

Sana Ahmad

1st August 1982, Single

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OBJECTIVE

To work in a competitive research based environment in order to excel my abilities and to transfer my experience to future generations of bright young minds.

PROFESSIONAL EXPERIENCE

Assistant Professor, School of Physical Sciences, University of the Punjab, Lahore since 30th November 2010 to date.

RESEARCH EXPERIENCE

2007-2010 (3 years) Doctoral research at the “**Institut des Sciences Moléculaires (ISM), Université Bordeaux 1, Talence, France**”.

“*Synthesis and characterization of cyclopentadienyltitanium-based organic-inorganic hybrid materials.*”

Supervisor: Dr. Bernard Jousseume, Co-Supervisor: Prof. Thierry Toupance

- Synthesis of various bis(polymethylcyclopentadienyltitanium) complexes
- Use of these complexes in a sol-gel process to prepare cyclopentadienyltitanium-based class II organic-inorganic hybrid materials
- Preparation of crystalline TiO₂ as powders and thin films
- Characterization of the prepared complexes and materials by various techniques including FT-IR and Raman spectroscopies, NMR, Mass spectrometry, XRD, TGA, XPS, SEM, TEM, BET, AFM, etc.

Jan – June 2007 (6 months): Internship at the “**Institut des Sciences Moléculaires (ISM), Université Bordeaux 1, Talence, France**”.

“*Synthesis and characterization of precursors for cyclopentadienyltitanium-based organic-inorganic hybrid materials.*”

Supervisor: Dr. Bernard Jousseume

- Synthesis of dicyclopentadienyl ligands with rigid spacers like phenyl, biphenyl, etc.
- Synthesis of some bis(polymethylcyclopentadienyltitanium) complexes

2004-2006 (2 years): Internship at the “**Institute of Chemistry, University of the Punjab, Lahore, Pakistan**”.

“*Synthesis and characterization of pyrazole derivatives from 1,3-diketones*”

Supervisor: Dr. Hamid Latif

- Synthesis of 3,5-dimethylpyrazole starting from acetyl acetone and hence development of a route to prepare 3-methyl-1H-pyrazole-5-carboxamide.

2002-2003 (1 year): Internship at the “**Institute of Chemistry, University of the Punjab, Lahore, Pakistan**”.

“*Hofmann and Curtius rearrangement of aliphatic amides.*”

Supervisor: Dr. Hamid Latif

- Synthesis of some aliphatic amines by using either Hofmann or Curtius rearrangement.

UNDERGOING RESEARCH PROJECTS

1. "An aerosol route for the synthesis of TiO₂ nanoparticles for uses in dye sensitized solar cells".
Donor agency: Higher Education Commission (Duration: 9 Months)
2. "Preparation of mesoporous titanium dioxide as powders and thin films"
Donor agency: University of the Punjab, Lahore. (Duration: 1 Year)

EDUCATION

| Date | Degree | University |
|--------------|--|--|
| 2007-2010 | Ph.D in Organic Chemistry and Material Science (3 years) | University Bordeaux 1 (France) |
| 2006-2007 | Master 2 in Chemistry, Nanosciences and Molecular Chemistry (13.8/20) (1 year) | University Bordeaux 1 (France) |
| Jul-Aug 2006 | French linguistic course (4 th & 5 th level) | Institute of Touraine (France) |
| Jan-Jun 2006 | French linguistic course | Alliance Française, Lahore (Pakistan) |
| 2004 - 2006 | M.Sc. (Hons.) in Organic Chemistry (CGPA 3.96/4) (2 years) | University of the Punjab, Lahore (Pakistan) |
| 2000 - 2003 | B.Sc. (Hons.) in Chemistry (CGPA 3.92/4) (3 years) | University of the Punjab, Lahore (Pakistan) |
| 1998-2000 | F.Sc. Pre medical (774/1100) A | Lahore College For Women University, Lahore (Pakistan) |
| 1996-1998 | Matriculation (697/850) A ⁺ | Govt. Comprehensive Girls High School, Wahdat Road Lahore (Pakistan) |

SPECIAL SKILLS

Understanding and/or practical experience of various techniques like:

- synthesis of sensitive products under oxygen and moisture free environment and the use of different temperatures and solvents to obtain maximum yield of the products,
- separation techniques like TLC, column chromatography, HPLC, and size exclusion chromatography (in air or under inert atmosphere),
- purification techniques like distillation, recrystallization,
- spectral techniques like FT-IR, UV, NMR (¹H, ¹³C, both 1D & 2D) spectroscopies and mass spectrometry,
- characterization techniques for materials like XRD, TGA, SEM, TEM, BET, elemental analysis,
- special techniques to study surface properties of thin films like AFM, XPS.

Good practical knowledge of the following softwares:

- MS Office, Chem. Sketch, Origin, Sci finder scholar

Languages: Level (reading, writing and verbal)

- Mother Language: Punjabi (Good)
- English: Good
- Urdu: Excellent
- French: Basic

RESEARCH PUBLICATIONS

- Ahmad, S.; Day, S. S.; Jousseume, B.; Toupance, T., "Linear or cross-shaped di(cyclopentadienyltitanium) compounds with aryl or heteroaryl spacers", *Dalton Transactions*, 2011, 40, 457-462 (Impact Factor 4.0)
- Ahmad, S.; Jousseume, B.; Laurent, S.; Toupance, T.; Zakri, C., "Self-

assembled titanium-based hybrids with cyclopentadienyl-titanium network bonding”, *Chemical Communications*, 2011, 47, 5001-5003 (Impact Factor 5.5)

CONFERENCE/ SEMINAR

- Ahmad, S.; Jousseume, B.; Toupance, T.; Babot, O.; Brötz, J.; Labrugère, C.; Campet, G.; “A new route towards nanoporous TiO₂ as powders or thin films from the thermal treatment of titanium-based hybrid materials”, *Dalton Transactions*, submitted
- Second International Conference on Multifunctional, Hybrid and Nanomaterials, Strasbourg, France. 6th-10th March 2011 (oral communication)
- 3rd EuCheMS Chemistry Congress, Nuremberg, Germany. 29th Aug- 2nd Sep 2010 (poster)
- La Journée de EDSC (Day of doctoral school of chemistry), University Bordeaux 1, France. April 2009 (poster)
- La Journée Scientifique de l’ISM (Scientific day of ISM), University Bordeaux 1, France. Dec 2008 (oral communication)

AWARDS

- 1st position in B.Sc. (Hons.) in University of the Punjab, Lahore. (Session 2000-2003)
- Merit scholarship from University of the Punjab, Lahore. (2003)
- Talent Forming Scholarship from Higher Education Commission (2004)
- 2nd position in M.Sc. (Hons.) in University of the Punjab, Lahore. (Session 2004-2006)
- Overseas PhD scholarship for France from Higher Education Commission (2006-2010)

MEMBERSHIPS

Member of “French Chemical Society” (SCF)

HOBBIES

Book reading, travelling and listening to music

PERSONAL INFORMATION

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| Name | : Sana Ahmad |
| Father’s Name | : Rashid Ahmad |
| Marital Status | : Single |
| Date of Birth | : 1 st August, 1982 |
| Nationality | : Pakistani |
| Religion | : Islam |
| Address | : 325 E, Punjab Govt. Employees Co-operative Housing Society, Phase II, College Road (Madina Chowk), Lahore. |
| Phone No. (Mobile) | : 0322 8095839 |
| E-mail | : drsanaahmad@yahoo.com |

REFERENCES

Dr. Bernard Jousseume (Ph.D supervisor), ISM, University Bordeaux 1, France. (b.jousseume@ism.u-bordeaux1.fr) +33 5 40006443

Prof. Thierry Toupance, Head of the materials group, ISM, University Bordeaux 1, France. (t.toupance@ism.u-bordeaux1.fr) +33 5 40002523

Prof. Laurent Servant, Head of the doctoral school of chemistry, University Bordeaux 1, France. (l.servant@ism.u-bordeaux1.fr) +33 5 40006416