

## **Curriculum Vitae**



### ***1- Personal Information***

**Name:** Mazeyar Parvinzadeh Gashti

**Date of Birth:** 1977

**Address:** Department of Chemistry & Biochemistry, University of Bern, Freiestrasse 3, CH-3012 Bern, Switzerland

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### ***2- Graduations***

**2011/9/16 till now** Postdoctoral researcher (University of Bern, Bern, Switzerland)

**2010/2/18** Ph.D in Textile & Fiber composite (Science and Research Branch of Islamic Azad University, Tehran, Iran)

**2000** M.Sc. Textile Chemistry & Fibre Science (Tehran South Branch of Islamic Azad University, Tehran, Iran)

**1998** B.Sc. Textile Chemistry & Fibre Science (Shahr-e-rey Branch of Islamic Azad University, Tehran, Iran)

### ***3- Postdoctoral research title***

**2011/9/16** The influence of gel structure on crystallization behaviour of inorganic materials.

### ***4- Ph.D thesis title***

**2007** "Preparation, surface and bulk characterization of polyethylene terephthalate/silica and polyethylene terephthalate/organoclay nanocomposites" under supervision of Professor Siamak Moradian.

### ***5- Courses, Certificates and Experiences***

**2004** The first workshop of Color Physics in Iran held by Institute for Colorants, Paint and Coating (ICPC).

**2005** Second workshop of Color Physics in Iran held by Institute for Colorants, Paint and Coating (ICPC).

**2005** Third workshop of Color Physics in Iran held by Institute for Colorants, Paint and Coating (ICPC).

**2007** The first workshop on “Color measurement in automotive paints and coatings” held by Institute for Colorants, Paint and Coating (ICPC).

**2007** Workshop on “Characterization of nanomaterials by microscopic methods” held by Iran Polymer and Petrochemical Institute

**2007-2010** Experience in analytical techniques including scanning electron microscope, differential scanning calorimetry, thermogravimetric analysis, UV-vis spectrophotometer, reflectance spectrophotometer, Fourier-transform infrared spectroscopy and mechanical analysis of films, polymers and textiles

### ***6- Honours***

**2001** Gaining rank 1 through MSc nationwide entrance examination, Iran.

**2008** Chosen as distinguished researcher at the Islamic Azad University of Shahre Rey, Tehran, Iran.

**2009** Chosen as the distinguished researcher at the Islamic Azad University of Shahre Rey, Tehran, Iran.

**2009** Chosen as the distinguished researcher of Shahre Rey township, Tehran, Iran.

**2009** Chosen as the distinguished researcher at Tehran province, Tehran, Iran.

### ***7- International and national grants awarded:***

**2007** Young Chemist Program at **the 41st IUPAC World Chemistry Congress**, 5-11 August 2007, Turin, Italy.

**2008** FEMS meeting grant at **14th International Biodeterioration & Biodegradation Symposium**, 6-11 October 2008, Messina, Italy.

**2009** Meeting grant at **2nd Workshop on Fats and Oils as Renewable Feedstock for the Chemical Industry**, 22-24 March 2009, Emden, Germany.

**2009** Grant awarded from **Iranian nanotechnology initiative council** for Ph.D project , 5 July 2009, Tehran, Iran.

**2011-2013 Switzerland Government fellowship** for postdoctoral research for two years, University of Bern, Bern, Switzerland.

### ***8- Professional Affiliations & Memberships***

- 1- Member of editorial board at *Recent Patents on Materials Science*.
- 1- Member of editorial board at *International Journal of Material Science*.
- 2- Member of editorial board at *Journal of Leather and Shoe Industries News*.
- 3- Member of the American Nano Society, USA.
- 5- Member of scientific committee for *First International and Second National Conference on Color Science and Technology* held by Institute for Colorants, Paint and Coating (ICPC).
- 6- Member of scientific committee for *The First, Second and Third Workshops of Color Physics in Iran* held by Institute for Colorants, Paint and Coating (ICPC).
- 7- Member of organizing committee for *The First, Second and Third Workshops of Color Physics in Iran* held by Institute for Colorants, Paint and Coating (ICPC).
- 8- Member of scientific committee for *First Congress on Textile Engineering* held by Shahre Rey Branch of Islamic Azad University.

### ***9- Employment History***

**1998-2001** full-time, Master of dyeing house, Patan Jeans Ind.

**2001-2002** full-time, Head of Polymer Chemistry laboratory, Saveh Dyeing and Finishing Ind.

**2002-2003** full-time, Head of Polymer Chemistry laboratory, Ekbatan Textile Co.

**2003-2008** full-time researcher in Institute for Colorants, Paint and Coating (ICPC) and part time junior lecturer in Shahr-e-rey Branch of Islamic Azad University, Tehran, Iran.

**2008 till 2011** full-time lecturer in Shahr-e-rey Branch of Islamic Azad University, Tehran, Iran.

### ***10- Research Activities***

- (i) Recent Research Expertise and Interests

Preparation of inorganic crystals in different polymeric gels, Mineralization of tooth enamel and bone.

(ii) Former Research Expertise and Interests

Modification and synthesise of CNT with various monomers, Application of organic clays for modification of polymers used in infrastructures, Graft polymerization on clay and kaolin minerals for applying on textiles and polymers, Surface characterization of polymer composites, Interaction of polymers and different additives in polymer blends, UV photocatalysis reactions on polymer nanocomposites.

(iii) Supervision of undergraduate Students

Supervising more than 200 B.Sc. students working on different subjects of polymer and fiber science.

(iv) Research Experience & Grants

**1998** B.Sc. thesis entitled “Some studies on dyeing of silk yarns with basic dyes” in Shahre Rey Branch of Islamic Azad University, Tehran, Iran.

**2000** M.Sc. thesis entitled “Effect of ammonia on natural dyed wool yarns” working under the supervision of Dr. Majid Montazer in Tehran South Branch of Islamic Azad University, Tehran, Iran.

**2005** Supervising a research project entitled “Evaluation of fiber nanocomposites for buildings” funded by Institute for Colorants, Paint and Coating (ICPC).

**2005** Supervising a research project entitled “Finishing process of fiber composites with nanoscale materials” funded by Ministry of Science, Research & Technology (MSRT).

**2010** Ph.D thesis entitled “Preparation and characterization of polyethylene terephthalate/silica and polyethylene terephthalate/organoclay nanocomposites” in Science and Research Branch of Islamic Azad University, Tehran, Iran.

**2008** Supervising a research project entitled “Enzymatic modification of nylon 6 composite” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2008** Supervising a research project entitled “Enzymatic modification of nylon 66 composite” funded by Islamic Azad University, Shahre rey branch.

**2009** Supervising a research project entitled “Preparation of polybutylene terephthalate/silica nanocomposites funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “Plasma processing on polyethylene terephthalate to enhance various ionic emulsions” funded by Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “Study on thermal characterization and flammability of polyethylene terephthalate coated with different emulsions” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “A new method to stabilize CNT on cellulose fiber” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “Production of superhydrophobic cellulose fibers using modified nanosilica” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “Stabilization of Fe-pillared nanoclays on cellulose to improve various properties” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “Stabilization of modified nanokaolin on cellulose to improve various properties” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2010** Supervising a research project entitled “UV induced graft polymerization of polypyrrole on cellulose” funded by Young researchers club, Islamic Azad University, Shahre rey branch.

**2011** Supervising a research project entitled “Effect of nanoclay on dyeing of wool with madder” funded by Islamic Azad University, Shahre rey branch.

## ***11- Teaching experience***

**2003-2008** I have been teaching part-time for undergraduate students at Shahr-e-rey Branch of Islamic Azad University, Tehran, Iran. I have mainly been teaching and demonstrating courses entitled:

- Synthetic fibers preparation and technology, Chemistry of textile composites, Laboratory of synthetic fibers, Laboratory of natural fibers.

2008 till 2011 full-time teaching for undergraduate students at Shahr-e-rey Branch of Islamic Azad University, Tehran, Iran.

## 12- Publications

### I) United States Patents under publication

- 1- F. Alimohammadi, M. Parvinzadeh, A. Shamei, "Carbon nanotube embedded textiles".
- 2- R. Shami, M. Parvinzadeh, M. Alimohamadi, "Water-repellent cellulose fiber using polycarboxylic acid/hydrophobic silica nanocomposite coating".

### II) Book Chapters

M. Parvinzadeh, J. Willoughby, P. Agrawal, "Surface and Bulk Modification of Synthetic Textiles to Improve Dyeability", Chapter 13 at *Textile Dyeing (book 1)*, Editor: Peter J. Hauser (North Carolina State University), Publisher: INTECH, pp. 261-298.

### III) Review papers

M. Parvinzadeh, "Surface modification of synthetic fibers to improve performance: Recent approaches", *Global Journal of Physical Chemistry*, 2012, 3: 2.

### IV) Refereed International Journal Articles

1. M. Montazer, M. Parvinzadeh, A. Kiumarsi, "Colorimetric properties of natural dyed wool after treatment with ammonia", *Coloration Technology*, 120, 2004, pp. 161-66.
2. M. Montazer, M. Parvinzadeh, "Effect of ammonia on madder dyed natural protein fibre", *Journal of Applied Polymer Science*, 93, 2004, pp. 2704-10.
3. M. Parvinzadeh, "Effect of proteolytic enzyme on dyeing of wool with madder", *Enzyme and Microbial Technology*, 40, 2007, pp. 1719–1722.
4. M. Montazer, M. Parvinzadeh, "Dyeing of wool with marigold and its properties", *Fibres and Polymers*, 8, 2007, pp.181-185.

5. M. Parvinzadeh, "The effects of softeners on the properties of sulfur-dyed cotton fibres" *Journal of Surfactants and Detergents*, 10, 2007, pp. 219-223
6. M. Parvinzadeh, H. Najafi, "Textile softeners on cotton dyed with direct dyes: Reflectance and fastness assessments", *Tenside Surfactants Detergents*, 45, 2008, pp. 13-16.
7. M. Parvinzadeh, R. Hajiraissi, "Macro and Micro Emulsion Silicone Softeners on Polyester Fibres: Evaluation of Different Physical Properties", *Journal of Surfactants and Detergents*, 11, 2008, pp. 269-273.
8. M. Parvinzadeh, R. Hajiraissi, "Effect of nano and micro emulsion silicone softeners on properties of polyester fibres", *Tenside Surfactants Detergents*, 45, 2008, pp. 254-257.
9. M. Parvinzadeh, R. Assefipour, A. Kiumarsi, "Biohydrolysis of nylon 6,6 fiber with different proteolytic enzymes", *Polymer Degradation and Stability*, 94, 2009, pp. 1197–1205 **(Among top 25 hottest articles in 2009-2010)**.
10. M. Parvinzadeh, "A new approach to improve dyeability of nylon 6 fibre using a subtilisin enzyme", *Coloration Technology*, 125, 2009, pp. 228-233 **(The 3<sup>rd</sup> most cited article)**.
11. M. Parvinzadeh, "An environmentally method for dyeing rug pile using fruit waste colorant", *Research Journal of Chemistry and Environment*, 13, 2009, pp. 49-53
12. M. Parvinzadeh, "Ultrasonic assisted finishing of cotton with nonionic softener", *Tenside Surfactants Detergents*, 46, 2009, pp. 335-339.
13. M. Parvinzadeh, N. Memari, M. Shaver, B. Katozian, S. Ahmadi, I. Ziadi, "Influence of ultrasonic waves on the processing of cotton with cationic softener", *Journal of Surfactants and Detergents*, 13, 2010, pp. 135-141.
14. A. Kiumarsi, M. Parvinzadeh, "Enzymatic hydrolysis of nylon 6 fiber using lipolytic enzyme", *Journal of Applied Polymer Science*, 116, 2010, pp. 3140 - 3147.
15. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, "Surface characterization of polyethylene terephthalate/silica nanocomposites", *Applied Surface Science*, 256, 2010, pp. 2792–2802.

16. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Effect of addition of modified nano-clays on surface properties of the resultant polyethylene terephthalate/clay nanocomposites”, *Polymer-Plastics Technology and Engineering*, 49, 2010, pp. 874-884 (**The 3<sup>rd</sup> most cited article**).
- 17- M. Parvinzadeh, I. Ebrahimi, “Atmospheric air-plasma treatment of polyethylene terephthalate fiber to improve the performance of nanoemulsion silicone”, *Applied Surface Science* 257, 2011, pp. 4062–4068
- 18- M. H. Rahimi, M. Parvinzadeh, M. Yousefpour Navid, S. Ahmadi, “Thermal characterization and flammability of polyester fiber coated with cationic and nonionic emulsion”, *Journal of Surfactants and Detergents* 14, 2011, pp.595-603.
- 19- R. Hajiraissi, M. Parvinzadeh, “Preparation of Polybutylene terephthalate/silica nanocomposites by melt compounding: Evaluation of surface properties”, *Applied Surface Science*, 257, 2011, pp. 8443– 8450.
- 20- M. Parvinzadeh, I. Ebrahimi, “Influence of atmospheric-air plasma on coating of nonionic lubricating agent on polyester fiber”, *Radiation Effects and Defects in Solids* 166, 2011, pp. 408-416.
- 21- M. Parvinzadeh, S. Eslami, “Optical and electromagnetic characteristics of Clay–iron oxide nanocomposites”, *Research on Chemical Intermediates*, 37, 2011, pp. 771–784.
- 22- I. Ebrahimi, A. Kiumarsi, M. Parvinzadeh, R. Rashidian, M. H. Norouzi, “Atmospheric-air plasma enhances coating of different lubricating agents on polyester fiber”, *The European Physical Journal, Applied Physics*, 56, 2011, pp. 10801-10810.
- 23- M. Parvinzadeh, S. Eslami, “Evaluation of optical and electromagnetic properties of aluminum-clay nanocomposites”, *Superlattices & Microstructures*, 51, 2012, pp. 135–148.
- 24- M. Parvinzadeh, R. Shami, M. Alimohamadi, “Preparation of water-repellent cellulose fiber using polycarboxylic acid/hydrophobic silica nanocomposite coating”, *Surface & Coating Technology*, 206, 2012, pp. 3208–3215.
- 25- M. Parvinzadeh, M. Yousefpour Navid, M. H. Rahimi, “Coating of macro- and microemulsion silicones on polyethylene terephthalate fibers: Evaluation of thermal properties and flammability”, *Journal of Applied Polymer Science*, 125, 2012, pp. 1430–1438.

- 26- F. Alimohammadi, M. Parvinzadeh, A. Shamei, “A novel method for coating of carbon nanotube on cellulose fiber using 1,2,3,4-butanetetracarboxylic acid as a cross-linking agent”, *Progress in Organic Coatings*, 74, 2012, pp. 470–478.
- 27- M. Parvinzadeh, S. Moradian, “Effect of nanoclay type on dyeability of polyethylene terephthalate/clay nanocomposites”, *Article in press at Journal of Applied Polymer Science*.
- 28- M. Alimohammadi, M. Parvinzadeh, R. Shami, A. Kiumarsi “Deposition of silver nanoparticles on carbon nanotube by chemical reduction method: evaluation of surface, thermal and optical properties”, *Article in press at Superlattices & Microstructures*.
- 29- M. Parvinzadeh, A. Almasian, “Synthesizing Tertiary Silver/silica/kaolinite Nanocomposite Using Photo-reduction Method: Characterization of Morphology and Electromagnetic Properties”, *Article in press at Composites B: Engineering*.
- 30- M. Parvinzadeh, M. Yousefpour Navid, M. H. Rahimi, “Effects of coating of silicone emulsions on thermal properties and flammability of polyethylene terephthalate textile” *Article in press at Pigment & Resin Technology*.
- 31- M. Parvinzadeh, R. Rashidian, A. Almasian, A. B. Zohouri “A novel method for coloration of cotton using clay nano-adsorbent treatment”, *Article in press at Pigment & Resin Technology*.
- 32- M. Parvinzadeh, R. Assefipour, “Enzymatic hydrolysis of polyamide 6,6 with mixtures of proteolytic and lipolytic enzymes”, *Article in press at Preparative Biochemistry & Biotechnology*.
- 33- M. Parvinzadeh, A. Almasian, “UV radiation induced flame retardant cellulose fiber by using polyvinylphosphonic acid/carbon nanotube composite coating”, Under review at *Composites B: Engineering*.
- 34- F. Alimohammadi, M. Parvinzadeh, A. Shamei, “Functional cellulose fibers via polycarboxylic acid/carbon nanotube composite coating”, Under review at *Composites Science & Technology*.
- 35- M. Parvinzadeh, A. Kiumarsi, B. Katozian, M. Shaver, “Clay nano-adsorbent as an environmentally friendly substitute of mordants in natural dyeing of rug piles”, Under review at *Coloration Technology*.

36- M. Parvinzadeh, A. Almasian, “Ultraviolet induced multifunctional coating of wool using nano-ZrO<sub>2</sub> as a photo-catalyst”, Under review at *Composites B: Engineering*.

37- M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Various nanosilica particles affect dyeability of polyethylene terephthalatesilica nanocomposites”, Under review at *Fibers & Polymers*.

38- M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Thermal and morphological characterization of hydrophilic and hydrophobic polyethylene terephthalate/silica nanocomposites”, Under review at *Journal of Macromolecular Science, Part B Physics*.

#### V) Refereed International Conference Proceedings

150 papers are presented as oral and poster at different conferences around the world which more recent papers are included below:

1. M. Parvinzadeh, “Poly (carboxylic acid) nano copolymers as new auxiliary agents for processing of nylon fibres”, *International Conference on Nanoscience and Technology*, June 4-6, 2007, Beijing, China.
2. M. Parvinzadeh, “Effect of mineral acids on dyeability of polypropylene fibres”, *12<sup>th</sup> Asian Chemical Congress*, August 23-25, 2007, Kuala Lumpur, Malaysia.
3. M. Parvinzadeh, M. Haji Ashrafi, “Protease enzyme for surface degradation of wool fibre to improve dyeability”, *II International Conference on Environmental, Industrial and Applied Microbiology*, 28 November-1 December 2007, Seville, Spain.
4. M. Parvinzadeh, “An environmental friendly method for nylon 6 fiber hydrolysis using Lipolytic enzyme”, *2nd International IUPAC Conference on Green Chemistry*, September 14-20, 2008, Moscow-St. Petersburg, Russia.
5. M. Parvinzadeh, R. Assefipour, “Surface hydrolysis of polyamide 6,6 fiber using mixture of protease and lipase enzymes”, *14th International Biodeterioration and Biodegradation Symposium*, 6-11 October 2008, Messina, Italy.
6. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Surface Characterization of polyethylene terephthalate/silica nanocomposites”, *Nano Today 2009 Conference*, August 2009, Singapore.

7. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “The effect of organoclays on dyeability of nanocomposite films based on poly(ethylene terephthalate)”, *The 42nd IUPAC World Chemistry Congress*, August 2009, Glasgow, UK.
8. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Some properties of polyethylene terephthalate/silica nanocomposites” at *8th World Chemical Engineering Congress*, August 2009, Montreal, Canada.
9. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Surface characterization of polyethylene terephthalate/clay nanocomposites”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
10. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Disperseability, dyeability and thermal properties of polyethylene terephthalate/silica nanocomposites modified with hydrophilic or hydrophobic nanosilica”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
11. M. Parvinzadeh, Roozbeh Hajiraissi, Seyed Hamed Lajevardi, Mahdi Shirzad, Mahyar Parvinzadeh, “Electrical conductivity of polyethylene terephthalate fibers coated with emulsion of nano silicones”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
12. M. Parvinzadeh, S. Moradian, A. Rashidi, M.E. Yazdanshenas, “Effect of type of nanoclay on thermal properties of polyethylene terephthalate/clay nanocomposites”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
13. M. Parvinzadeh, M. H. Norouzi, R. Rashidian, I. Ebrahimi, R. Hajiraissi, “Atmospheric plasma treatment of polyethylene terephthalate substrate to improve adhesion of nano emulsion silicone”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
14. M. Parvinzadeh, M. Yousefpour Navid, M. H. Rahimi, “Effect of different ionic emulsions coating on the thermal stability of polyethylene terephthalate fibers”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
15. M. Parvinzadeh, R. Assefipour, “Biohydrolysis of polyamide 6,6 fiber with mixture enzymes”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.

16. R. Hajiraissi, M. Parvinzadeh, “Some studies on surface properties of PBT silica nanocomposites”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.
17. R. Hajiraissi, M. Parvinzadeh, “Poly butylene terephthalate silica nanocomposites by melt compounding: The thermal properties and morphology of prepared sheets”, *The Polymer Processing Society 26th Annual Meeting*, July 4-8, 2010, Banff, Canada.

### ***13- Papers Reviewed***

57 papers are reviewed at International Journals of *Bioresource Technology*, *Journal of Applied Polymer Science*, *Process Biochemistry*, *Surface & Coating Technology*, *Polymer Bulletin*, *Dyes & Pigments*, *Preparative Biochemistry and Biotechnology*, *Photochemistry and Photobiology*, *Textile Research Journal*.

### ***14- Referees***

1- Professor Jurg Hulliger

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2- Professor Siamak Moradian

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