

Nasima AfsharImani

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OBJECTIVE

Seeking a job position, using my research background and academic experience. Also, interested in any opportunity related to study the new fields of nanoscience and nanotechnology.

EDUCATION

- **Ph.D. (February 2009 – November 2013)** Institute of Condensed Matter and Nanosciences (IMCN) - Bio- and Soft Matter division (BSMA), Université catholique de Louvain (UCL), Belgium.
Dissertation Title: Scanning probe microscopy study of electronic properties of oligothiophenes thin films.
Advisor: Prof. Dr. B. Nysten.
PhD thesis sponsored by UCLouvain.
- **M.S. (February 2005 - March 2007)** Applied Physics, Sharif University of Technology, Iran, CGPA: 17.84/20
Title of thesis: Synthesis and Characterization of Hard Thin Film Coatings by Alumina Nanostructure Flakes
Advisor: Prof. Dr. A. Irajizad.
Thesis grade: 19.5/20
- **B.S. (October 2000 – February 2004)** Physics (Condensed Matter), Islamic Azad University, Tehran Central Branch, Iran , CGPA: 18/20

RESEARCH EXPERIENCE

- **Postdoctoral research fellow (October 2014 – Present)** CNRS, Institute de Physique et Chimie des Materiaux de Strasbourg (IPCMS), Departement Surfaces et Interfaces (DSI), Strasbourg, France.
Research topic: Opto-electronic properties of individual molecular wires involved in tunneling in a STM junction, with the final perspective of building light emitting diodes (LED) of molecular scale.
Sponsor: Agence Nationale de la Recherche (ANR)
- **Researcher (January 2008 – January 2009)** Acoustics and Thermal Physics, Thin film Group, K.U. Leuven, Belgium
Performing a scientific study within a framework of the project “Depth profiling of the glass transition dynamics and diffusion in ultra-thin polymer films using dielectric probe techniques”
- **Researcher (April 2007 – January 2008)** Surface Laboratory, Department of Physics, Sharif University of Technology, Iran
Studying of polymer composites based on alumina nanoparticles and comparison with composites based on alumina flake fillers.
- **Researcher (September 2005 – March 2007)** Sharif University of Technology, Tehran, Iran
Researcher in ONS (Optic, Nano and Surface) group.
Presenting two ideas for the possible ways of utilizing the Solar Energy within the framework of the project which had been defined in the course of Solar-Energy.

TRAINING and SKILLS

Training

- Participated in the summer school program with the topic of “molecular electronics and molecular switches”, 23-27 June 2014, Chalmers university, Sweden.

IT skills

- *Applications:* Microsoft Office, Origin, WSxM, PicoView, Gwydion and other common productivity packages for Windows platforms,

Laboratory skills

- Thin-film preparation: Spin-Coating, drop-casting
- Surface characterization: Contact angle, Ellipsometry
- Spectroscopy: XRR, FT-IR, UV-Visible spectrophotometer

- SPM techniques: AFM, KPFM, STM/STS (air, liquid/solid interface, LT-UHV)
- Metallization in clean-room (sputtering, e-beam)
- Fabrication and I-V measurements of Organic Thin-Film Transistors (OTFTs).
- Surface modification and processing: Silanization, UV-light and plasma activation, Piranha solution
- Molecular sublimation and on-surface polymerization in UHV
- Particle size analysis

Language skills

- English (Bilingual Proficiency)
- French (Intermediate)
- Turkish (Basic)
- Persian (Native)

Personal skills

- An eye for details
- Willingness to learn
- Self-motivated
- Organized skills
- Very good communication skills
- Teamwork
- Problem solving

TEACHING

Assistant (April 2007 – January 2008)

- Managed laboratory functions including organization, ordering and scheduling equipment use.
- Trained new students and visitors.

Leadership (February 2009 – November 2013)

- Assisted in supervising a number of fellow students, providing guidance and instruction on a number of techniques and laboratory practices.
- Guided two M.Sc. projects and trained students.
- Was responsible for a number of instruments and tasks, including a cleanroom metallization process (e-gun machine and sputtering).

HONORS and AWARDS

- Exempted from tuition fee due to being the top student in two semesters of B.Sc. program. To qualify for this award, I had to get an (A+) GPA.

- Awarded as top student in two semesters of the M.Sc. program. To qualify for this award, I had to get an (A+) GPA.
- Awarded an incentive grant of around 436\$ in support of M.Sc. thesis program.

PROFESSIONAL SERVICES

Associations

- Young researchers club , member (Feb. 2005- Feb.2006) ,Tehran, Iran
- Alumni association of Sharif University of Technology (SUT), member (Mar. 2007- present)

Reviewer

- Journal: Electronics
Date of service: 2014 (<http://www.mdpi.com/2079-9292/4/1>)
- Currency check of several articles for the new updatable online reference database with the invitation of Prof. Jan Reedijk (Editor-in-Chief). This work is created from the existing Major Reference Works (multi-volume Encyclopedic and Comprehensive works) in the area of Chemistry, Molecular Sciences and Engineering.

PUBLICATIONS

- I. Kacem and N. Afsharimani, "*Challenges of surface modifications for enhanced properties of textile biomaterials*", *theHealth*, **5** (2014) 32-39.
- N. Afsharimani, A. Minoia, C.Volcke, M. Surin, R. Lazzaroni and B.Nysten, "*Self-assembly of alkyl-substituted oligothiophenes on MoS₂: a joint experimental and theoretical study*", *J. Phys. Chem. C*, **117** (2013) 21743-21751.
- N. Afsharimani, B.Nysten, "*Electronic Properties of Dioctylterthiophene-Based Organic Thin-Film Transistors: A Kelvin Probe Force Microscopy Study*", *Thin Solid Films*, **536** (2013) 295-301.
- N. Afsharimani, B.Nysten, "*Scanning Probe Microscopy Study of Electronic Properties in Alkyl-substituted Oligothiophene-based Field-Effect Transistors*" , *Vacuum*, **90** (2013) 17-24.
- N.S.Afsharimani, A.Iraji zad, M.J.Tafreshi, S.Salar Tayefeh," *Synthesis and Characterization of Alumina Flakes / Polymer Composites*", *Journal of Applied Polymer Science* , **115** (2009) 3716.
- N.S.Afsharimani, "*Introduction to Scanning Thermal Microscopes*", Takaneh Magazine (a persian magazine of students of physics at Sharif University, Iran), No.13, pp.32-36, 2008.

PUBLISHED CONFERENCE PROCEEDINGS

- N.S.Afsharimani, and B. Nysten. "*Oligothiophene-Based Organic Thin-Film Transistors: A Kelvin Probe Force Microscopy Study of the Electronic Properties.*" MRS, 9-13 April 2012, Sanfrancisco,CA, USA. *MRS Proceedings*, vol. 1435. Cambridge University Press, 2012. (Published & Poster communication)
- N.S.Afsharimani, Y.Geerts and B. Nysten, "*ddOD4T-Based Organic Thin-Film Transistors: A Kelvin Probe Force Microscopy Study of Electronic Properties*", ICNS4, 12-14 March 2012, Kish, Iran. *Proceedings*, p. 1246-1249. (Published & Oral communication)
- N.Afsharimani, and B. Nysten. "*Scanning Probe Microscopy Study of Electronic Properties in Alkyl-substituted Oligothiophene-based Field-Effect Transistors.*" 18th International vacuum Congress, Beijing, China, August 2010, *Physics Procedia* 32 (2012): 669-679. (Published & Oral communication)

CONFERENCE CONTRIBUTIONS

- Afsharimani, N., and B. Nysten. "*DOTT-Based Organic Thin-Film Transistors: A Kelvin Probe Force Microscopy Study of Electronic Properties.*" International conference on Scanning Probe Microscopy on Soft and Polymeric Materials. (SPM on SPM), 23-26 September, 2012, Kerkrade, The Netherlands. (Oral communication)
- Afsharimani, N., and B.Nysten. "*Alkyl-substituted Oligothiophenes: Self-assembly and Electronic Properties Probed by STM, STS and KPFM*" Annual Meeting of the Belgian Polymer Group (BPG), 10-11 May, 2012, Blankenberge, Belgium. (Oral communication)
- Afsharimani, N., and B. Nysten. "*Kelvin probe force microscopy study of electronic peoperties of oligothiophene- based OTFTs.*" Forum des Microscopies à Sondes Locales, Saint-Jacut-de-la-Mer, France, 12-16 March 2012. (Poster communication)
- Volcke, C., Afsharimani, N., and B. Nysten. "*Molecular organization and electronic properties of oligothiophene derivatives adsorbed on MoS₂ surfaces.*" Forum des Microscopies à Sondes Locales, Saint-Jacut-de-la-Mer, France, 12-16 March 2012. (Poster communication)
- Afsharimani, N., and B. Nysten. "*Structural and electronic characterization of thin-films of semiconducting organic liquid crystals.*" PhD Students' Day, 27 May, 2011, Louvain-la-Neuve, Belgium. (Oral communication)
- Afsharimani, N., and B.Nysten. "*SPM study of dialkyloligothiophenes: from self assembly to thin-film electronic properties.*" IAP P6/27 FS2 Annual Meeting, 2010, Belgium. (Oral communication)
- Afshar Imani, Nasima Sadat; Irajizad, Azam; "*Mechanical Characterization of Polymer Composites*", 2nd nanotechnology student conference, 14-16 Sep. 2007, Kashan University. (Poster communication)
- Afshar Imani, Nasima Sadat; Irajizad, Azam; Tafreshi, Majid Jafar; SalarTayefeh, Saeed,"*Synthesis and Mechanical Characterization of Polymer Composites*",8th

conference on Condensed Matter, the Physics Society of Iran, Ferdowsi University, Mashad, 14-15 Feb. 2007. (Oral communication)

REFERENCES

- Bernard Nysten , *FNRS Senior Research Associate & "Extraordinary" Professor*,
Institute of Condensed Matter and Nanosciences (IMCN) - Bio- and SoftMatter division (BSMA), Université catholique de Louvain (UCL), Belgium.
E-mail: Bernard.nysten@uclouvain.be
- Alain M. Jonas, Professor, Head of the laboratory and a member of supervising committee of my PhD, Institute of Condensed Matter and Nanosciences (IMCN) - Bio- and SoftMatter division (BSMA) , Université catholique de Louvain (UCL), Belgium.
E-mail: Alain.jonas@uclouvain.be
- Azam Iraji Zad, Professor, Physics Department and Institute for Nanoscience and Nanotechnology (INST), Sharif University of Technology, Iran.
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