

FERNANDO ROMERO-BORJA
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SELF DESCRIPTION:

Physicist with 38-plus years of experience, former university faculty member with teaching and research duties in: Physics, Photonics, Optical instrumentation for vision and material science.

CURRENT PROFESSIONAL ACTIVITY:

Professor of Physics at the Houston Community College - Central Campus. Teaching duties include Physics courses for Engineering and Science, and introductory Physics courses for the Non-Science Majors and the Pre-Health professions.

EDUCATION:

University of Constance (Germany), Ph.D., Physics, 1981

<http://www.uni-konstanz.de/physik/?cont=start&lang=de>

National Autonomous University of Mexico (UNAM), B.Sc., Physics, 1975

<http://www.fciencias.unam.mx/licenciatura/fisica/index.html>

EMPLOYMENT:

HCC - Central / Physical Science Department, Jan. 2000 - present, Professor of Physics.

University of Houston/College of Optometry, 1999 - 2005, Senior Research Scientist.

University of Houston / Physics Department, 1995-2000, Visiting Professor / Lecturer.

Texas Center for Superconductivity, 1995 - 96, Consulting Optical Engineer (Infrared Spectroscopy).

Texas Center for Superconductivity, 1991 - 95, Research Associate / Lecturer (Experimental Optics / FTIR-Spectroscopy).

University of Siegen (Germany), 1990-91, Optical Scientist / Engineer (Development of optical instrumentation for UV Spectroscopy).

University of Houston / Physics Department, 1983 - 90, Research Associate / Visiting Scientist (Optical Testing Laboratory / Fiber Optic Sensors).

University of Constance (Germany), 1981-82, Visiting Assist. Prof (Laboratory Supervisor in Experimental Optics / Astrophysical Systems Modeling).

University of Constance (Germany), Summers of 1981,78,77, Instructor (Mathematical Introduction to Experimental Physics).

University of Mexico (UNAM), 1974, Instructor, (Undergraduate Physics Laboratory).

University of Mexico (UNAM), 1972-73, Research Assistant (Fluids Laboratory).

Updated: May 2021

SKILLS / ACCOMPLISHMENTS:

During the spring of 2009, spent sabbatical leave of absence abroad at the National Institute for Astrophysics, Optics and Electronics (INAOE) in Puebla, Mexico. Collaboration with established research groups to initiate experimental projects in adaptive optics for vision science applications.

Ability to work in a team and budgeting research grants. Strong interdisciplinary interaction with research colleagues and students at the Research Division of the College of Optometry at the University of Houston. Good problem-solving, communications, and interpersonal skills. Good laboratory managing / maintenance practices.

Strong experimental and theoretical training in the design and set-up of optical / physical Systems. Low temperature measurements techniques.

Good operational expertise with FTIR research grade instrumentation.

Experience with computer interfacing and automation (VMS, DOS, Windows XP).

Familiar with software packages for systems control, data analysis, presentation, and publication (Office 2003, Adobe Illustrator10, Photoshop, etc).

Programming experience in C language, UNIX, Database Management (Oracle , MS-Access), and Client/server applications (PowerBuilder).

Optical characterization and analysis of damage induced in polymers after ion implantation. Analysis of electronic transport properties in superconducting thin-films by FTIR-spectroscopy. Spectral characterization of semiconductor materials after doping for applications in VLSI devices.

Infrared properties of diverse materials (boron carbide, boron nitride, carbon-60, -70). Design and construction of UV - IR instrumentation for optical / spectroscopic analysis of materials. Design and construction of infrared microscope for cryosampling. Development and set-up of testing station for optical fiber sensing properties.

AWARDS / MEMBERSHIPS:

*Sabbatical leave award to do optical research at the INAOE institute (Puebla, Mex.) during the Spring Semester of 2009.

* Full fellowship/grant from the National Center for Optics and Photonics Education. Waco, TX. May 02, 2008

*Nominated twice (2004 and 2005) for a Teaching Excellence Award at the Houston Community College – Central Campus.

*Most Outstanding faculty facilitator in the Scholar Enrichment Program. University of Houston, May 1996.

*German Academic Exchange Service (DAAD-Germany) 5-year Graduate fellowship.

*National Council for Science and Technology (CONACYT-Mexico) 5-yr. Graduate fellowship.

+American Physical Society,

+Optical Society of America,

+SPIE-The International Society for Optical Engineering, and

+American Association of Physics Teachers.

Updated: May 2021

MISCELLANEOUS:

Languages: Fluent in English, German, Spanish, some reading ability in French.

Interests: Racquetball, Swimming, Dog Training.

PUBLICATIONS:

In the fields of relativistic astrophysics, gravitational radiation, optical fiber sensors, optical properties of superconducting and semiconducting materials, spectroscopic instrumentation design, adaptive optics instrumentation for ophthalmoscopy . List provided upon request.

REFERENCES: Upon request.

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