Carlos Martin Monton, Ph.D

University of California, San Diego
9500 Gilman Drive
San Diego, California, 92122, USA

Phone: +1-858-414-2916

Email: monton.carlos@gmail.com

Physicist (PhD) with multidisciplinary working experience in thin film growth, operation of complex equipment and process development for the fabrication of thin film devices. Strong background in nanotechnology, condensed matter physics and computer programming. Experienced in organic and inorganic magnetic materials and superconductors, structural analysis including x-ray diffraction, electron and atomic force microscopy. Expert in the fabrication of nanoporous materials by electrochemical methods.

Personal

Date of birth	December 30, 1972
Languages	Spanish (native) English (fluent, >6 years international experience)

Key Work Experience

- State-of-the-art instrumental design and construction
  - Two ^{4}He cryogenic instrument environments
  - Superconducting quantum interference device (SQUID) magnetometer
  - Ac-Susceptometer (ac- electronic circuit design)
  - Electrochemical anodization equipment
  - High sensitivity magneto-electrical transport system
- Team leader and Area Supervisor of cross disciplinary international research team
- Expertise in thin film device design, manufacture and characterization
- Expertise in a variety of sensitive equipment monitoring, data acquisition and diagnostic tools using customized computing environments
- Feedback oriented organic sensor development for industrial applications (commercial and military research sector) - calibration, data analysis, and communication for two companies
- International team working and communication
(16 Int. Conferences + 15 Peer-Reviewed Publications + Book Chapter)
- Experience with equipment supplier (hardware evaluation and modification)
- Research targeted to the discovery and exploration of new materials physical properties

Key Accomplishments

- Safety and Area Supervisor of Integrated Nanosensors Lab at UCSD
- Implementation and Area Supervisor at UCSD of:
  - ► Magneto-Electrical characterization facility ► Electrochemical fabrication laboratory
  - ► Organic-based chemical sensors testing facility (used in Industrial collaborations)
- Development of fabrication process for large scale production of superconducting (YBCO-based) electrical wires for power applications (at ICMAB-Barcelona)
- Successful Proposal contributions to DOE, NSF and AFOSR

Skills and Expertise

Scientific Interest	● Condensed Matter Physics ► Superconductivity ► Magnetism ► Thin Film Growth ► Structural Characterization ● Sustainable Energy Research ► Photovoltaic devices ► Nanotechnology ► Organic thin film devices ► Nuclear Energy and Safety ● Magneto-electronics ► Thin film magnetism ► Spintronics ► Nanostructures ► Superconducting wires ► Molecular Magnets ► Magnetic Tunnel Junctions ► Organic and Inorganic Semiconductors
Experimental Instrumentation and Operation	● Scientific sample and device fabrication ► Organic Molecular Beam Epitaxy ► Atomic Layer Deposition ► RF + DC magnetron sputtering ► Electrochemical Anodization ► Reactive Ion Etching ► Optical and e-beam lithography ► Focused Ion Beam ● Ultra High Vacuum ● Cryogenics ● X-ray diffraction ● AC-DC magnetometry ● Electron Microscopy ● Atomic Force Microscopy ● Electrical Transport ● Ferromagnetic Resonance
Computer Applications	● Fortran ● LabView ● MS Office (Word, Power Point, Excel) ● Origin Pro ● Visual Basic ● Corel Draw ● Adobe Acrobat

Education

PhD in Physics	Instituto Balseiro, Centro Atómico Bariloche, Universidad Nacional de Cuyo [Argentina]	Mar. 2003 - Mar. 2008
Bachelors in Physics	Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Rosario [Argentina]	Mar. 1994 - Mar. 2002
Electrical Engineer	Universidad Tecnológica Nacional [Argentina]	Mar. 1993 - Mar. 1994
Electro-Mechanics Technician	Escuela Industrial Superior, Universidad Nacional del Litoral [Argentina]	Mar. 1986 - Dec. 1992

. Work Experience

Project Research Scientist	Center for Advanced Nanoscience at UCSD Advisor: Prof. Ivan K. Schuller	Apr. 2014 - Present
Postdoctoral Fellow	Center for Advanced Nanoscience at UCSD Advisor: Prof. Ivan K. Schuller	Oct. 2010 - Apr. 2014
Marie Curie Postdoctoral **Fellowship Award**	Institute of Material Sciences of Barcelona Nanoengineered Superconductors for Power Applications (NESPA)	Jun. 2008 - Oct. 2010
Research Scientist PhD Student	Laboratory of Low Temperatures, Centro Atómico Bariloche [Argentina]	Mar. 2003 - Jun. 2008
Radiation Safety Technician Emergency Response Team Member	Experimental Nuclear Reactor RA4 Universidad Nacional de Rosario [Argentina] (**In parallel to Bachelors in Physics**)	Mar. 1995 - Mar. 2001

Management and Training Courses

Communication and Management	NESPA, Cyprus [Greece]	May 2010
Basic Superconducting Measurements Techniques	NESPA, Vienna [Austria]	Oct. 2009
Transmission Electron Microscopy	NESPA, Barcelona [Spain]	May 2009
Introduction to Nanofluidics	International Center for Theoretical Physics, Trieste [Italy]	Aug. 2007
Radiation and Nuclear Protection	Autoridad Regulatoria Nuclear (ARN) [Argentina]	1995 - 2000

Scientific Outreach

Production Assistant for UCSD-TV	Jul. 2013
Program: "Albert Fert: The Rugby Who Got the Nobel Prize" Link to view the interview: http://www.youtube.com/watch?v=jyV208Bqax0	
Lecturer at the International Buenos Aires Book Fair	Apr. 2006
Lectured and performed experiments about matter properties at very low temperatures for more than 2000 people during the two weeks Book Fair period.	