

Mohammad-Reza Mohammadi

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Present Status	2007-present	Assistant Professor in Nanomaterials, Sharif University of Technology
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Education Background	2002-2006	Ph.D. (Materials Science and Engineering- Nanomaterials), Sharif University of Technology, Iran. Thesis Title: Fabrication and Investigation of Nanostructured TiO ₂ , TiO ₂ -Ga ₂ O ₃ and TiO ₂ -Er ₂ O ₃ Thin Films Derived from Particulate Sol-Gel Route for Gas Sensor Application. Class: First
	1999-2001	M.Sc. (Materials Science and Engineering- Corrosion), Sharif University of Technology, Iran. Thesis Title: Formation and Investigation of Hard Chromium Coat on Araldite Plastics by Electroless- and Electro-Plating Techniques. Class: First
	1994-1999	B.Sc. (Materials Science and Engineering- Extraction of Metals), Isfahan University of Technology, Iran. Thesis Title: Studying of Bath Nitriding of Alloy Steels. Class: First

Professional Experience	2006-2007	Visiting Scientist, Department of Materials Science & Metallurgy, University of Cambridge.
	2005-2006	Visiting student, Department of Materials Science & Metallurgy, University of Cambridge.

Professional Affiliation	International Frequency Sensor Association (IFSA) and Sensors Community.	
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Scholarships, Awards and Honours	2008	Financial award and research grant from Nanotechnology Organisation-Iran due to firstly 9 th rank and secondly the youngest scientist among the Iranian scientists who work in the field of nanotechnology.
	2007	Financial award in the Khwarizmi International Festival for the presented project in nanotechnology, Iran.
	2005-2006	Scholarship from British Council-Tehran to conduct part of PhD research at University of Cambridge for 1 year.
	2002-2005	Full scholarship from Iran's Ministry of Science, Research and Technology (IMSRT) to do a PhD program at Sharif University-Iran.
	2004	Financial award for the best Engineering book in the 11 th student book festival, Tehran.

	2002	The first rank in PhD entrance examination in Iran amongst 1957 candidates.
	1999	The first rank in MSc entrance examination in Iran amongst 3325 candidates.
Key Research Skills	Reviewer	Invited to be a reviewer of the following Journals: Material Science and Engineering B Journal of Alloys and Compounds Journal of Materials Science Sensors and Actuators B: Chemical Materials Chemistry International Engineering Journal
	Editorial Advisor	Sensors & Transducers Journal
	Fabrications	Design a computerised gas calibration system for investigating gas sensing properties of nanostructured semiconductor metal oxide gas sensors at University of Cambridge.
Research Interests		Synthesis and characterisation of nanoparticle materials by chemical routes.
		Fabrication of nanostructured ceramics.
		Preparation and characterisation of nanocrystalline perovskite-type materials.
		Sol-gel synthesis of 1-dimensional nanomaterials.
		Electrophoretic deposition of nanostructured materials for electronic devices.
Publications: Books (Persian)	1-	H. Yousbashizadeh, M.R. Mohammadi & M.R. Vaezi, " <i>Problems in Thermodynamics of Materials Engineering</i> ", Fararuy publisher, Tehran, 2004.
	2-	M.R. Mohammadi & M.R. Vaezi, " <i>Comprehensive Book in Materials Science and Engineering</i> ", Fararuy publisher, Tehran, 2004.
	3-	M.R. Mohammadi & M.R. Vaezi " <i>The Collection Tests of M.Sc. Exam in Materials Science and Engineering</i> ", Nopardazan publisher, Tehran, 2005.
	4-	M. Ghorbani, M.R. Mohammadi & M.R. Vaezi " <i>NACE Corrosion Handbook</i> " Translated into Persian, In Press.
Publications: Papers		M.R. Mohammadi, M. Ghorbani, D.J. Fray, Comparison of Single and Binary Oxide Sol-Gel Gas Sensors Based on Titania, Solid State Sciences, In press, 2007.
		M.R. Mohammadi, M. Ghorbani, D.J. Fray, A. Mohammadi, Sol-Gel Nanostructured Titanium Dioxide: Controlling the Crystal Structure, Crystallite Size, Phase Transformation, Packing and Ordering, Microporous and Mesoporous Materials, In press, 2007.
		M.R. Mohammadi, D.J. Fray, S.K. Sadrnezhad, A. Mohammadi, A Simple Particulate Sol-Gel Route to Synthesized Nanostructured TiO ₂ -Ta ₂ O ₅ Binary Oxides and Their Characteristics, J. Mat. Sci. Eng. B. 142 (2007) 16-27.
		M.R. Mohammadi, D.J. Fray, Semiconductor TiO ₂ -Ga ₂ O ₃ Thin Film Gas Sensors Derived from Particulate Sol-Gel Route, Acta Materialia 55 (2007) 4455-4466.
		M.R. Mohammadi, M.C. Cordero-Cabrera, D.J. Fray, Sensor Performance of Nanostructured TiO ₂ Thin Films Derived from Particulate Sol-Gel Route and Polymeric Fugitive Agents, Sens. Actuators B: Chem. 124 (2007) 74-83.
		M. R. Mohammadi, M. Ghorbani, D.J. Fray, Preparation and Characterisation of Nanostructural TiO ₂ -Er ₂ O ₃ Binary Oxides with High Surface Area Derived from Particulate Sol-Gel Route, Mat. Sci. Tech. 22 (2006) 1-10.

M. R. Mohammadi, M. Ghorbani, M.C. Cordero-Cabrera, D.J. Fray, Preparation and Characterisation of Nanostructural TiO₂-Ga₂O₃ Binary Oxides with High Surface Area Derived from Particulate Sol-Gel Route, *J. Mat. Sci.* 42 (2007) 4976-4986.

M.R. Mohammadi, M. Ghorbani, M.C. Cordero-Cabrera, D.J. Fray, Synthesis of High Surface Area Nanocrystalline Anatase-TiO₂ Powders Derived from Particulate Sol-Gel Route by Tailoring Processing Parameters, *J. Sol-Gel Sci. Tech.* 40 (2006) 15-23.

M. R. Mohammadi, M.C. Cordero-Cabrera, D.J. Fray and M. Ghorbani, Preparation of High Surface Area Titania (TiO₂) Films and Powders using Particulate Sol-Gel Route Aided by Polymeric Fugitive Agents, *Sens. Actuators B: Chem.* 120 (2006) 86-95.

**Publications:
Conference
Papers**

M.R. Mohammadi, M. Ghorbani, D.J. Fray, Sol-Gel Nanocrystalline Pure TiO₂ and Binary Oxide TiO₂-Ga₂O₃ Thin Films and Powders, the first nanotechnology workshop, Muscat-Oman, 2007.

M.R. Mohammadi, M. Ghorbani, D.J. Fray, M.C. Cordero-Cabrera, Effects of Ga₂O₃ on Micro Characteristics of Nanostructured TiO₂ thin Films Prepared by a Novel Sol-Gel Route, 7th Conference of National Surface Engineering & Heat Treatment, Isfahan University of Technology, Isfahan, 2006.

M. Ghorbani, M.R. Mohammadi, Highly Porous TiO₂ Powders by a Particulate Sol-Gel Route, Proceeding of the 1st Nanostructures workshop, Kish Island, 2006.

M.R. Mohammadi and M.R. Vaezi, Corrosion of Ceramics Materials in Acidic Solutions, the 3rd Congress of Materials Engineering at Sahand Tabriz University, Tabriz, 2004.

M.R. Mohammadi and M. Ghorbani, Evaluation of Sol-Gel Solutions for TiO₂ Thin Films for Gas Sensing Properties, the 4th Student Congress of Materials Engineering, Azad University, Tehran, 2004.

M.R. Mohammadi and M. Ghorbani, Etching and Activating Solutions of UREOL 5146 Araldite Plastic for Conducting the Plastic Surface, the 5th Conference of National Surface Engineering & Heat Treatment, Amirkabir University of Technology, Tehran, 2003.

M.R. Mohammadi and M.R. Vaezi, Inhibition of Oxalate and Nitrate Salts on Corrosion of Aluminum 7075 Alloy in Solutions Containing Chloride Ion, the 6th Annual Conference of Iranian Society of Materials Engineers, Tehran, 2003.

M. Ghorbani and M.R. Mohammadi, Study on Abrasion of Plastic Dies, the 7th Conference of Iranian Society of Materials Engineers, Sharif University, Tehran, 2003.

M.R. Mohammadi and M.R. Vaezi, Bath Nitriding of Alloy Steels, the First Student Congress of Materials Engineering, Sharif University of Technology, Tehran, 2001.

Patents

1- Fabrication of Nanostructured TiO₂-Er₂O₃ Thin Films and Powders Derived from a Novel Particulate Sol-Gel Route, Patent 35058 Iran's Patent Office, 2006.

2- Fabrication of Nanostructured TiO₂-Ga₂O₃ Thin Films and Powders Derived from a Novel Particulate Sol-Gel Route, Patent 35059 Iran's Patent Office, 2006.

3- Fabrication of Nanostructured Anatase-TiO₂ Powders Derived from a Novel Particulate Sol-Gel Route, Patent 35060 Iran's Patent Office, 2006.

4- Fabrication of Nanostructured and Nanoporous TiO₂/PFA Thin Films and Powders Derived from a Chemical Route Aided by Polymeric Fugitive Agents, Patent 36254 Iran's Patent Office, 2006.
