

## ACADEMIC RESEARCH AND PUBLICATIONS

### Annexure II

#### EDUCATION

- Ph. D. (Organic Chemistry), Aligarh Muslim University, Aligarh, India, 2001

**Thesis Title:** *Synthesis and Application of Chalcone Derivatives* (Prof. W. H. Ansari)

- M.Sc. (Organic Chemistry), Aligarh Muslim University, Aligarh, India, 1993
- B.Sc. (Hons.) (Chemistry), Aligarh Muslim University, Aligarh, INDIA, 1991

**Postdoctoral Research Fellow** (2002-2008), University of Sherbrooke, Canada

#### RESEARCH AND TEACHING INTERESTS

• **Current Teaching:** Chemistry: B. Tech., M.Tech. and M.Sc. courses

• **Ph. D. level assistance:**

Currently, five PhD and two M.Tech. students are working under my supervision for the following lines.

- ▶ Organic matter transformation including trace organics during high rate composting.
- ▶ Development of methodologies for biologically active compounds/Natural Products.
- ▶ Development of methodologies and synthesis with radioactive isotopes ( $^{18}\text{F}$ ,  $^{11}\text{C}$  &  $^{18}\text{F}_2$ ) for biologically active compounds/Natural Products for clinical/animal PET imaging agents.

#### PROFESSIONAL EXPERIENCES

- ▶ Over fifteen years of research experience in organic synthetic chemistry.
- ▶ Over five years of research experience in radioactive isotopes labelling synthetic chemistry.
- ▶ Experience in writing scientific manuscripts.
- ▶ Extensively trained in multi step organic synthesis utilising modern structural elucidation techniques.
- ▶ Operational experience of modern laboratory instruments: MS, NMR, IR, HPLC, GC, GCMS and Instant imager.
- ▶ Demonstrated success in technical proficiency, scientific creativity, collaboration with others and independent problem solving skills.
- ▶ Training graduate and undergraduate students with their daily research problems.
- ▶ Purchasing and Chemical inventory management in the laboratory.
- ▶ 3 years Teaching experiences at 10+2 / (Cegep) standard-AMU-Aligarh, India.
- ▶ 4 years Teaching experiences at IIT Roorkee, India.

**Awards/Prizes/Certificates, etc., won by the investigator:**

- **Canadian Breast Cancer Research Alliance (CBCRA)-Fellow:** 2004-2008.
- **Canadian Institute of Health Research (CIHR)-Fellow:** 2002-2007.
- **Research Associate:** (2001-2002).
- **Senior Research Fellow** (NET, CSIR, New Delhi): (1998 – 2000).
- **Junior Research Fellow** (NET, CSIR, New Delhi): (1996 –1997)
- **Departmental Fellowship in M.Sc.:** (1991 – 1993).
- **Science faculty Merit Scholarship, B.Sc.(Hons):** (1988 – 1991).
- **National Merit Scholarship in High School:** (1981 – 1885).
- **Rural Merit Scholarship in High School:** (1981 – 1885)

**Journal Rewievers:**

1. **Synthetic Communications**
- 2.

**Annexure III**

**(a) Ph.D. Research Supervision**

S.No.	Name of Student	Reg. Year and status (FT/PT)	Thesis Title	Other supervisor (s) (if any), name & department	Completed/ Ongoing
1	Mr. Muntajeer Ali	Jan-09	Organic matter transformation in rotary drum composting process	Dr. A. A.Kazmi (CED)	Completed
2	Mr. B. V. Babu	Jun-09	Synthesis and Characterization and their application as medicinally Important compounds	Nil	Ongoing
3	Mr. Naveen Kumar K	Jan-2010	Prins cyclization in the synthesis of biologically active pyran derivatives	Nil	Ongoing
4	Ms. Shaily	June-2011	Synthesis and Characterization of Bioactive derivatives in flavonoids their application as medicinally Important compounds	Dr. Anuj Sharma (CHEM)	Ongoing
5	Mr.RamTilak Naganaboina	Aug-09	Study of Diels-Alder and related reactions	Dr. R. K. Peddinti (CHEM)	Ongoing
6	Ms. Anju Yadav (MTech)	Aug-11	Heterocycle-based chalcone derivatives	Nil	Completed
7	Mr. Banu Pratab Singh (MTech)	Aug-11	Disinfection by chlorine of waste water and determination of chlorinated organic compound	Nil	Completed
8	Mr. Sahaj Kr. Sing (MSc)	Nov-11	Organic matter transformation in rotary drum composting process	Prof. G. Bhatacharjee	Completed
9	Mr. Nishant Verma	July 12	Radiopharmaceutical Chemistry and Molecular Imaging Research	NIL	Ongoing

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**(b) Project and Thesis (Dissertation) Supervision:** BArch/BTech, MArch/MURP/MTech/ MSc/MPhil

Level	Title of Project/ Thesis	Names of Students	Name of other supervisor (if any)	Remarks*
B.Tech./ M.Sc.	Synthesis and characterization of chalcone and their Thiol, Sulfone Derivatives	Ms. Sunita Dey (2011)	Nil	Completed
M.Phil. or <b>M.Tech.</b> or Equivalent	Synthesis and characterization of 2-(substituted aryl)-3,3a-dihydro-8h-pyrazolo [5,1-a]isoindol-8-ones via chalcone based N-formyl-pyrazolines	Mr. Dharm Dev (2011)	Nil	Completed
	Synthesis, Characterization and Efficient Cyclization method of 2'-Hydroxy Chalcone with L-proline	Ms. Seema Devi (2009)	Nil	Completed
	Intramolecular Aminolysis of 2'-Aminochalcone Epoxides using InBr <sub>3</sub> or BiCl <sub>3</sub> as Efficient Catalysts	Mr. Harendra Kumar (2010)	Nil	Completed

**Annexure IV**

**(c) Sponsored Research Projects**

S. No.	Title of Project	Funding Agency	Financial Outlay (Lacs Rs)	Year of start & total period	Name of P.I. and other investigators	Status Started or completed or in progress
1	Tanaproget-Phytoestrogen conjugate synthesis for estrogen receptors	MHRD	4.4	2008 Aug 3 Years	Naseem Ahmed	completed
2	Organic matter transformation, Identification of microbial communities and process kinetics during rotary drum composting	DST	26.14	2009 Sept. 2 Years	A. A. Kazmi and Naseem Ahmed	completed
3	Design, Synthesis and Their Estrogen Receptors Binding Study of Some Novel Flavone, Flavone-Estradiol Adduct and Indanone based Ligands against Breast Cancer Cell Lines	DST	37.00	2012 3 Years	Naseem Ahmed	ongoing
4	Radiopharmaceutical Chemistry and Molecular Imaging Research	BRNS	24.95	2011 3 Years	Naseem Ahmed	ongoing
5	Study on Fate of endocrine disruptors in high rate composting of sewage sludge	MoEF	31.10	2011	Naseem Ahmed	submitted
6	Design, Synthesis and Characterization of ring B seco-	MHRD	9.75	2012	Naseem Ahmed	submitted

estradiols as potential selective estrogen receptor modulators (SERMs)					
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## Annexure V

### (b) Refereed Journal Papers

**Publications list** (Title of paper, authors, Journal details, pages, year etc.)

**(Since joining IIT Roorkee as Assistant Professor from April 2008)**

1. Babu B Venkata; Konduru Naveen Kumar; Nakanishi Waro; Hayashi Satoko; **Ahmed Naseem**; Mitrasinovic Petar M Experimental and Theoretical Advances in Functional Understanding of Flavonoids as Anti-Tumor Agents *Anti-cancer agents in medicinal chemistry* 2012, (Review), in press.
2. **Naseem Ahmed, Muntjeer Ali and A. A. Kazmi** Study on Effects of Temperature, Moisture and pH in degradation and degradation kinetics of Aldrin, Endosulfan, Lindane pesticides during full-scale continuous rotary drum composting **2012**, under review.
3. **Naseem Ahmed**, Akansha Bhatia, Muntjeer Ali and A. A. Kazmi Diversity of Bacterial isolates during high rate rotary drum composting, *J. Nat. Science, Biology and Medicine* **2011**, 2, 131(Suppl).
4. **Naseem Ahmed**, Naveen Kumar Konduru, Praveen, Anand Kumar and Kamaluddin Silica supported-Double metal cyanides (DMCs): A green and highly efficient catalytic protocol for isomerisation of 2'-hydroxychalcones to flavanones *Journal of Molecular Catalysis A: Chemical* **2012**, under review.
5. **Naseem Ahmed**, B Ventaka Babu, Sandeep Singh and Petar M. Mitrasinovic An Efficient One-Pot Three-Component Synthesis of Highly Functionalized Coumarin Fused Indenodihydropyridine and Chromeno [4,3-b]quinoline Derivatives *Heterocycles (Jp.)* **2012**, 85(7), 1629-1653.
6. **Naseem Ahmed**, and Naveen Kumar K, Regioselective Opening of Chalcone Epoxides with Nitrogen Heterocycles using Indium(III) Chloride as an Efficient Catalyst *Synthetic Communications*, **2012**, in press.
7. **Naseem Ahmed**, and Naveen Kumar K, Antibacterial and Antifungal Activity of Chalcone based Sulfones *EJMC* (under review).
8. **Naseem Ahmed**, and B Ventaka Babu, A novel and highly efficient protocol for the synthesis of chalcone based 1,2-diazepine and 1,2-oxazepine derivatives *Heterocycles (Jp.)* **2012**, 85 (5), 1155-1177.
9. **Naseem Ahmed**, and Naveen Kumar K, MS4Å-Promoted Prins Cyclization: An efficient Synthesis of highly Diastereoselective and Functionalized 2,6-Diaryl-4-tosyloxy Tetrahydropyrans, *BJOC*, **2012**, 8 (19), 177 - 185.
10. Muntjeer Ali, K. Simon Duba, Ajay S. Kalamdhad Akansha Bhatia, Anwar Khursheed, A. A. Kazmi, **Naseem Ahmed**, High Rate Composting Of Herbal Pharmaceutical Industry Solid Waste, *Water Science and Technology*, **2012**, in press.
11. **Naseem Ahmed** and Dharm Dev, Alternate Synthesis route of 2-(substituted phenyl)-3,3a-Dihydro-8H-pyrazolo[5,1-a]isoindol-8-ones via Chalcone based N-formylpyrazolines, *Synthetic Communications*, **2012**, in press.

12. **Naseem Ahmed**, B Ventaka Babu and Harendra Kumar, Intramolecular Friedel-Crafts Alkylation of Chalcone Epoxides using  $\text{InCl}_3$  as an Efficient Catalyst, *Synthesis*, **2011**, 2471-2477.
13. Muntjeer Ali, Akansha Bhatia, A. A. Kazmi, **Naseem Ahmed**, Characterization of High Rate composting of vegetable market waste using Fourier transform-infrared (FT-IR) and thermal Studies in three different seasons, *Biodegradation*, **2012**, 23, 231-242.
14. Akansha Bhatia, Muntjeer Ali, , Ajay S. Kalamdhad , Sangeeta madam, **Naseem Ahmed** and A. A. Kazmi, Microbial community during Rotary drum and Windrow composting system, *J. of Basic Microbiology*, **2011**, 51, 1-11.
15. **Naseem Ahmed**, Harendra Kumar and B Ventaka Babu, Intramolecular Aminolysis of 2'-Aminochalcone Epoxides using  $\text{InBr}_3$  or  $\text{BiCl}_3$  as Efficient Catalysts, *Synthetic Communications*, **2012**, in press.
16. Jean-Mathieu Beauregard, M.D., Étienne Croteau, M.Sc., **Naseem Ahmed**, Ph.D., Johan E. van Lier, Ph.D., François Bénard, M.D., Assessment of human biodistribution and dosimetry of 4-fluoro -11 $\beta$ [beta]-methoxy-16 $\alpha$ [alpha]-[18F]fluoroestradiol using serial whole-body PET/CT acquisitions . *J. Nuclear Medicine* **2009**, 50, 100.
17. **Naseem Ahmed** and Johan E. van Lier, Synthesis of 4-methyl- and 2-methoxy-(16 $\alpha$ -fluoroestradiol) as a potential radioligands for estrogen receptor, *Steroids*, **2009**, 74, 42.

**(During PhD and Post Doctoral from 1996-2008)**

18. Beauregard J-M, Croteau E, **Ahmed N**, van Lier J. E., Benard F., Biodistribution and dosimetry of 4-fluoro-11 $\beta$ -methoxy-16 $\alpha$ -[<sup>18</sup>F]fluoroestradiol (4FMFES) in healthy women [abstract]. *J Nuclear Medicine* **2008**; 49 (suppl)(suppl):15P.
19. François Bénard, **Naseem Ahmed**, Jean-Mathieu Beauregard, Jacques Rousseau, Antonio Aliaga, Céléna Dubuc, Etienne Croteau, Johan E. van Lier, [F-18]Fluorinated estradiol derivatives for estrogen receptor imaging: impact of substituents, formulation and specific activity on the biodistribution in breast tumor bearing mice, *Eur. J. Nuclear Medicine and Molecular Imaging* **2008**, 35(8), 1473.
20. **Naseem Ahmed** and Johan E. van Lier, A novel and stereoselective synthesis of 7 $\alpha$ -alkynylestra-1,3,5(10)-triene-3,17 $\beta$ -estradiol *Tetrahedron Letts.***2007**, 48, 5723.
21. **Naseem Ahmed** and Johan E. van Lier, TaBr<sub>5</sub>-catalyzed Biginelli reaction: one-pot synthesis of 3,4-dihydropyrimidin-2-(1H)-ones/thiones under solvent free conditions, *Tetrahedron Letts.* **2007**, 48, 5407.
22. **Naseem Ahmed**, Celena Dubuc, J. Rousseau, F. Benard, Johan E. van Lier, Synthesis, Characterization and Estrogen receptor binding affinity of flavone, indole and furane-estradiol conjugates, *Bioorg. Med. Chem. Letts.***2007**, 17, 3212.
23. **Naseem Ahmed**, R. Longlois, François Bénard and Johan E. van Lier, Automatic synthesis of 11B-methoxy-4,16 $\alpha$  F -18F $\alpha$  difluoroestradiols (4F-M-18F-FES)

for estrogen receptor imaging by positron emission tomography, *Nuclear Medicine and Biology*, **2007**, 34, 459.

24. Jean-Mathieu Beaugard, M.D., Etienne Croteau, M.Sc., **Naseem Ahmed**, Ph.D., René Ouellett, Ph.D., Johan E. van Lier, Ph.D., François Bénard, M.D. Effective specific activities determined by scintillation proximity counting for production run of 18-FES and 4F-M-18F-FES, *Nuclear Medicine and Biology*, **2007**, 34, 325-329.
25. **Naseem Ahmed** and Johan E. van Lier, Alumina supported/CeCl<sub>3</sub>.7H<sub>2</sub>O-NaI: a highly efficient catalyst for the cyclization of 2'-aminochalcones to corresponding 2-aryl-2,3-dihydroquinolin-4(1H)-ones under solvent free conditions, *Tetrahedron Letts.*, **2007**, 48, 13.
26. **Naseem Ahmed**, Hasrat Ali and Johan E. van Lier, The reaction of porphyrins with  $\alpha,\beta$ -acetylenic ketone/ ester (Morita-Baylis-Hillman) promoted by MgI<sub>2</sub> and subsequent Sonogashira coupling reactions, *J. Porphyrin and Phthalocyanines* **2006**, 9-10, 1172-1178.
27. **Naseem Ahmed** and Johan E. van Lier, Pd-C/ammonium formate: An efficient and selective catalyst for the hydrogenation of chalcones to dihydrochalcones, *J. Chemical Research (S)* **2006**, 584.
28. **Naseem Ahmed** and Johan E. van Lier, Molecular iodine in isopropenyl acetate (IPA): a highly efficient catalyst for the acetylation of alcohols, amines and phenols under solvent free conditions, *Tetrahedron Letts.*, **2006**, 47, 5345.
29. **Naseem Ahmed** and Johan E. van Lier, Silica gel supported-TaBr<sub>5</sub>: new catalysts for the facile and rapid isomerization of 2'-aminochalcones to corresponding 2-aryl-2,3-dihydroquinolin-4(1H)-ones under solvent, *Tetrahedron Letts.*, **2006**, 47, 2725.
30. Hasrat Ali, **Naseem Ahmed**, Guillaume Tessier and Johan E. van Lier, Synthesis and biological activities of nucleoside-estradiol conjugates, *Bioorg. Med. Chem. Letts.*, **2006**, 2, 317.
31. **Naseem Ahmed**, Hasrat Ali and Johan E. van Lier, Silica gel supported InBr<sub>3</sub> and InCl<sub>3</sub>: new catalysts for the facile and rapid oxidation of 2'-hydroxychalcones and flavanones to their corresponding flavones under solvent free conditions, *Tetrahedron Letts.*, **2005**, 46, 253.
32. Hasrat Ali, J. Rousseau, **Naseem Ahmed**, V. Guertin, Richard B. Hochberg and Johan E. van Lier, Synthesis of the 7 $\alpha$ -cyano-(17 $\alpha$ ,20E/Z)-[<sup>125</sup>I]iodovinyl-19-nortestosterones: potential radioligands for androgen and progesterone receptors, *Steroids*, **2003**, 68, 1163.
33. **Naseem Ahmed** and W. H. Ansari, An improved procedure for the isomerisation of 2'-hydroxysubstituted chalcones to flavanones using silica supported-BiCl<sub>3</sub> under dry conditions, *J. Chem. Research (S)*, **2003**, 572.
34. **Naseem Ahmed** and W. H. Ansari, Trans-stereoselective addition of iodonium nitrate to substituted chalcones, *Indian J. Chem.*, **2002**, 41B, 2187.

## **CONFERENCES AND OTHER PRESENTATIONS**

1. 19<sup>th</sup> Iranian Seminar on Organic Chemistry, 5 - 7 September 2012 at Vali-e-Asr University of Rafsanjan, Iran (accepted).
2. Participated in 3<sup>rd</sup> International Conference on HETEROCYCLIC CHEMISTRY December 10-13, 2011. Organized by, Department of Chemistry, University of Rajasthan, Jaipur- 302004.
3. Participated at National Conference on EMERGING TRENDS IN CHEMISTRY-BIOLOGY INTERFACE November 03-05, 2011 Organized by Department of Chemistry, DSB Campus, Kumaun University, Nainital.
4. Muntjeer Ali, K. Simon Duba, Ajay S. Kalamdhad Akansha Bhatia, Anwar Khursheed A. Kazmi, **Naseem Ahmed**, High Rate Composting Of Herbal Pharmaceutical Industry Solid Waste 8th Symposium on Waste Management Problems in Agro-Industries (Agro'-2011), Ilica (Çeşme-İzmir). Turkey, 21-24 June **2011**
5. Muntjeer Ali, Akansha Bhatia, Ajay S. Kalamdhad , Sangeeta madam, **Naseem Ahmed** and A. A. Kazmi, Microbes in water and waste water IWA 22-26 March **2011**, Goa, India.
6. Participated in 4<sup>th</sup> National Conference on Recent Trends in Instrumental Methods of Analysis Dated 18<sup>th</sup>-20<sup>th</sup> Feb. 2011. Department of Chemistry, IIT Roorkee, Roorkee-247667 (India)
7. Participated in International Conference on Chemical Evolution and Origin of Life Dated 5<sup>th</sup>-7<sup>th</sup> March 2010. Department of Chemistry, IIT Roorkee, Roorkee-247667 (India)
8. Muntjeer Ali, Akansha Bhatia, Ajay S. Kalamdhad, Sangeeta madam, **Naseem Ahmed** and A. A. Kazmi. Fate of Organochlorine pesticides and its associated microbial community in Rotary drum and Windrow composting 5<sup>th</sup> Utrakhand state science and technology congress (10-13, November, **2010**)
9. Naseem Ahmed, Judge and Oral Presentations in 5<sup>th</sup> Uttarakhand State Science and Technology Congress-10-13 Nov. **2010**
10. Participated in 7<sup>th</sup> International symposium on fundamental and applied Radiobiology, Orford, Quebec-Canada (19 to 23 September, **2005**).
11. Oral Presentations in different occasion during Ph.D. and Post Doc. in departments, India and Canada)
12. F. Benard, A. Aliaga, Naseem Ahmed, C. St-Pierre, C. Dubuc, J. Rousseau, E. Croteau, J. E. van Lier, "*Bodistribution of Fluorinated Estradiol Derivatives in ER<sup>+</sup> tumor-bearing Mice: Impact of Substituents, Formulation and Specific Activity.*" The Society of Nuclear Medicine 51<sup>st</sup> Annual Meeting, USA, June **2004**.

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