrinologist at the Endocrinology and Metabolism Hospital, 1957-63, Buenos Aires, Argentina

Medical Practitioner at the Hospital Las Heras, Buenos Aires, Argentina, 1947-50

Attending Doctor at the Italian Hospital, Buenos Aires, Argentina, 1949-52

Attending in Medicine, Argentine Air Force Health Department, 1950-60

Assistant Doctor at the National Endocrinology Institute, Buenos Aires, Argentina, 1952-57
Associate Clinic in Medicine (Ad Honorem)  
Medical Department of the School of Medicine,  
University of Puerto Rico, 1966

Assistant, University Hospital, 1968

Clinical Assistant Professor of Medicine, Medicine  
Department, School of Medicine (Ad Honorem)  
University of Puerto Rico, 1973

Other Activities

Secretary-Editor of the "Endocrinology and  
Metabolism Hospital" Bulletin, 1962-63

Member of the Organizing Committee of the  
Argentinian Society of Nuclear Medicine, 1963

Honorary President of the Argentinian Society  
of Nuclear Medicine, 1963

Honorary Member of the Peruvian Society of Biology  
and Nuclear Medicine, 1964

Chairman, Nuclear Medicine Committee, X Inter-  
American Congress of Radiology, 1971

Member of the Organizing Committee of the Nuclear  
Member Society of Puerto Rico, 1971

President, Nuclear Medicine Society, Puerto Rico,  
1971

Sub-Treasurer of the ALASBMIN (Asociación Latino-  
Americana de Sociedades de Biología y Medicina  
Nuclear) November 24, 1972

Member of the Editorial Consulting Board, Revista  
de Biología y Medicina Nuclear (Asociación Latino-  
Americana de Sociedades de Biología y Medicina  
Nuclear Publication), 1972

PUBLICATIONS

Approximately 14 to date

PRESENTATIONS AT  
SCIENTIFIC MEETINGS

Approximately 27 to date

MEDICAL SOCIETIES  
MEMBERSHIP

Argentine Medical Association, Argentinian Society  
of Endocrinology and Metabolism, Argentinian Society  
of Biology and Nuclear Medicine, Puerto Rico Chapter  
Health Physics Society, Puerto Rican Society of  
Nuclear Medicine, AAAS, Health Physics Society,  
Peruvian Society of Biology and Nuclear Medicine  
(Honorary Member), Society of Nuclear Medicine,  
American Heart Association.
CURRICULUM VITAE
Rupert A. Lee

Born
January 21, 1932
P'tn. Diamond, Demerara, Guyana

High School Education
Central High School, Guyana (1944-47)
Queen's College, Guyana (1947-1951)

Present Status
U.S. Citizen and Married.

Degrees
B.Sc. 2nd Class Hons, University of the West Indies, 1954
Ph.D Chemistry, University of London, 1967

Academic Experience
Graduate Student, University of London, 1957-1959.
Graduate Teaching Assistant, University of Alberta, 1961-1962.
Part-time Lecturer in Chemistry, University of the West Indies,
Research Associate PRNC and Assistant Professor of Chemistry, UPR,
Scientist PRNC and Associate Professor of Chemistry, 1967 to date.

Research Experience
Worked in the field of gas kinetics on the "Pyrolysis of Ethyl
Iodide" under the supervision of Prof. Allan Maccoll, University College,

Also in the field of Radiation Chemistry on the "Radiolysis of
Hydrogen Halides" under Prof. D. A. Armstrong, University of Calgary,

Spent a summer at Sloan Kettering Institute for Cancer Research
working on "Radiation Protective Studies Using ESR," with Dr. Ira
Spent a summer at University Chemical Laboratory Cambridge, England with Prof. Jack Lewis (study the radiation effects on some transition metal carbonyls).

Present interests are (1) Radiation Chemistry of Gaseous Organic Fluorides, (2) Radiolysis of Organic Sulfur Compounds in Aqueous Solutions, (3) Radiation Protection Studies Using ESR.

Societies

American & British Chemical Societies

Foreign Language

Read French, German and Spanish

Publications

Approximately 14.
CURRICULUM VITAE

Félix Liard-Bertín

1. Born: October 14, 1937 - Rio Piedras, Puerto Rico

2. Scientist Associate I. Puerto Rico Nuclear Center, Rio Piedras, P. R.

3. Degrees:
   - 1942-1955: Elementary, Junior, High School - Rio Piedras Public School
   - 1955-1959: Bachelor in General Sciences, University of Puerto Rico
   - 1959: Commission of Second Lieutenant - R. O. T. C., University of Puerto Rico
   - 1959-1963: School of Medicine, University of Puerto Rico
     No degree was obtained.
   - 1964: Course in Radioisotopes techniques, Puerto Rico Nuclear Center
   - 1970: Graduate School, School of Medicine, University of Puerto Rico
     At present completing the requirements for a Ph. D. in Medical Zoology.
   - 1973: Tutorial Course in Electron Microscopy - University of Chicago

4. Experience:
   - 1968-
     Part-time professor of General Biology, Department of Biology,
     College of Natural Sciences, University of Puerto Rico.
   - 1973
     At present, Lectures in Medical Zoology at the School of Medicine,
     University of Puerto Rico.
     Lectures in Medical Zoology and Electron Microscopy at the
     Puerto Rico Nuclear Center.

5. Publications: Approximately 5
CURRICULUM VITAE

Víctor A. López

Education:
San Germán Polytechnic Institute, 2 years, no degree.
Specialized courses in microbiology at Communicable Diseases
Center, Atlanta, Ga., National Institutes of Health and Armed Forces
Institute of Pathology.

Experience:
Administration of animal services, PRNC 1967, Schistosomi
Project, PRNC-1971 to date.
Chief Bacteriologist-U.S.A. Tropical Research Medical Laboratory,
San Juan, P. R., 1959-66.
Microbiologist, U.S.A. Experimental Medicine, Fort Detrick, Md.
Received award for meritorious service to the Army Research Program
Microbiologist, U.S.A. Tropical Research Medical Laboratory,
San Juan, P. R., 1947-54.
Chief Laboratory Technician, U. S. A. Hospital, San Juan, P. R.,
1944-47.
Laboratory Technician, U. S. A. Hospital, San Juan, P. R.,
1941-44.

Publications:
As co-author - approximately 10
Presentations - as Co-author - approximately 25
- as author - approximately 6
Name: Frank George Lowman

Education and Experience:

1956 - Ph.D. - University of Washington, Seattle.

1948-1954 -
Research Assistant Laboratory of Radiation Biology, University of Washington

1954-1959 -
Research Assistant Professor, Laboratory of Radiation Biology, University of Washington

1959-1961 -

1961-1965 -
Chief Scientist II, Puerto Rico Nuclear Center, Professor of Biology, CAAM, Mayaguez, Puerto Rico.

1965-1973 -
Head, Radioecology Division, PRNC, Mayaguez, P. R.

1971- to present -
Associate Director for Environmental Sciences, PRNC, Mayaguez

1973 to present -
Associate Director, Puerto Rico Nuclear Center

Publications:

About 40 publications.
Curriculum Vitae

RASTKO C. MAGLIC

Born: 7 January 1933, Sombor Yugoslavia

Marriage Status: Married, two children

University Education:
- Ing. degree (E.E.) University of Belgrade, Yugoslavia (1958).
- M.Sc. in Physics, Univ. of Belgrade, Yugoslavia, (1963).
- Ph.D. in Physics, M.I.T., Cambridge, Massachusetts.

Experience:
- Assistant Professor in E.E., Belgrade, (1960-63).
- Graduate Assistant, Physics Dept., M.I.T., (1963-69).
- Assistant Professor in Physics, U.P.R., Mayaguez and part time research at P.R.N.C., Mayaguez (1972-3).

Societies:
- American Physical Society
- American Association of Physicists.

Publications:
- About fifteen publications.
November 14, 1973

CURRICULUM VITAE

VICTOR A. MARCIAL, M.D.

Born: San Juan, Puerto Rico - February 24, 1924

Field: Radiotherapy and Cancer

Education: B.S. University of Puerto Rico, Rio Piedras, Puerto Rico, May 1944
M.D. Harvard Medical School, Harvard University, Boston, Mass., June 1949.

Certifications: Certified National Board of Medical Examiners, July 1950
Certified Puerto Rico Board of Medical Examiners, September 1954
Certified by American Board of Radiology (Radiation Therapy), May 1955.

Specialty Training: Internship - Bayamón District Hospital, San Juan, Puerto Rico, 1949-50
Resident in Radiation Therapy - Penrose Cancer Hospital, 1951-53
Fellow (American Cancer Society) in Radiation Therapy, July 1953 to August 1954 at European institutions (Curie Foundation, Paris; Christie Hospital, Manchester; Radiumhemmet, Stockholm; Radium Station, Copenhagen; and Royal Marsden, London).
Resident in Radiation Therapy - 1954-55 (Surgical Pathology - 6 months at Washington University, St. Louis; Radiation Therapy - 6 months at Tumor Institute, Seattle, Washington).

Chief, Radiation Therapy Department, I. González Martínez Hospital, November 1958 to September 1971.
Director, Radiotherapy and Cancer Division, Puerto Rico Nuclear Center, July 1958 to date.
Associate Director for Medical Programs, Puerto Rico Nuclear Center, January 1967 to date.
Director, Cancer Control Program, Puerto Rico Department of Health, October 1955 to June 1965.
Professor and Chief of Division of Radiation Therapy, University of Puerto Rico School of Medicine, 1958 to date.

Other: Member, Committee for Radiation Therapy Studies, 1963-69
Member, Cancer Commission, American College of Radiology
President Elect, Tenth Interamerican Congress of Radiology
Former President, Radiological Society of Puerto Rico
Secretary for the Americas of the International Club of Radiotherapists
Counselor for Puerto Rico of the Radiological Society of North America
President-Elect of the American Radium Society

Publications: Approximately 34 to date
CURRICULUM VITAE

F. Douglas Martin
Born: 14 August 1942
Place: Idabel, Oklahoma
Wife: Mary Frances (Kengstebeck)
Children: 1, age 14

High School: Gonzales High School, Gonzales, La.

B.S.: 1964 Louisiana State University, Baton Rouge
   Major: Zoology
   Minor: Chemistry

M.A.: 1967 The University of Texas, Austin
   Major: Zoology
   Minor: Geology
   Thesis: Osmotic shock survival in certain cyprinodont fishes

Ph.D.: 1968 The University of Texas, Austin
   Major: Zoology
   Minor: Botany
   Dissertation: Some factors influencing penetration into rivers by fishes of the genus Cyprinodon

Job Experience:


1964 Field assistant, Dr. Clark Hubbs: The university of Texas

1964-6 Teaching assistant, Comparative Anatomy, Freshman Biology, Vertebrate Zoology: The University of Texas

1968-71 Assistant Professor, Assistant Director of Biological Stations, Director of the Aquatic Research Unit: Indiana University, Bloomington
   Taught:
   1 semester: Introductory Biology - nonmajors
   1 semester: Ichthyology - graduate level
   2 semesters, 1 summer: Man and the Environment - a junior-
   senior level course in ecology for nonmajors

1971-Present: Senior Scientist, Radioecology Division, Puerto Rico Nuclear Center, Yagüez, Puerto Rico

Publications:

Approximately 17 to date.
CURRICULUM VITAE - STEPHEN G. MARTIN


EDUCATION

<table>
<thead>
<tr>
<th>School</th>
<th>Degree</th>
<th>Year conferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Washington</td>
<td>D.S.</td>
<td>1963</td>
</tr>
<tr>
<td>University of Washington</td>
<td>M.S.</td>
<td>1965</td>
</tr>
<tr>
<td>University of Washington</td>
<td>Ph.D.</td>
<td>1971</td>
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</tbody>
</table>

Thesis titles: "Environmental factors influencing the migration of chinook salmon (Oncorhynchus tshawytscha) into the home stream environment", (M.S.), and "An analysis of the histopathologic effects of copper sulfate on the Asiatic freshwater clam, Corbicula fluminea Muller", (Ph.D.). Dr. Albert K. Sparks and Dr. Kenneth K. Chew, major professors.

HONORS

Sigma Xi Associate, 1964
Federal Water Quality Administration, Research traineeship, 1968

MAJOR RESEARCH INTERESTS

Invertebrate aquaculture, Environmental impact studies, Pathology

RESEARCH AND PROFESSIONAL EXPERIENCE

<table>
<thead>
<tr>
<th>Year</th>
<th>Title and Description</th>
</tr>
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<tr>
<td>1972-73</td>
<td>Scientist I, Puerto Rico Nuclear Center, Mayaguez, Puerto Rico. Duties: Benthic invertebrate survey of potential power plant sites; Mangrove oyster studies related to Jobos Bay project, involving population estimation and heat tolerance studies with adults and larvae.</td>
</tr>
<tr>
<td>1971-2</td>
<td>Shellfish biologist, Small Tribes Organization of Western Washington, Inc., Federal Way, Washington; Research involving the establishment of shellfish aquaculture programs in reservation intertidal areas. Exec. Dir.: Mr. Roy S. George, Sr.</td>
</tr>
</tbody>
</table>
Year | Title and Description
--- | ---
1967-70 | Research associate, University of Washington, College of Fisheries; Federal Water Quality Administration Training Grant; Water Use Ecology; Advisor: Dr. George W. Brown, Jr.
1966-67 | Research biologist, ITT-Rayonier, Inc., Environment Control Division, Shelton, Washington. Duties involved: 1) supervision of oceanographic field surveys concerned with evaluating biological, chemical, and physical parameters of estuaries receiving pulping effluent and 2) conducting toxicity bioassays with various effluent types to determine their degree of toxicity to indigenous fishes and certain invertebrates. Research was specifically designed to assist company management in formulating policy decisions. Chief scientist: Mr. Roger Tollefson.
1965-66 | Research assistant, University of Washington, Department of Civil Engineering; Green Lake Water Quality; Supervisor: Dr. Ray T. Oglestby.
1963-65 | Research assistant, University of Washington, College of Fisheries; Selective salmon breeding program; Supervisor: Dr. Max Katz

TEACHING EXPERIENCE

1969-70 | Classroom and laboratory lectures in histology, pathology, and parasitology for College of Fisheries, University of Washington; Fish and Shellfish Diseases course; Classroom and laboratory lectures in the following fisheries courses, College of Fisheries, University of Washington:

- Invertebrate pathology
- Research techniques in shellfish biology
- Stream Management and Pollution

1971-72 | Seminars with student groups from several Washington state colleges and community colleges related to Indian fish and shellfish aquaculture programs.

SOCIETY MEMBERSHIPS

- Society of Invertebrate Pathology
- American Society of Limnology and Oceanography
- National Shellfish Association
- American Fisheries Society
- Pacific Fisheries Biologists
- Sport Fishing Institute
SKILLS

NAUI certified diver
Underwater photography
Professional typist

REFERENCES

1. Dr. Albert K. Sparks, Director, National Marine Fisheries Service, Gulf Coastal Fisheries Center, 4700 Avenue U, Galveston, Texas 77550.

2. Dr. Michael C. Mix, Department of General Biology, Oregon State University, Corvallis, Oregon.

3. Dr. David DesVoigne, Environmental Affairs Department, Port of Seattle, Seattle, Washington, 98111.

4. Dr. Kenneth K. Chew, College of Fisheries, University of Washington, Seattle, Washington, 98195.

5. Mr. James Fraser, Head, Fisheries Research Department, Small Tribes Organization of Western Washington, Inc., 33324 Pacific Highway South, Federal Way, Washington, 98002.

6. Dr. George W. Brown, Jr., College of Fisheries, University of Washington, Seattle, Washington, 98195.

MAILING ADDRESS

Puerto Rico Nuclear Center
College Station
Mayaguez, Puerto Rico 00708

PUBLICATIONS

Approximately 6 to date.
HELEN MO

Master Degree in Biology specialize in Bacteria (1970)

Previous work experiences:

1. Lipid Biochemistry lab research work in Dept.
   of Biochemistry & Biophysics. Texas A & M
   Univ., College Station, Texas 1971 - 1972

2. Microbiology lab. teaching assistant in
   Dept. of Biology, Sam Houston State Univ.,
   Huntsville, Texas 1968 - 1969

3. General Zoology lab teaching assistant in
   Dept. of Biology. Sam Houston State Univ.,
   Huntsville, Texas 1967 - 1968.
Name: Dr. Tin Ho

Date of Birth: August 1, 1938

Country of Birth: Burma

Country of Permanent Residence: U. S. A.

Marital Status: Married - one child

Education:

Ph.D. Chemistry (Radiochemistry and Chemical Oceanography), Texas A & M University 1971
M. S. Chemistry (Nuclear and Radiochemistry), University of Arkansas 1963
B. Sc. HONS. Chemistry, Rangoon University 1960.

M.S. Thesis: Yields of Zirconium Isotopes from Spontaneous and 14 Mev Neutron Induced Fission of Uranium-238

Ph.D. Dissertation: Uranium Concentrations in Marine Sediments.

Experience:

Scientist I
Radioecology Division, Puerto Rico Nuclear Center,
Mayaguez, Puerto Rico (October 1972 to the present)

Duties:

(a) 50% of working time spent in research on developing a non-destructive method of determining concentrations of heavy metal pollutants in airborne particulates by the neutron activation analysis technique, and in helping to organize and initiate a research program on air pollution in Puerto Rico (Jobos Bay Project sponsored by the Power Authority of Puerto Rico);

(b) the other half of working time spent in collaborating in research on the marine radioecology and the fate and budget of transuranium elements in the Bikini Atoll nuclear testing area (U. S. A. E. C. sponsored Marine Biology Project).

Postdoctoral Research Fellow
Chemical Oceanography Department, Texas A & M University,
College Station, Texas (Summer 1972)

Duties:

Carry out research on water pollution by industrial waste effluents and on the effect of shell dredging on the ecosystem around
San Antonio Bay, Texas. Responsible for going on a research expedition and sampling of sea water, sediments, biological specimens, and on ship measurements of pH, Eh, temperature of samples, analysis of polluting heavy trace metals like mercury, lead, cadmium, arsenic, major cations by atomic absorption spectrometry, chlorinity and alkalinity titrations of the column water and interstitial waters of the marine sediments.

Postdoctoral Research Fellow
Chemistry Department, Texas A & M University
College Station, Texas (Spring 1972)

Duties:

Predoctoral Research Fellow
Chemistry Department, Texas A & M University
College Station, Texas (Fall 1966-Fall 1971)

Duties:
Responsible for research and development of instrumentation for non-destructive analysis of trace amounts of uranium in marine sediments. Thermal neutron activation and delayed neutron counting analysis. Measurement of uranium concentrations in marine sediments from world's major oceans, rivers, estuaries and from chemically reducing water basins and manganese nodules to study the spatial distribution, mode of deposition, enrichment and removal of uranium in the marine environment. Worked with a reputable chemical oceanographer on this project. Research resulted in two publications in major geochemical journals. Supervised three undergraduate research fellows in radiochemistry research. Two and one-half years teaching of undergraduate chemistry labs, graded lab reports, quizzes.

Graduate Research Assistant
Chemistry Department, University of Arkansas
Fayetteville, Arkansas (Spring 1963-Fall 1966)

Duties:
Duties included radiochemical separation of fission product fallout debris in rain water, air filter samples and research in radioactive fallout. Research in nuclear fission by radiochemical methods. Processing of natural uranium ores and extraction of uranium. Separation, purification, detection and identification of fission produced radioisotopes at all levels of activity. Nuclear instruments of all types handled and operated. Interpretation of data using various models of nuclear fission.

Publications:
Approximately 8 to date.
Data sheet of

MOUNIR TAWFIK MOUSSA

Address: NC-7 Calle Lirio
Urb. Buenaventura
Mayaguez, Puerto Rico 00708
Tel.: Office (809) 832-8244
Home (809) 832-1262

Born June 22, 1933  5' 8"  155 pounds  Married, one child

PERSONAL BACKGROUND

Brought up in Cairo, U.A.R., where I attended public schools. Graduated with a B.Sc. in geology and chemistry from Cairo University. Came to the United States in 1960. Received a Ph.D. in geology from the University of Utah in 1965. Became a permanent resident (immigrant) of the United States in 1965. Married in 1965; wife is American citizen from Utah.

EDUCATION

1960-65 University of Utah, Salt Lake City, Utah
Ph.D. (1965) in Geology with a minor in mineralogy
Thesis: Geology of the Soldier Summit quadrangle, Utah.

1958-60 Cairo University, Cairo, U.A.R.
Work leading to M.Sc. degree in geology. Thesis: Surface and subsurface geology of Ghazza Strip. Work not completed because of leaving to the United States.

1952-58 Cairo University, Cairo, U.A.R.
B.Sc. in geology and chemistry (January 1958)
[Equivalent of 60 semester credit hours in geology and 58 in chemistry]. Received Baraka's Memorial Prize in 1958 (Awarded to student with highest cumulative grade in geology in the final year).

EXPERIENCE

1965-... Associate Professor of Geology (1969-)
Acting Chairman, Department of Geology (1970-71)
Assistant Professor of Geology (1965-69)
University of Puerto Rico, Mayaguez, Puerto Rico

1971-... Scientist--Part time
Puerto Rico Nuclear Center
U.S. Atomic Energy Commission

Research work on recent marine sediments in relation to investigations of the mechanism of dispersal and distribution of trace elements in the marine environment. Also study of sediments in connection with ecological-environmental impact studies.
Lecturer in Geology, Queens College of the City University of New York, Flushing, N. Y.

I helped in teaching the summer field course in Puerto Rico.

1964-65
Department of Geology, University of Utah
Graduate Assistant

1956-60
Assistant Research Worker, Department of Geology
Desert Institute, National Research Center, U.A.R.
Research work on "Surface and subsurface geology of Ghaiza Strip" in connection with water resources development.

Demonstrator (part time), Department of geology
Cairo University
Teaching consisted of laboratory instruction in "Surficial Fossils of Egypt," and "Interpretation and Construction of Geologic Maps."

1958
Chemist (Analyst), Société Egyptienne des Engrais et des Industries Chimiques, Suez, U.A.R.

Summer 1957
Assistant Geologist, Abu Zababal Basalt Quarries, El-Khoudy Mining Co., Cairo, U.A.R.

Summer 1956
A training program at the laboratories of the Société Egyptienne des Engrais et des Industries Chimiques, Suez.

1. Geological Society of America (Member, 1963)
2. American Association of Petroleum Geologists (Junior, 1961; Active Member, 1967)
3. Society of Economic Paleontologists and Mineralogists (Active Member, 1963)
4. Geological Society of Puerto Rico (Active Member, 1965)
   Councilor (1967-69)

1. The Society of the Sigma Xi
2. Sigma Gamma Epsilon

Approximately 15 to date.
Muñoz Ribadeneyra, Fausto J.
Radioecology Division, Scientist I
Assistant Professor, Dept. of Public Health,
UFR School of Medicine

FIELD: Chemical-Nuclear Engineering

EDUCATION: Chemical Engineering, Escuela Politécnica Nacional,
Quito Ecuador 1955; University of Madrid 1958; North Caro-
olina State College 1959. Argonne National Laboratory,
Argonne, Illinois, 1959. WS. Nuclear Engineering, University
of Puerto Rico 1966. Radioisotopes in Industry,
Kansas State University, Summer 1964. Nuclear Explosives,
PRNC Summer 1967. Dosimetry in Radiotherapy PRNC, Oct-
November 1970.

EXPERIENCE: Assistant Lecturer in Chemical Engineering,
Escuela Politécnica Nacional, Quito, Ecuador 1952-1954;
Chemical Engineer "Cementos El Cairo", Medellín, Colombia
1955. Engineer Production Supervisor, "Cemento Chimborazo
C.A.", Riobamba, Ecuador 1956-57; Chemical Engineer (Visitor),
"División de Materiales", Spanish Council of Atomic Energy
(J.E.N.), Madrid, Spain (1958). Resident Research Associate,
Chemical Engineering Division Arzonne National Laboratory,
Summer 1961; Research Associate, Nuclear Science Division;
PRNC, 1960-64; Head, International N.E. Exhibit Program,
PRNC, 1964-1967; Principal Investigator Nuclear Explosives
in Mining Program, Nuclear Engineering Division 1966-1972.
Scientists I Radioecology Division, 1973 to present. Assistant
Professor, Department of Public Health, UFR School of
Medicine, (Part-Time) 1969 to present.

PUBLICATIONS: 20. Covering the following fields: radiation
chemistry, hydrometallurgy and research activities at the
N.E. International Exhibits Program. Papers presented
at international meetings: 7; covering fields of Hydro-
metallurgy and radiation chemistry.

PRESENT FIELD OF ACTIVITIES: Air pollution.
Curriculum Vitae

Name: Maria L. Narario

Bachelor of Science: University of Puerto Rico
Mayaguez Campus
Major: Biology

Master of Science: To be completed by December 1973
University of Puerto Rico
Mayaguez Campus
Major: Biology-Entomology

Memberships
1) Entomological Society of America
2) Beta Beta Alpha Chapter

Previous Work Experience
1) Research assistant at the Entomology Laboratory, UPR, Mayaguez Campus.
   a) Insect diet preparation and rearing.
   b) Lab maintenance and organization.
   c) Behavior-morphology studies.

2) Research Work on the reproductive system of Diatraea saccharalis (F) (Lepidoptera Crambidae). Morphological and histological work for the Master thesis.

Publications

Submitted:
CURRICULUM VITAE

NAME: Gary P. Owen

DATE and PLACE OF BIRTH: 18 March 1944, Montebello, California

EDUCATION:
- B.S. Zoology
  Calif. State University at Long Beach
- M.S. Marine Biology
  Scripps Institute of Oceanography
  University of California at San Diego

ACADEMIC AWARDS:
- National Science Foundation Predoctoral Traineeship (1967-1968)
- National Science Foundation Research Assistantship (1969-1972)

PROFESSIONAL EXPERIENCE:

Research Associate:
1973 to date - Assisting on plankton research - Puerto Rico Nuclear Center
  (1) Guayanilla Bay Project
  (2) Jobos Bay Project
  (3) Site Selection Survey Project

Co-Chief Scientist:
Sept. '72 - Jan. '73 - Directing the field portion of a study on distribution of inshore zooplankton populations on the eastern South American coast.

Research Assistant:

1965 - 1966 - California State University at Long Beach - Research on the effects of sewage effluent on marine invertebrates.

Chief Biologist:
1966 - Office of Naval Research - Directing biological sampling during the U.S. Coast Guard's 1966 circum-navigation attempt of the Arctic Ocean.
1964  University of Southern California - Running the University of Southern California research program on T-3 Flecher's Island, Arctic Ocean Station.

RESEARCH AND INTERESTS:

1969 - 1972  - Southern California coast.
Studying the energetics and population dynamics of marine ciliates in coastal embayments.

1965 - 1966  - Southern California coast.
Looking for evidence of environmental stress brought about by domestic sewage contamination in polychaete worms using biochemical parameters.

CRUISE EXPERIENCE:

Major:  Sept. 72 - Jan. 73, R/V Melville, Cato Legs 6-8, East and West Coasts South America.

Nov. 70 - Jan. 71, R/V T. Washington, Aries Legs 1-2, South Pacific Gyre.


Minor:  1970 - 72, Coastal Cruises California, Pt. Conception, California to Southern Raja, California area. Total duration per year averaged one month.
CURRICULUM VITAE for James D. Parrish

PERSONAL

Present address: Puerto Rico Nuclear Center
College Station
Mayaguez, Puerto Rico 00708

Telephone: Area Code 809 : 832-1414 X 32 office
832-5111

Social Security No.: 251-54-1756

Height: 6'1" Weight: 185 lb. Race: Caucasian Health: Excellent

Born: 18 Dec 35 Birthplace: Bennettsville, South Carolina, U.S.A.

Citizenship: U.S. Family: wife and 2 sons

EDUCATIONAL

Present affiliation: Puerto Rico Nuclear Center
College Station
Mayaguez, P. R. 00708

Status: Scientist I

Graduate Study:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Curriculum</th>
<th>Dates</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rensselaer Polytechnic Institute,</td>
<td>Engineering</td>
<td>1964-1967</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td></td>
<td>(part time)</td>
</tr>
<tr>
<td>University of Rhode Island,</td>
<td>Oceanography</td>
<td>1967-1972</td>
<td>PhD</td>
</tr>
<tr>
<td>Kingston, Rhode Island</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Part-time work at Rensselaer constituted a transition from an engineering background toward marine science, with courses in mathematics and basic courses in oceanography, wave theory, physical chemistry, physical geology and biology.

Full-time graduate study at Univ. of Rhode Island has consisted of a basic general education in oceanography with specialization in marine animal ecology. There has been a strong personal emphasis on ecology of fishes and on the tropical reef environment, largely implemented through seminars, individual study courses, summer research and personal study. Interest in quantitative, analytical approaches to populations and interspecific relationships has been implemented through available course work and personal study. Some basic computer and statistics techniques were acquired as tools in research.
Graduate Program Committee

Name                        | Affiliation and Address                  | Specialty                  
---                          | ---------------------------------------- | --------------------------- 
Dr. S. B. Salla             | Graduate School of Oceanography         | Fishery biology            
(major professor)           | University of Rhode Island              |                            
                            | Kingston, Rhode Island, 02881           |                            
Dr. N. Marshall             | "                                       | Productivity, reef ecology  
Dr. W. H. Krueger           | Zoology Dept., 306 Ranger Hall,         | Ichthyology                 
                            | University of Rhode Island              |                            
                            | Kingston, Rhode Island, 02881           |                            

Undergraduate Study:

<table>
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<th>Institution</th>
<th>Curriculum</th>
<th>Dates</th>
<th>Degree</th>
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<tr>
<td>Furman University, Greenville, SC</td>
<td>Engineering</td>
<td>1952-1954</td>
<td>None (transferred)</td>
</tr>
<tr>
<td>University of South Carolina</td>
<td>Mechanical</td>
<td>1954-1956</td>
<td>B.S.</td>
</tr>
<tr>
<td>Columbia, SC</td>
<td>Engineering</td>
<td></td>
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</tr>
</tbody>
</table>

Work at these two institutions comprised a conventional 4-year undergraduate program in basic mechanical engineering with emphasis on thermodynamics and power. An overall "grade point average" of 3.9 on a scale of 0 to 4.0 was earned.

Academic Honors and Awards:

(1) First honor graduate, Univ. of South Carolina, 1956
(2) Phi Beta Kappa
(3) Tau Beta Pi
(4) Society of American Military Engineers award, Univ. of South Carolina, 1956
(5) Westinghouse Electric Corp. scholarships, Univ. of South Carolina
(6) National Science Foundation Traineeship, Univ. of Rhode Island, 1967-1970
(7) National Science Foundation Fellowship, 1970-1972 (declined)
(8) National Institute of Health Fellowship, 1970-1972
(9) Sigma Xi

PREVIOUS PROFESSIONAL

Employed actively by General Electric Company from 1956 to 1967 as an engineer. Field engineering work on turbine-generator equipment and research in fluid mechanics at the company research center. Two semesters of company graduate-level advanced engineering course.

Aircraft maintenance officer with U.S. Air Force 1956 to 1959. *

*Leave of absence for military service.
MAJOR RESEARCH INTERESTS

The general field of research interest is the ecology of marine animals, particularly the ecology of communities. Interaction between species is of major interest, including competitive and particularly predatory interactions. I would like to continue studying all aspects of predation from the behavioral to the quantitative effects upon populations and communities. A number of interesting aspects of various real and theoretical trophic webs should be explored.

The environments of major interest are near-shore marine. I have particular interest in tropical environments, especially coral reefs, and would like to study reef animal communities, primarily from a trophic point of view. The animal group of particular interest is the fishes, both from the standpoint of their general ecology and their community interactions and dynamics.

Research methods should include observational and experimental as well as purely analytical approaches. Most of my ecological training and research has emphasized theory and analysis, however I enjoy field work, consider it important, and would expect to incorporate it strongly into future professional research activities.

Thesis research is in analysis of theoretical interactions between species and the resulting population effects.

PUBLICATIONS


TRAVEL & LANGUAGE

Lived extensively in:
Japan (U.S. Air Force)
Okinawa (U.S. Air Force)
Argentina (engineering work)
Puerto Rico (scientific research)

Lived briefly in:
Jamaica (summer reef research)
Venezuela (engineering work)
Brazil " 
Quebec " 

Travel and shorter stays in:

- Bahamas (reef research)
- Greater Netherlands Antilles (reef exploration)
- Panama (marine research)
- St. Thomas
- Chile
- Uruguay

Fair spoken use of Spanish language; not fluent.
Read Spanish with difficulty.

AVOCATIONAL

Avocational interests are primarily of an outdoor sporting nature, principally aquatic and trail activities. I have used SCUBA extensively recreationally as well as in shallow water research, and have PADI certification.
<table>
<thead>
<tr>
<th>Name</th>
<th>Pedersen, Knud Borge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of birth</td>
<td>26 November, 1932</td>
</tr>
<tr>
<td>Academic rank</td>
<td>Associate Professor</td>
</tr>
</tbody>
</table>
| Degrees             | B.S. Mech Eng. 1958, Iowa State College  
                      | M.S. Nu. Eng. 1964, Iowa State University  
                      | Ph.D. Nu. Eng. 1967, Iowa State University  |
| Service on Faculty  | 6 years              |
| Other experience    | Vice President, Parents-Teacher Organization, Campus School, Inter American University, San German, Puerto Rico, 1968-69.  
                      | Chairman, School Board, Campus School, Inter American University, San German, Puerto Rico 1969-70  
                      | Member, President's Council of Inter American University, San German, 1970-71  
                      | Ames Laboratory, AEC, Junior Engineer. Research on mechanical properties of materials. August 1960-64.  
                      | Puerto Rico Nuclear Center, Division of Nuclear Engineering. Scientist II. July 1967 - present.  
                      | Instructor of Nuclear Engineering, Iowa State University, August 1964 - June 1967.  
                      | Assistant Professor of Nuclear Engineering, Iowa State University, June 1967 - July 1967. |
| Consulting work     | None                 |
| States in which registered | None               |
Membership in scientific and professional societies

- Phi Eta Sigma
- Pi Tau Sigma
- Tau Beta Pi
- American Nuclear Society
- American Society for Engineering Education

Honors and Awards

- Listed in American Men and Women of Science
- Dictionary of International Biography
- International Scholarly Directory

Subjects or courses taught this year

None - On Sabbatical Leave

Other assigned duties

Chairman, Reactor Audit Group, PRNC

Programs participated in, to improve competence as teacher


Publications

Approximately 7 to date.
Leslie Piastro:

Research Assistant, Department of Marine Sciences, University of Puerto Rico, Mayaguez, Puerto Rico, 00708

Date and place of Birth:

January 29, 1948, Burlington, Vermont.

Formal Education:


Masters Thesis:

The Behavioral Ecology of the Lizardfish, Synodus intermedius, movement and feeding periodicity, feeding habits, substrate preference, reproductive biology.

Experience and Activities:

Research Assistant, Department of Marine Science, University of Puerto Rico, June 1971-June 1973.

Cruises on R/V Crawford to the islands of Anegada, St. Croix, Mona, and Discover for fish collection, survey, and photography. Assist in preliminary baseline study prior to thermal electrical installations. Assist in collecting, classifying, and storing fish for Ichthyology museum, UPR. Assist in laboratory experiments.

Other positions and experiences:

Resident assistant in dormitory, New York State University College at Oswego, N.Y., September 1968 - December 1969.
Day camp counselor, Central Queens YMCA, Jamaica, L.I., N.Y., June 1968 - August 1968.

Reports

Attraction-Avoidance Reactions of a Fish to a Detergent, 1971, (to Department of Marine Sciences).
The Ecology and Behavior of Synodus intermedius, 1971, (to Department of Marine Sciences).
Name: Plaza, Heriberto

Date of birth: 13 August 1937

Academic rank: Associate Professor

Degrees: BSEE, Univ. of Puerto Rico, 1961
         MSNT, Univ. of Puerto Rico, 1963
         Ph.D., Texas A&M Univ., 1966

Service on Faculty: 5 years

Other experience:
- Assistant Instructor, Physics Department, Univ. of Puerto Rico, January 1963 - May 1963.

Consulting work: None

States in which registered: None

Principal publications of last five years:
- "Absolute Flux Measurements Using the Activity Ratio Technique" Conference on Research and Training Reactor Utilization, ANS Transactions, supplement number 1 to volume 15., 1972.
- "Experimental Verification of the Asymmetric Source Method in Reactivity Measurements" (with Rafael Aicaca) PRNC Report (to be published) 1970.
- "Experimental Investigation of Neutron Detector Interaction" (with Juan Caro), PRNC Report (to be published) 1971.


Tau Beta Pi, Phi Kappa Phi

None

Nu Eg 603, Nu Eg 626

Research Committee of the Faculty of Engineering

None
CURRICULUM VITAE

Name: Ritchie, Lawrence S.
Title: Director, Puerto Rico Nuclear Center
Place of Birth: Glenvil, Nebraska, U.S.A.
              December 9, 1906.

Education:
Sioux Falls College, Grand Island, Nebraska.  A.B.  1928  Biology
Northwestern University, Evanston, Illinois.  M.S.  1930  Parasitology
Northwestern University, Evanston, Illinois.  Ph.D.  1936  Parasitology

Honors:

Achievements and Commendation:
July 1955  - Certificate of achievement for meritorious service by the
          406th Medical General Laboratory.
July 1966  - Letter of Commendation of the 406th Medical General Labora-
          tory.
          Letter of Appreciation from the Governor of Yamanshi Prefec-
          ture, Japan for effort in study and control of schisto-
          somiasis.
1954      - Member of symposium on schistosomiasis for meeting of the
          American Society of Tropical Medicine and Hygiene.
1961      - Recipient of the Isaac González-Martínez Award, Puerto
          Rican Committee for Bilharzia Control.
Sept. 1964  - Invited to present a paper at the first International Con-
            gress of Parasitologists, Rome.
1968      - Member of Cornell Medical College Schistosomiasis Team to
          the Philippines.
          - Recipient of "Medal of Merit", presidential award, Philipp-
            ine Islands.

Major Research or Professional Interest:
Parasitology, Malacology.

Military Assignments:
1945      - 27th Medical Laboratory - Leyte, Philippines (4 months)
1945-46  - 27th Medical Laboratory - Hokkaid, Japan (5 months)
1946      - 406th Medical Laboratory - Yokohama, Japan (8 months)
1946      - 406th Medical General Laboratory - Tokyo, Japan (4 months)

Civilian Assignments:
1947-56  - 406th Medical General Laboratory - Tokyo, Japan.
1956-66  - USA Tropical Research Medical Laboratory - Puerto Rico.
1966-68  - Walter Reed Army Institute of Research - Washington, D.C.
Civilian Assignments (Cont'd):

1963-71  - Senior Scientist I, Puerto Rico Nuclear Center.
1971-72  - Acting Head, Medical Sciences and Radiobiology Division, PRNC
1972-73  - Head, Division of Medical Sciences and Radiobiology, PRNC
1/17/73 to 9/17/73 - Acting Director, Puerto Rico Nuclear Center.

Academic Appointments:

1932-36  - Part-time Instructor - Northwestern University.
         Assistant Professor, Biology - Woman's College.
1936-44  - University of North Carolina.
1955-56  - Special Lecturer in Parasitology - University of Puerto Rico
         Medical School.
1972-    - Professor (ad honorem), Department of Biology, University
         of Puerto Rico.

Consultant to:

Department of Public Health, St. Lucia, British West Indies, 1960.

Professional Societies:

American Society of Parasitology - 1937.
American Society of Tropical Medicine and Hygiene - 1947.
Royal Society of Tropical Medicine and Hygiene - 1960.
Puerto Rican Committee for Bilharzia Control.
Caribbean Committee for Control Bilharzia.

Publications:

Approximately 100.

Editorial Appointments:

Assists Editor of the Journal of Parasitology by reviewing manuscripts
in his fields of specialty.
Chairman of committee, delegated to prepare Chapter 10
"Chemical Control of Snails", of a WHO Manual entitled
"Epidemiology and Control of Bilharziasis".
CURRICULUM VITAE

Prepared:
April 15, 1973

NAME: Frederick Edward Rushford
DATE OF BIRTH: April 13, 1929
PLACE OF BIRTH: Springfield, Massachusetts, USA
CIVIL STATUS: Married to Maria Teresa Padilla
Two children: Catherine Teresa Rushford (21)
Frederick Eugene Rushford (19)
PRESENT ADDRESS: 162 Villamil Street
Santurce, Puerto Rico 00907
Telephone: 723-6826
EDUCATION:
Secondary: Bulkeley High School, Hartford, Connecticut
Graduated in 1946
Undergraduate: B. S. degree - General Science - 1950
Trinity College, Hartford, Connecticut
Graduate: 102 credits in Education, Educational Administration, and Biology
University of Puerto Rico, Río Piedras, Puerto Rico. 1954 to present
SPECIAL TRAINING: NSF Summer Institutes for Secondary Teachers, 1958-1961
University of Puerto Rico, Río Piedras
Traveling Science Teacher Training, Summer 1959
Oak Ridge Institute of Nuclear Studies
Oak Ridge, Tennessee
Basic Radioisotope Techniques Course, 1963
Puerto Rico Nuclear Center
PROFESSIONAL DIPLOMAS: License, Secondary School Science Teacher,
Government of Puerto Rico
License, Secondary School Principal,
Government of Puerto Rico
PROFESSIONAL SOCIETIES:
Member - American Nuclear Society
Member - Puerto Rico Teachers Association
Member - Councilman, Puerto Rico Chapter of the
Health Physics Society
MILITARY SERVICE:  U. S. Army, May 25, 1951 to May 24, 1953; active duty
Medical Laboratory Technician
Rank: Private E-2

EXPERIENCE:

1950-51  -  Civilian Clerk, U. S. Army Corps of Engineers

1951-53  -  Active Military Service - Medical Laboratory Technician,
Rodríguez Army Hospital

1953-59  -  Secondary School Teacher of mathematics, biology, chemistry,
and physics - Antilles Consolidated Schools, U. S. Naval
Station, San Juan, Puerto Rico

1959-60  -  Traveling Science Teacher - Oak Ridge Institute of Nuclear
Studies

1960  -  Assistant Scientist, Oak Ridge Institute of Nuclear Studies,
assigned to U. S. Atomic Energy Commission Exhibits in
Buenos Aires, Argentina.

1960-62  -  Mathematics and Science Teacher, Antilles High School,
U. S. Naval Station, San Juan, Puerto Rico

June 1962 to July 1970 - Technical Assistant to the Director,
Puerto Rico Nuclear Center (PRNC), Caparra Heights Station,
San Juan, Puerto Rico

January 1970 to present - Head, Information and Education Services Division,
Puerto Rico Nuclear Center

August 1970 to present - Educational Officer, Puerto Rico Nuclear Center

June 1972 to present - Coordinator for Nuclear Programs, University of
Puerto Rico, Office of the President - Joint Appointment
33% UPR and 67% PRNC.

PUBLICATIONS:

1. Evaluation Study of Summer Institute in Radiation
   Biology (PRNC 66)

2. Atómico...Puerto Rico También, Vital 1  noviembre 1965

3. The Puerto Rico Nuclear Center: Its Principal Irradiation
   Facilities and Scientific Program, Isotopes and Radiation
   Technology, published by Isotopes Information Center,
Name: Sasscer, Donald S.

Date of birth: 30 January 1929

Academic rank: Professor, full time

Degrees: BSME, Univ. of Utah, 1953
         MSNE, Iowa State Univ., 1959
         Ph.D. Iowa State Univ., 1964

Service on Faculty: 9 years

Other experience:

McDonnel Aircraft Corp. - Engine Components Design Summer, 1956.

Instructor of Theoretical and Applied Mechanics, Iowa State University, 1956-1959.

Assistant Professor of Nuclear Engineering, Iowa State University, 1961-1964.

Research Scientist, Division of Nuclear Engineering, Ames Laboratory of the USAEC, Ames, Iowa, 1961-1964.

Lecturer, AEC-ASEE Summer Institute in Nuclear Engineering, Iowa State University, Summer 1962.

Lecturer, AEC-ASEE Summer Institute in Nuclear Metallurgy, Iowa State University, Summer 1963.

Co-Director and Lecturer, OCD-ASEE Summer Institute in Fallout Shelters, Summer 1967.

Director and Lecturer, PRWRA (Puerto Rico Water Resources Authority) Special Reactor Operator Training Program, Summer 1970.

Director PRWRA Special Reactor Supervisor Training Program, Summer 1972.


Consulting work:
Chief Scientist I, Division of Nuclear Engineering of the Puerto Rico Nuclear Center, 1965 - Present.

States in which registered

Membership in scientific and professional societies

- American Nuclear Society (ANS)
- Health Physics Society (HPS)
- American Society for Engineering Education (ASEE)
- National Honor Society of Phi Kappa Phi
- U.S. Atomic Energy Commission Special Fellow 1959-1961
- Listed in "American Men and Women of Science"
- Guest Lecturer, USAEC Atoms in Action Program. Univ. of Panama, Panama City, Feb. 1967.

Honors and Awards

Subjects or courses taught this year

- Elements of Nuclear Engineering
- Introduction to Nuclear Engineering Research

Other assigned duties

- Chairman Dept. of Nuc. Eng. UPR-RUM (extra compensation)
- Head Division of Nuc. Eng. Puerto Rico Nuclear Center USAEC-UPR

Programs participated in, to improve competence as teacher


Publications

Approximately 13 to date.
CURRICULUM VITAE

Name: George J. Simpson

Date and Place of Birth: July 16, 1938; Washington, D.C.

Education:

A.B., The Catholic University of America, Washington, D.C.

Ph.D., Chemistry
University of Notre Dame, South Bend, Indiana

Professional Experience:


1966-1969 Assistant Professor, Department of Physics, University of Puerto Rico. Graduate research program advisor.

1968-1969 Lecturer, Department of Chemistry, U.P.R. Course given in "Chemical Kinetics", and "Radiation Chemistry and Photochemistry".


July 1972 to date Puerto Rico Nuclear Center and University of Puerto Rico, Chemistry Department, Rio Piedras Puerto Rico. Research in gamma radiolysis and photolysis of heterocyclic compounds, and in chemiluminescence of cyclic peroxides, and possible intermediates in bioluminescent systems.

Publications:

Approximately 5 publications to date.
CURRICULUM VITAE

Personal

Name : Porfirio A. Toledo Charneco
Date of Birth : November 20, 1946
Place of Birth : Arecibo, Puerto Rico
Marital Status : Married, no children

Education

Institution Degree Subject Month/year
University of P.R. RUM B.S. Mathematic & Psyc. May 70
University of P.R.- Medical Science Campus- R.P. M.S. Radiological Health July 72

Professional Experience

Position Institution Dates
Research Ass. III Puerto Rico Nuclear Center Sept. 70-July 71
Mayaguez- Radioecology Div.
Associate Scientist II Puerto Rico Nuclear Center Sept. 72-July 1973
Health and Safety Division
Rio Piedras, P.R.
Associate Scientist III Puerto Rico Nuclear Center (50%) Aug. 1973 to present
Health and Safety Division
Rio Piedras, P.R.
Instructor University of P.R. (50%) Aug. 1973 to Medical Science Campus, R.P. present

Additional Data

Health Physics Society Member
Curriculum vitae

Name: Vance P. Vicente

Bachelor of Science: University of Puerto Rico, Río Piedras Campus. Concentration in Biology, 1970.

Master of Science: University of Puerto Rico, Mayaguez Campus, Degree in Marine Sciences, Specialty in Marine Microbiology, 1973.

Certificates and Memberships
1) National Association of Underwater Instructors Certificate.
2) Member of the International Oceanographic Foundation.

Previous Experience
1) Taxonomy of the benthic samples of St. Thomas for the Earth Resource Technology Satellite Program under PRINUL.
2) Qualitative and Quantitative determination of the plankton in St. Thomas for E.R.T.S. under PRINUL.
3) Design of a microbiological study within the undersea Laboratory "La Chalupa", PRINUL.
4) Assistant Science Program Coordinator for the Puerto Rico International Undersea.

Publications in Progress
1974 Vicente Vance P. and Dr. Luis R. Almodóvar. Some aspects of the feeding habits of Chaetodon capistratus and the zooxanthellas.

Vicente Vance P. The shallow water sponges (Demospongiae) of the North Coast of Puerto Rico.
CURRICULUM VITAE

David W. Walker
Senior Scientist, Tropical Agro-Sciences Division, PRWC
Associate Professor, Biology Department, University of Puerto Rico

Education

University of Washington, B.S., 1950
Washington State University, M.S., 1951
Washington State University, Ph.D., 1959

Academic Experience

Teaching: Introductory Biology, Introductory Zoology, Systematic
      Entomology, Genetics, Biological Control, Vertebrate
      Physiology, General Ecology, Invertebrate Zoology, Insect
      Control, Insect Anatomy (taxonomy), Insect Biology.

Research: Biometrics, ecology and control of insects in stored grains;
      taxonomy of immature insects; gamma-induced sterility of
      Lepidoptera and other holocentric organisms; transmission
      capability, population change and distribution of malaria
      vectors; growth inhibition of sking micro-organisms by
      pigments.

Research Grants: AEC 1963 to present for work on insect sterility;
      Chemagro Corporation 1962-63 for work with vegetable insect
      control by insecticides; American Cyanamid Corporation
      1955-56 for work with insecticides; Union Carbide Corporation
      1954-55 for insecticide studies; USDA 1955-59 for work with
      grain insects; USDA 1966 to present for work on insect sterility.

Administrative Experience

Director, Induced Sterility in Insects Program, Puerto Rico
      Nuclear Center 1963 to present; Project Leader, Stored Products
      Insects Investigations, Washington State University 1953-59;
      Director, Malaria Control Program for the Philippines by the
      Mutual Security Administration (AID) 1950-51; Chief of Environ-
      mental Sanitation Program for United Nations Relief for
      Palestinian Refugees Program Gaza, Egypt 1949-50.

Non-Academic Positions Held

1947-49, Laboratory Technician, Department of Public Health
      and Preventive Medicine, University of Washington School of
      Medicine; 1949-50, Chief Sanitarian and Malarial Control
      Officer, United Nations Relief for Palestinian Refugees
      Commission, Gaza, Egypt, UAR; 1951-53, Entomologist, U.S.
      Public Health Service, Malaria Control Program, Government
      of the Philippines; 1953-59, Junior Entomologist and Assistant
      Entomologist, Agricultural Experiment Station, Washington State
University; 1963 to present, Associate Scientist, Chief Scientist, and Scientist II, and ad honorem professor in Biology, Puerto Rico Nuclear Center, UPR; 1968-69, Radiation Entomologist, International Atomic Energy Agency, assigned to the Atomic Energy Commission of Thailand as Director of work on insect sterility.

Overseas Experience and Travel


Foreign travel has included the Middle East, 1949-50; Far East, Middle East and Europe, 1968-69; Central and South America, 1965-66.

Publications

Approximately 35 to date.
ELWYN D. WOOD
Oceanographer
Scientist II
Puerto Rico Nuclear Center

Birth: September 15, 1934

B.A. Chemistry, Western Washington State College, 1964
B.A. Education, Western Washington State College, 1964
M.S. Oceanography, University of Washington, 1966
Ph.D. Oceanography, University of Alaska, 1971

Oceanographer, 1966-67, University of Washington
NORCUS Fellow, 1969-70, Battelle-Northwest
Scientist I, 1970-73, Puerto Rico Nuclear Center
Scientist II, 1973-present, Puerto Rico Nuclear Center

Member:

Professional
American Chemical Society
American Geophysical Union
American Society of Limnology and Oceanography
International Oceanographic Foundation
The Geochemical Society

Nonprofessional
Aircraft Owners and Pilots Association
National Geographic Society
National Rifle Association

Experience:

Professional
University of Washington, Research and Teaching Assistantships, 1964-66
University of Washington, Oceanographer, in charge of Marine Routine Chemistry Laboratory, 1966-67
University of Alaska, Research Assistantships, 1967-69
Battelle-Northwest, Pacific Northwest Laboratories, NORCUS Research Fellow, 1969-70
Puerto Rico Nuclear Center, Oceanographer, 1970-73
Puerto Rico Nuclear Center, Head, Site Selection Survey, 1973-present

Nonprofessional
Alaskan Fishing Industry, one season, engineer; twelve seasons, captain of fishing vessels and tenders

Publications:

Approximately 12 to date.
Name: Marsh J. Youngbluth

Date and place of birth: 15 September 1940, Portland, Oregon

Education:
- B.S. Biology, 1963, Portland State University
- M.S. Zoology, 1966, University of Hawaii
- Ph.D. Biology, 1972, Stanford University

Academic Awards:
- National Science Foundation Research Assistantship (1971-1972)
- National Science Foundation Dissertation Grant (1971)
- Society of the Sigma Xi Research Grant (1971)
- California State Tuition Scholarship (1969-1970)
- National Science Foundation Predoctoral Traineeship (1967-1971)

Professional Experience:

Research Scientist:
1972-date Head, plankton research program at Puerto Rico Nuclear Center.
   1) Studying coastal zooplankton communities in polluted and unpolluted regions to assess major components and to determine seasonal fluctuations in their abundance and diversity.
   2) Examining in detail the magnitude of variability associated with diurnal vertical migration and aggregated distribution patterns.

Chief Scientist:
1969-1972 Responsible for directing and conducting research programs on RV Proteus for periods ranging from one day to two weeks.

Instructor:
1970, 1971 (June-July), Hopkins Marine Station of Stanford University
   Subject: Biological Oceanography (co-instructor)
1968 (February, July-August), Universidad de Costa Rica (under auspices of the Organization for Tropical Studies)
   Subject: Marine Ecology (co-instructor)

Teaching Assistant:
1967-1968 Stanford University
   Subjects: Biological Oceanography, Marine Biology
1965-1967 University of Hawaii
   Subjects: General Zoology, Invertebrate Zoology, Marine Ecology, Animal Behavior

Laboratory Manager:
1966 (June-September), Eniwetok Marine Biological Laboratory (under auspices of the Atomic Energy Commission and University of Hawaii)
Research Assistant:
1966 (June-September), Eniwetok Marine Biological Laboratory
Assisted with several research projects, e.g., isolated unusual
biochemical polymers from zooxanthellae, collected organisms for
taxonomic and zoogeographic studies, gathered ecological and
ethological data on coconut crab populations, tested aggressive
behavior of lagoon sharks toward plastic bag models, surveyed
effect of atomic radiation on indigenous rats.

1966 (January, April), Johnston Island (under auspices of Hawaii Institute
of Marine Biology)
Participated in a fish toxin (ciguatera) research program; duties
included mapping subtidal coral reef study areas, underwater
photography of these habitats, and collection of top carnivores
for biochemical assays.

Research Experience and Interests:

1969-1972 Gulf of California, Central and Northern California Current,
Tropical Eastern South Pacific Gyre. Studied the vertical
distribution, diel migration, and community structure of
euphausiids.

Studied crustacean assemblages symbiotic with coral-head micro-
habitats to explore mechanisms responsible for the maintenance
of species diversity.

1967 Gulf of California. Attempted to determine with a time-
dependent sampling program if the phaeopigment/chlorophyll ratio
could be employed to evaluate grazing pressure at mesopelagic
depths.

and ethological aspects of cleaning symbiosis—a relationship in
which a small reef fish removes ectoparasites from other tropical
reef fish.

Cruise Experience:

Major: November-December, 1970, RV T. WASHINGTON, Tropical Eastern South
Pacific Gyre
July-August, 1970, RV PROTEUS, Central and Northern California Current
April-June, 1968, RV TE VEGA, Peru to Baja California
June-September, 1967, RV TE VEGA, Gulf of California

Minor: 1969-1972, 1-3 days, RV PROTEUS, Central California Current
1969, two weeks, RV PROTEUS, Gulf of California
1964-1966, 1-3 days, RV TERITU, RV SALPA, Hawaiian waters
Membership in Professional Societies:

- American Institution of Biological Sciences
- American Society of Naturalists
- American Society of Limnology and Oceanography
- The Association for Tropical Biology
- The Society of the Sigma Xi

Publications:


Prospective Publications:

   I. Tropical, oceanic waters (East Tropical South Pacific)
   II. Temperate, offshore waters (Central California Current)
   III. Temperate, nearshore waters (Monterey Bay, California)
   IV. Recurrent groups of euphausiids in stable and transitional water masses

2. Diurnal changes in the faunal components of sonic scattering layers in Monterey Bay, California.

3. Energy transfer by populations of vertically migrating euphausiids.

4. Seasonal variation in the zooplankton communities of Monterey Bay, California.

5. Accuracy and precision of methods used to subsample zooplankton.