

Francisco Maya, Ph.D.

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EDUCATION

- 2000-2004 •Ph.D. in Organic Chemistry, Rice University, Houston, TX
- 1996-1998 •M.S. in Organic Chemistry, National Polytechnique Institute (IPN), México City, México
- 1991-1996 •B.S. in Chemical Engineering, Celaya Institute of Technology (ITC), Celaya, GTO, México

PROFESSIONAL EXPERIENCE

- 2004-present •Patterning Process Engineer, Portland Technology Development, Intel Co.
 - Sustain and development of Wet Etch processes
 - Deployment and support of 45nm and beyond processes and technologies
- Graduate Research Assistant, Rice University, Advisor: Prof. James Tour
 - Designed and synthesized oligomers as potential molecular devices: aliphatic, aromatic and conjugated organic molecules incorporated in new microelectronic architectures based on metallic, carbon and semiconductor surfaces
 - Prepared, functionalized and analysed carbon nanotubes and derivatives
 - Used computational modeling and calculations at different levels
- 2003-2004 •Consulting, "Sensory and Human Olfactory Research", Client: Dr. Denise Chen, Department of Psychology, Rice University
 - Prepared reagents and experiments for the human detection of different substances, analyzed by chromatography and spectroscopy
- 2000-2002 •Graduate Teaching Assistant, Rice University
 - Supervised and graded general and organic chemistry labs for undergraduates
- NSF-AGEP Intern, Rice University
 - Synthesized precursors for cyclophanes and other macromolecular structures
- 1998-2000 •Research Assistant, Yale University, Advisors: Prof. James R. Cross and Prof. Martin Saunders
 - Synthesized, prepared, derivatized and characterized fullerenic materials
 - Developed high-pressure, high-temperature experiments and equipment for the synthesis of endohedral fullerenes
- Graduate Research Assistant, National Polytechnique Institute (IPN), México City, México, Advisor: Prof. Hugo A. Jiménez-Vázquez
 - Purified and functionalized fullerenic materials
 - Synthesized small heterocyclic compounds for C-C bonding with fullerenes via Diels-Alder cycloadditions
 - Designed computational algorithms for Monte Carlo and molecular mechanics computational methods applied on simulation of chemical interactions

SKILLS

- Chromatography: high performance liquid, gel permeation, gas, flash, preparative thin layer
- Spectroscopy and Microscopy: X-ray photoelectron, Raman, FT-IR, surface IR, UV-Vis, multiprobe NMR, mass; scanning probe, Kelving probe
- Sample preparation: self-assembled monolayers and grafting on metallic, semiconductor and carbon surfaces
- Computer: molecular modeling, MS Windows and Unix-based office and graphics software, web publishing and administration, programming in FORTRAN, C, HTML, CSS
- Other techniques: metal evaporation, shadow mask photolithography, ellipsometry, goniometry, differential scanning calorimetry, thermogravimetric analysis, cyclic voltammetry, semiconductor parametric analyzer and probe station; Schlenk line and glove box operation

LANGUAJES

- Native Spanish speaker, fluent spoken/written English, good understanding of French

PUBLICATIONS

- 13 peer reviewed publications, 2 patent applications

PRESENTATIONS

- 11 presentations at national and international invitations, conferences and symposia

REFERENCES

- Available upon request

CONTACT

- orni at fmaya.org