

# Curriculum Vitae

## Dr. Adnan Mujahid

Date of Birth: January 02<sup>nd</sup> 1982

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## Degrees

### Doctor of the Natural Sciences (PhD) Chemistry

2007-2010 University of Vienna Vienna, Austria

### Master of Science (MSc) Chemistry

2002-2004 University of the Punjab Lahore, Pakistan

### Bachelor Science (BSc)

2000-2002 University of the Punjab Lahore, Pakistan

## Professional Experience

2011-Till now University of the Punjab, Lahore Pakistan **Assistant Professor**

## Certifications

### Quality Assurance GLP and GMP

2009 Technical University of Vienna Vienna, Austria

### Scientific Writing and Presentation

2010 University of Vienna Vienna, Austria

## Distinctions and Scholarships

- Qualified in a global competition among young scientists worldwide to participate in 63<sup>rd</sup> Lindau Nobel Laureate Meeting of Chemistry in 2013 at Lindau, Germany
- Throughout first division in academic career
- PhD Degree with distinction at University of Vienna, Austria
- 1<sup>st</sup> position in bachelors at Government Waris Shah Degree College
- PhD scholarship from Higher Education Commission of Pakistan for Austria

- Chief Minister Scholarship in 2004 during M.Sc.
- Punjab University Scholarship in 2003 during M.Sc.

## Research Interests

- Chemical sensor technology; new sensor designs and applications
- Artificial polymers for bio recognition via molecular imprinting technique
- Polymer composites and ceramics for high temperature applications
- Synthesis of imprinted nanoparticles and their fabrication
- Spectroscopic and chromatographic analysis of diverse analyte species

## Research Publications

### Journal Articles

1. **Imprinted sol-gel materials for monitoring degradation products in automotive oils by STW**  
*Analytica Chimica Acta* **2010**, 675, 53–57  
**Adnan Mujahid**, Adeel Afzal, Gerd Glanzing, Anton Leidl, Peter A. Lieberzeit, Franz L. Dickert
2. **Solvent Vapour Detection with Cholesteric Liquid Crystals -Optical and Mass-Sensitive Evaluation of Sensor Mechanism**  
*Sensors* **2010**, 10, 4887-4897  
**Adnan Mujahid**, Helen Stathopoulos, Peter A. Lieberzeit, Franz L. Dickert
3. **Chemical Sensors Based on Molecularly Imprinted Sol-Gel Materials**  
*Materials* **2010**, 3, 2196-2217.  
**Adnan Mujahid**, Peter A. Lieberzeit, and Franz L. Dickert
4. **Complementary percolation characteristics of carbon fillers based electrically percolative thermoplastic elastomer composites**  
*Composites Science and Technology* **2011**, 72, 28-35  
Zhi-Min Dang, KhurramShehzad, Jun-Wei Zha, **Adnan Mujahid**, Tajamal Hussain, Jun Nie, Chang-Yong Shi
5. **Dual and tetra-electrode QCMs using imprinted polymers as receptors for ions and neutral analytes**  
*Analytical Bioanalytical Chemistry* **2011**, 400, 2507–2515  
Usman Latif, **Adnan Mujahid**, Adeel Afzal, RenatusSikorski, Peter A. Lieberzeit, Franz L. Dickert, Adeel Afzal, Humaira M. Siddiqi, **Adnan Mujahid**, Shaukat Saeed

- 6. From Mono to Polytopic Interactions via Hydrogen Bonds - Capacitive Sensor Studies**  
*Materials Science and Engineering C* **2011**, *31*, 553–557  
**Adnan Mujahid**, Monika Keppler, Peter A. Lieberzeit, Franz L. Dickert
- 7. Micelle directed synthesis of (C<sub>19</sub>H<sub>42</sub>N)<sub>4</sub>H<sub>3</sub>(PW<sub>11</sub>O<sub>39</sub>) nanoparticles and their catalytic efficiency for oxidative degradation of azo dye**  
*Sol-Gel Science and Technology* **2012**, *63*, 194-199  
AsmaTufail Shah, **Adnan Mujahid**, Muhammad Umar Farooq, Waqar Ahmad, Baoshan Li, Muhammad Irfan, Muhammad Abdul Qadir
- 8. Monitoring automotive oil degradation: analytical tools and onboard sensing technologies**  
*Analytical Bioanalytical Chemistry* **2012**, *404*, 1197–1209  
**Adnan Mujahid**, Franz L. Dickert
- 9. Structurally modified poly(vinyl alcohol) ionic composites as efficient humidity indicators**  
*Polymer Composites* **2012**, *33*, 1018-1024  
**Adnan Mujahid**, Adeel Afzal, Mirza Nadeem Ahmad, Muhammad Umar Farooq, Tajamal Hussain, Khurram Shehzad, AsmaTufail Shah
- 10. AFM substantiation of the fracture behavior and mechanical properties of sol-gel derived silica packed epoxy networks**  
*Journal of Sol-Gel Science and Technology* **2012**, *61*, 44-48  
Adeel Afzal, Humaira M Siddiqi, **Adnan Mujahid**, Shaukat Saeed
- 11. Bioimprinting strategies: From soft lithography to biomimetic sensors and beyond**  
*Biotechnology Advances* **2013**, *31*, 1435-1447  
**Adnan Mujahid**, Naseer Iqbal, Adeel Afzal
- 12. Advanced vapor recognition materials for selective and fast responsive surface acoustic wave sensors: A review**  
*Analytica Chimica Acta* **2013**, *787*, 36–49  
Adeel Afzal, Naseer Iqbal, **Adnan Mujahid**, RomanaSchirhagl
- 13. All-organic PANI-DBSA/PVDF dielectric composites with unique electrical properties**  
*Journal of Material Science* **2013**, *48*, 3737–3744  
Khurram Shehzad, Asad-ul-Haq, Shahabaz Ahmad, Muhamamd Mumtaz, Tajamal Hussain, **Adnan Mujahid**, Asma Tufail Shah, Muhammad Yasir Choudhry, Irshad Khokhar, Sadaf Ul-Hassan, Faisal Nawaz, Faiz ur Rahman, Yasir Butt, Muhammad Pervaiz

**14. Molecularly Imprinted Nanomaterials for Sensor Applications**

*Nanomaterials* **2013**, 3, 615-637

Muhammad Irshad, Naseer Iqbal, **Adnan Mujahid**, Adeel Afzal, Tajamal Hussain, Ahsan Sharif, Ejaz Ahmad, Muhammad Makshoof Athar

**15. Quantitative Degradation Monitoring in Core and Enteric Coated Aspirin Tablets**

*International Journal of Current Pharmaceutical Research* **2013**, 5, 68-70

**Adnan Mujahid**, Muhammad Umar Farooq, Ayesha Hameed, Tajamal Hussain, AsmaTufail Shah, Sana Ahmad, KhurramShehzad

**16. Chemically Modified Biomass from Triticum aestivum for Eco-Friendly Detoxification of Cd(II)- and Sn(II)- Contaminated Waters**

*Polish Journal of Environmental Studies* **2014**, 23, 2163-2174

H.M. Hamid Raza, Makshoof Athar, Umar Farooq, Muhammad Salman, **Adnan Mujahid**, Tajamal Hussain

**17. Molecular Imprinted Titania Sol-Gel Layer for Conductometric Sensing of p-Nitrophenol**

*Sensor Letters* **2014**, 12, 1682-1687

Tajamal Hussain, Hifza Munir, **Adnan Mujahid**, Muhammad Umar Farooq, Khurram Shehzad, Asma Tufail Shah, Sana Ahmad, Muhammad Tahir Asghar

**18. Rapid assay of the comparative degradation of acetaminophen in binary and ternary combinations**

*Arabian Journal of Chemistry* **2014**, 7, 522-524

**Adnan Mujahid**, Yaqoob Ali, Adeel Afzal, Tajamal Hussain, AsmaTufail Shah, Khurram Shehzad, Muhammad Umar Farooq

**19. Influence of carbon nanotube dimensions on the percolation characteristics of carbon nanotube/polymer composites**

*Journal of Applied Physics* **2014**, 116, 064908-8

Khurram Shehzad, Mirza Nadeem Ahmad, Tajamal Hussain, Muhammad Mumtaz, Asma Tufail Shah, **Adnan Mujahid**, Chao Wang, Josef Ellingsen, and Zhi-Min Dang

**20. Layer-by-Layer Assembly of Low-Temperature-Imprinted Poly(methacrylic acid)/Gold Nanoparticle Hybrids for Gaseous Formaldehyde Mass Sensing**

*RSC Advances* **2014**, 4, 43121-43130

Naseer Iqbal, Adeel Afzal, **Adnan Mujahid**

**21. Enhanced Control on the Electro Deposition Through Magnetic Field Using Reverse Microemulsion as Template**

*Asian Journal of Chemistry* **2014**, *26*, 6077-6080

Tajamal Hussain, Rabia Jamil, **Adnan Mujahid**, Khurram Shehzad, Zahoor Hussain Farooqi, Ejaz Ahmad, Ahsan Sharif, Asma Tufail Shah

**22. Extraction of Pb(II) from water samples by ionic liquid modified silica sorbents**

*Desalination and Water Treatment* **2014**, *52*, 7915–7924

Sarah Saleem, Ahmad Nauman Shah Saqib, **Adnan Mujahid**, Muhammad Hanif, Ghulam Mustafa, Tariq Mahmood, Amir Waseem, Abdur Rahman Khan

**23. Formation of self-ordered porous anodized alumina template for growing tungsten trioxide nanowires**

*International Nano Letters* **2015**, *5*, 37-41

Tajamal Hussain, Asma Tufail Shah, Khurram Shehzad, **Adnan Mujahid**, Zahoor Hussain Farooqi, Muhammad Hamid Raza, Mirza Nadeem Ahmed, Zaib Un Nisa

**24. Molecularly imprinted titania nanoparticles for selective recognition and assay of uric acid**

*Applied Nanoscience*, DOI: 10.1007/s13204-014-0346-x

**Adnan Mujahid**, Aimen Idrees Khan, Adeel Afzal, Tajamal Hussain, Muhammad Hamid Raza, Asma Tufail Shah, Waheed uz Zaman

**25. Surface Reforming of Diamond Particles by the Dispersion Enhancement in Common Liquids**

*Arabian Journal of Science and Engineering* DOI 10.1007/s13369-015-1609-x

Mirza Nadeem Ahmad, Khalid Mahmood Zia, Sohail Nadeem, Muhammad Naveed Anjum, Tahir Farooq, Khurram Shehzad, **Adnan Mujahid**, Tajamal Hussain, Mohammad Zuber, Yang Wantai

**26. In situ synthesis of Copper Nanoparticles on SBA-16 Silica Spheres**

*Arabian Journal of Chemistry* DOI: 10.1016/j.arabjc.2014.02.013

Asma Tufail Shah, Sana Ahmad, Muhammad Farhan Khan, Khurram Shahzad, Sobia Tabassum, **Adnan Mujahid**

**27. Phragmites karka as a Biosorbent for the Removal of Mercury Metal Ions from Aqueous Solution: Effect of Modification**

*Journal of Chemistry* <http://dx.doi.org/10.1155/2015/293054>

Muhammad Hamid Raza, Aqsa Sadiq, Umar Farooq, Makshoof Athar, Tajamal Hussain, **Adnan Mujahid**, Muhammad Salman

## Conference Proceedings

**1. Bio-analogous Recognition with Sol-gel Thin Films and Nanoparticles in Harsh Environments**

2008 MRS Spring Meeting Proceedings, March 24-28, 2008, San Francisco, USA, Volume 1094, Pages 1-4

Peter A. Lieberzeit, Adeel Afzal, **Adnan Mujahid**, Franz L. Dickert

**2. Acoustic Chemo Sensors for Real-life Environments**

IEEE Frequency Control Symposium, 19-21 May 2008 Hawaii, USA, ISSN: 1075-6787, Pages 431-433

Peter A. Lieberzeit, A. Rehman, B. Najafi, **Adnan Mujahid** and Franz L. Dickert

**3. Fabrication of Nanoparticle and Nanocomposite and Comparative Study of their Activity**

8<sup>th</sup> CUTSE International Conference, 03-04 December 2013, Curtin University Sarawak Malaysia, Page 56-61

Tajamal Hussain, Mira Tul Zubaida Butt, **Adnan Mujahid**

**4. Synthesis of Imprinted Polysiloxanes for Immobilization of Metal ions**

2014 MRS Spring Meeting Proceedings, April 21-25 2014 San Francisco, USA, Volume 1675, Pages 209-214

**Adnan Mujahid**, Faisal Amin, Tajamal Hussain, Naseer Iqbal, Asma Tufail Shah, Adeel Afzal

**5. Synthesis of SBA-16 Supported Catalyst for CNTs and Dispersion Study of CNTs in Polypyrrole Composite**

2014 MRS Fall Meeting Proceedings, November 30-December 5, 2014 Boston, USA, Volume 1752, Pages 1-6

Tajamal Hussain, **Adnan Mujahid**, Khurram Shehzad, Asma Tufail Shah, Rehana Kousar

## Book Articles

**1. Surface Nano-patterning of Polymers for Mass-sensitive Bio-detection**, *Published in Nano-Bio-Sensing*

Editor Sandro Carrara Pages 45-82, 2010, ISBN 978-1-4419-6168-6, **Springer**

**Adnan Mujahid**, Franz L. Dickert

**2. Detection of Cells and Viruses using Synthetic Antibodies**, *Published in Handbook of Molecular Imprinting: Advanced Sensor Applications*

Edited by Lee Seung-Woo, Toyoki Kunitake Pages 527-568, 2012, ISBN 978-981-4316-65-1, **Pan Stanford Publishing**

**Adnan Mujahid**, Franz L. Dickert

**3. Molecularly Imprinted Polymers for Sensors, Comparison of Optical and Mass-Sensitive Detections**,

*Published in Molecularly Imprinted Sensors Overview and Applications* Edited by Songjun Li, Yi Ge, Sergey A. Piletsky and Joe Lunec Pages 125-159, 2012, ISBN 978-0-444-56331-6, **Elsevier**

**Adnan Mujahid**, Franz L. Dickert

**4. SAW and Functional Polymers** *Published in Springer Series on Chemical Sensors and Biosensors* Edited by

C.-D. Kohl and T. Wagner, **Gas Sensing Fundamentals**, Pages 213-246, 2013, ISBN 978-3-642-54518-4, **Springer**

**Adnan Mujahid**, Franz L. Dickert

5. **Molecular Imprinted Polymers for Biomedical Applications**, *Published in Supramolecular Systems in Biomedical Fields* Editor Hans-Jörg Schneider Pages 419-450, 2013, ISBN: 978-1-84973-658-9, **RSC Publishing**  
Adnan Mujahid, Franz L. Dickert
6. **Solid-state Sensors for Field Measurements of Gases and Vapors**, *Published in Encyclopedia of Analytical Chemistry*, DOI: 10.1002/9780470027318.a0921.pub2 Pages 1-30, 2014, **Wiley**  
Adnan Mujahid, PA Lieberzeit, Franz L. Dickert
7. **Molecularly Imprinted Polymers (MIPs): Virus Sensing Applications**, (in Press) *Published in Encyclopedia of Biomedical Polymers and Polymeric Biomaterials*, DOI: 10.1081/E-EBPP-120049961, Pages 1-11, 2015, **Taylor & Francis**  
Adnan Mujahid, Naseer Iqbal, Usman Latif
8. **Molecularly Imprinted Polymers for Biomimetic Catalysts**, (in Press) Pages 152-177, 2015, **Elsevier**  
Adnan Mujahid, Franz L. Dickert

## Research Projects

1. 0.5M (PKR) Research Project Funded by Higher Education Commission of Pakistan as **Principal Investigator**  
**Project Title:** Microwave-assisted synthesis of metal nanostructures and their possible applications
2. 0.5M (PKR) Research Project Funded by Higher Education Commission of Pakistan as **Co-Principal Investigator**  
**Project Title:** An aerosol route for the synthesis of TiO<sub>2</sub> nanoparticles for uses in dye sensitized solar cells
3. 0.15M (PKR) Research Project Funded by University of the Punjab as **Principal Investigator**  
**Project Title:** Molecular Imprinted Materials for the Selective Recognition of Uric Acid
4. 0.15M (PKR) Research Project Funded by University of the Punjab as **Principal Investigator**  
**Project Title:** Molecular Imprinted Sol-gel Materials for Advance Drug Delivery Applications
5. 0.15M (PKR) Research Project Funded by University of the Punjab as **Principal Investigator**  
**Project Title:** Surface Imprinted Polymers for Selective Separation of Carbamazepine
6. 10,000 USD (submitted) to Materials Research Society (MRS) Foundation as **Principal Investigator**  
**Project Title:** Developing Biomimetic Sensor Coatings by Molecular Imprinting for Selective Recognition of Bio-analytes

## References

**Dr. Franz Dickert**

University of Vienna, Austria

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**Dr. Peter Lieberzeit**

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