Dr. Amin Yourdkhani

Assistant Professor of Materials Engineering, Faculty of Engineering, Tarbiat Modares University, Tehran, Iran

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Education

- **Doctorate of Philosophy** (2009-2012), Materials Science, University of New Orleans, New Orleans, LA, United States
- **M.Sc** (2005-2008) Materials Engineering, University of Tehran, Tehran, Iran
- **B.Sc** (2001-2005) Materials Engineering, University of Semnan, Semnan, Iran

Research Experiences

- (2012-2013) Postdoctoral Researcher, Marie Curie Fellowship, European Union Nanowiring Network, Istituto dei Materiali per l' Elettronica ed il Magnetismo, CNR, Parma, Italy
- (2009-2012) Research Assistant, Advanced Materials Research Institute, University of New Orleans, New Orleans, Louisiana, United States
- (January 2012-May 2012) Teacher Assistant, Chemistry department, University of New Orleans, New Orleans, Louisiana, United States
- (2006-2007) Research Assistant, Center of Excellence on Magnetic Materials, Magnetic Materials Lab, Materials Science and Engineering Department, University of Tehran, Tehran, Iran

Research Interests

Ceramics for Energy Applications (both storage and conversion), Electroceramics, Nanoscale Characterization by Scanning Probe Microscope

Invited Talks

- (December 2012) Scanning Probe Microscopy Investigations on the Surfaces of Functional and Multifunctional Ceramics, IMEM, CNR, Parma, Italy

- (April 2014) Ferroelectric Order in Nanometer- Scale Crystals, Materials and Metallurgical Engineering Department, Faculty of Engineering, University of Tehran, Iran

- (May 2014) Scanning Probe Microscopy Investigation of Functional Materials, Materials and Energy Research Center, Karaj, Tehran, Iran

Publications

Amin Yourdkhani, Daniela Caruntu, Melvin Vopson, Gabriel Caruntu, 1D core–shell magnetoelectric nanocomposites by template-assisted liquid phase deposition, *CrystEngComm*, 19 **(2017)** 2079-2088.

Amin Yourdkhani, Daniela Caruntu, Armando K. Perez and Gabriel Caruntu, Liquid Phase Deposition of Barium Hexaferrite Thin Films, *Journal of Physical Chemistry C*,118 **(2014)** 1774–1782

Mark J. Polking, Myung-Geun Han, **Amin Yourdkhani**, Valeri Petkov, Christian F. Kisielowski, Vyacheslav V. Volkov, Yimei Zhu, Gabriel Caruntu, A. Paul Alivisatos and Ramamoorthy Ramesh, Ferroelectric order in individual nanometre-scale crystals, *Nature Materials*, 11 **(2012)** 700-709.

Amin Yourdkhani, Armando K. Perez, Cuikun Lin, Gabriel Caruntu, Magnetoelectric Perovskite-Spinel Bilayered Nanocomposites Synthesized by Liquid-Phase Deposition, *Chemistry of Materials*, 22 (**2010**) 6075–6084.

Amin Yourdkhani, Gabriel Caruntu, Highly Ordered Transition Metal Ferrite Nanotube Arrays Synthesized by Template-Assisted Liquid Phase Deposition, *Journal Materials Chemistry*, 21 (**2011**) 7145-7153.

Amin Yourdkhani, Gabriel Caruntu, Characterization of the Microstructural and Piezoelectric Properties of PbTiO3 Thin Films Synthesized by Liquid-Phase Deposition**,** *Journal Physical Chemistry C*, 115 **(2011)** 14797–14805.

Amin Yourdkhani , Ezra Garza , Luis Zaldivar , Leonard Spinu , and Gabriel Caruntu, Magnetic Field-Assisted Piezoelectric Force Microscopy Investigation of PbTiO3 –TbDyFe Bilayered Nanocomposites, *IEEE Transaction on Magnetics*, 47 **(2011)** 3939-3942.

Amin Yourdkhani, S.A. Seyyed Ebrahimi, H.R. Koohdar , Preparation of Strontium Hexaferrite Nano-Crystalline Powder by Carbon Monoxide Heat Treatment and Re-Calcination from Conventionally Synthesized Powder, *Journal of Alloys and Compounds*, 470 **(2009)** 561-564.

Amin Yourdkhani, S.A. Seyyed Ebrahimi, H.R. Koohdar, Optimization of Sr-hexaferrite Dynamic Gaseous Heat Treatment by Carbon Monoxide, *International Journal of Modern Physics B*, 22 **(2008)** 3133-3138.

Amin Azizi, Amin Yourdkhani, David Cutting ,Gabriel Caruntu, Noshir S. Pesika, Tuning the Crystal Structure and Magnetic Properties of CoNiFeB Thin Films, *Chemistry of Materials*, 25 (**2013**) 2510–2514

Gabriel Caruntu, **Amin Yourdkhani**, Marian Vopsaroiu, and Gopalan Srinivasan, Probing the Local Strain-Mediated Magnetoelectric Coupling in Multiferroic Nanocomposites by Magnetic Field-Assisted Piezoresponse Force Microscopy, *Nanoscale*, 4 **(2012)** 3218-3227.

José M. Vargas, Abhishek Srivastava, Ezra Garza, **Amin Yourdkhani**, Gabriel Caruntu, and Leonard Spinu, Dynamics and collective state of ordered magnetic nanoparticles in mesoporous systems, *Journal of Applied Physics*, 112 **(2012)** 094309.

José M. Vargas, Abhishek Srivastava, **Amin Yourdkhani**, Luis Zaldivar, Gabriel Caruntu, and Leonard Spinu, Tuning the thermal relaxation of transition-metal ferrite nanoparticles through their intrinsic magnetocrystalline anisotropy, *Journal of Applied Physics*, 110 **(2011)** 064304 - 064304-6.

S. Narendra Babu, Seong-Gi Min, **Amin Yourdkhani**, Gabriel Caruntu, and Leszek Malkinski, Magnetoelectric effect in AlN/CoFe bi-layer thin film composites, *Journal of Applied Physics*, 111 **(2012)** 07C720.

Debasish Mohanty, Girija S. Chaubey, **Amin Yourdkhani**, Shiva Adireddy, Gabriel Caruntu, and John B. Wiley, Synthesis and ferroelectric response of cubic and spherical LiNbO3 nanocrystals, *RSC Advances*, 2 **(2012)** 1913-1916.

S.A.S. Ebrahimi, R. Dehghan, H.R. Koohdar, **Amin Yourdkhani**, Conversion of Conventionally Synthesized Strontium Hexaferrite Powder Into a Nano Size Powder With Enhanced Coercivity Using GTMR Method, *IEEE Transaction on Magnetics*, 45 **(2009)** 2601-2604.

H.R. Emamian, A. Honarbakhsh-raouf, A. Ataie, **Amin Yourdkhani**, Synthesis and Magnetic Characterization of MCM-41/$CoFe_2O_4$ Nano-Composite, *Journal of Alloys and Compounds*, 480 **(2009)** 681-683.

M.A. Radmanesh, S.A. Seyyed Ebrahimi, **Amin Yourdkhani**, H. Khanmohammadi, Investigation of Magnetic Interactions in Core/Shell Structured $SrFe_{12}O_{19}$/$NiZnFe_2O_4$ Nanocomposite, *Journal of Superconductivity and Novel Magnetism*, DOI: 10.1007/s10948-011-1258-6

A. Azizi, **Amin Yourdkhani**, H. Koohestani, S.K. Sadrnezhaad, R. Asmatulu, Fe50Co50 nanoparticles via self-propagating high-temperature synthesis during milling, *Powder Technology,* 208 (**2011**) 623-627.

A. Azizi, H. Yoozbashizadeh, **Amin Yourdkhani**, M. Mohammadi , Phase formation and change of magnetic properties in mechanical alloyed $Ni_{0.5}Co_{0.5}Fe_2O_4$ by annealing, *Journal of Magnetism and Magnetic Materials*, 322 **(2010)** 56-59.

H.R. Koohdar, S.A. Seyyed Ebrahimi, **Amin Yourdkhani**, R. Dehghan, F. Zajkaniha , Optimization of Hydrogen Dynamic Heat Treatment and Re-Calcination for Preparation of Strontium Hexaferrite Nanocrystalline Powder, *Journal of Alloys and Compounds*, 479 **(2009)** 638-641.