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EDUCATION

University of Puerto Rico, Mayagüez – M.S., Physics, 2009

University of Puerto Rico, Humacao – B.S., Physics Applied to Electronics, 2005

RELEVANT WORK EXPERIENCE

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| 2015 – <i>present</i> | Adjunct Professor and Research Assistant, University of Puerto Rico, Mayagüez PR |
| 2013 – 2015 | R&D Staff and Production Manager, Cutting Edge Superconductors, Mayagüez PR |
| 2013 | Adjunct Professor, Interamerican University, Barranquitas PR |
| 2010 – 2012 | Adjunct Professor, Interamerican University Metro Campus, San Juan PR |
| 2010 | Adjunct Professor, Centro de Estudios Multidisciplinarios, San Juan PR |
| 2005 – 2008 | Teaching Assistant, University of Puerto Rico, Mayagüez PR |

TECHNICAL EXPERIENCE

Electrospinning, Scanning Electron Microscopy, Pulsed Laser Deposition, DC Sputtering, Sample synthesis, Electrical measurements, Profilometer, Vacuum Devices, XRD analysis, Electronic design and fabrication, DOE/DOX for sample sets, Arduino, 3D Printing.

Main developer for the following integrated systems:

- Four point Van-der-pauw and Kelvin sensing resistivity measurements for thin films at 18-500K.
- Critical Temperature and Critical Current measurements for bulk superconducting samples.
- CNC user interface via custom software, and several utilities including path sequencing scripts.
- Adapted furnace for Rapid Thermal Annealing with variable speed control via microcontroller.

Research materials include:

- Polyacrylonitrile(PAN)
- CuAlO_2 and related oxides.
- MgB_2
- VO_2 (B-phase)
- V_6O_{13}

SOFTWARE PROFICIENCY

Matlab, Labview, Parametric 3D modeling, G-Code (low-level code for operating CNC equipment).

TEACHING EXPERIENCE

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| 2015 – present | FISI3171, FISI3172 – Physics I & II FISI4076 – Intermediate Laboratory (UPR, Mayagüez) |
| 2010 – 2013 | PHYS3001, PHYS3002 – General Physics I & II MAEC2221 – Basic Statistics (UIPR, San Juan + Barranquitas) |
| 2010 | REST100, REST100L - Physics Applied to Respiratory Therapy + Laboratory MATE 104 – Arithmetics and Algebra (CEM, San Juan) |
| 2005 – 2008 | FISI3173, FISI3174, FISI3092 – Physics I, II, Physical Science Laboratory – (UPR, Mayagüez) |

PUBLICATIONS

1. Armando Rúa, **Ramón D. Díaz**, Sergiy Lysenko and Félix E. Fernández, *Semiconductor-insulator transition in VO₂ (B) thin films grown by Pulsed Laser Deposition*. J. Appl. Phys. **118**, 125308 (2015).
2. **R. D. Martinez**, A. N. R. da Silva, R. Furlan, I. Ramos, J. J. Santiago-Avilés, *Analysis of electrospinning of nanofibers as a function of polyacrylonitrile (PAN) concentration* – Electrochem. Soc. Proc. **3**,277 (2004)

REFERENCES

- Professor Félix Fernández, Physics Department, University of Puerto Rico, Mayagüez Campus.
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- Professor Armando Rúa, Physics Department, University of Puerto Rico, Mayagüez Campus.
E-Mail: armando.rua@upr.edu, Phone: (787) 832-4040 Ext. 2017
- Professor Edilberto Arteaga, Science and Technology Faculty, Interamerican University, San Juan
E-Mail: earteaga@intermetro.edu, Phone: (787) 250-1912 Ext. 2395