

Dr. Ansari Siddique Akber

PhD (Pharmaceutical Sciences)

Citizenship: Indian

Date of birth : April 5, 1984

Place of Birth : Parbhani, Maharashtra

Gender : Male

Marital Information: Married

Contact



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Objective

To work in an organization, that stimulates academic excellence, research goal, offers opportunity for new techniques, and enriches my vision to achieve development in scientific environment.

Profile

I have very strong academic background in research combined with professional experience of both academic & pharmaceutical industries. Recently I have completed PhD in (Pharmaceutical Sciences) at Department of Drug chemistry and Technologies from University of Rome "La Sapienza", Italy under guidance of Prof. Tommasina Coviello, Prof. Pitro Matricardi and Prof. Franco Alhaique.

I have completed my (M.Tech) in (Drugs and Pharmaceuticals) from University Department of Chemical Technology, (UDCT) Aurangabad (MS) India under guidance of Prof. D.B.Shinde.

I have also completed one more Master degree in Material Science Exploring Large-Scale Facilities (MaMaSELF) from University of Torino Italy and University of Rennes 1 France under guidance of Prof. Carlo Lamberti and Prof. Silva Bordiga.

Education

Type of Certificate / Degree	Name of Institution with location (City/Country)	Year Graduated	Certificate, Diploma, Degree or other earned	Medium of Instruction	Full/Part Time
Doctoral	Department of Drug chemistry and Technology University of ROME "La Sapienza" (ITALY)	2013-14	PhD in Pharmaceutical Sciences	English	Full Time
Master	University of Torino (ITALY) University of Rennes 1 (FRANCE)	2010	Master Degree Certificate In Material Sciences Technology	English	Full Time
Master	University Department of Chemical Technology, (UDCT) Aurangabad, (MS), India.	Sep-2009	Master Degree Certificate in M.Tech (Chemical) Drugs & Pharmaceuticals	English	Full Time
Bachelor	University Department of Chemical Technology, (UDCT) Aurangabad, (MS), India.	2005	Bachelor Degree Certificate in B.Tech (Chemical) Pharmaceutical & Fine Chemical Technology	English	Full Time

6 years experience in pharmaceutical research

Company : *Department of Drug Chemistry and Technologies University of Rome "La Sapienza" Italy*

Title : PhD Research Scholar.

Time period : November 2010 to January 2014

Task and Responsibilities :

- I have worked on SONICATION BASED POLYSACCHARIDE HYDROGELS FOR MODIFIED DRUG DELIVERY SYSTEMS.
- Taught several techniques related to pharmaceuticals and Medicinal chemistry to junior researcher.
- Literature search, pre-formulation, formulation development of nanoparticles & nanohydrogels .
- Development of innovative interpenetrating polymer network hydrogels based on novel Polysaccharides and/or in case also other polymers.
- Planning and execution of projects
- Literature review and technical discussion with team.
- Preparation of the hydrogels.
- Rheological characterization of polysaccharides based hydrogels formation (e.g. swelling, mechanical strength).
- Used innovative methods to synthesize and characterization of nanoparticles.
- Formulation and characterization of polysaccharides based hydrogels.
- Application of prepared hydrogels based on polysaccharides in medical and pharmaceutical field (e.g preparation of "modified release" dosage forms and scaffolds in tissue engineering).
- Discussion with analytical team, methods & developments.
- Formulation of solid oral dosage forms (tablets, capsules and minitablets).
- Formulation of Nanoparticulate drug delivery systems (Poorly soluble drugs).

RESEARCH SUMMARY

I have worked on SONICATION BASED POLYSACCHARIDE HYDROGELS FOR MODIFIED DRUG DELIVERY SYSTEMS. The aim of my research was the preparation of polysaccharide chains at low molecular weight by means of a non-toxic method. The obtained polysaccharides were characterized in terms of rheological properties. Furthermore, the effect of addition of borax on the new samples was investigated by recording the mechanical spectra, the flow curves and the swelling behaviour of tablets prepared with the sonicated polymers. Actually, a well-defined knowledge of these systems can improve their use as drug delivery carriers and for biomedical applications. The Guar Gum (GG) and Scleroglucan (ScIg) at lower molecular weights were then used for derivatization reactions in order to prepare new substrates for self-assembling nanoparticles for modified drug delivery. The possible use of ScIg for new topical delivery system was also tested.

In my research I have achieved the variations of properties after reduction of ScIg molecular weight were reported. Thus, the effect of sonication on two different polymer concentrations and for different period of time was investigated. Molar mass, estimated by viscometric measurements, was drastically reduced already after a sonication for a few min. Sonicated samples were used for the preparation of gels in the presence of borate ions. The effect of borax on the new samples was investigated by recording the mechanical spectra and the flow curves. A comparison with the system prepared with the dialysed polymer was also carried out. The anisotropic elongation, observed with tablets of scleroglucan and borax, was remarkably reduced when the sonicated samples were used for the preparation of the gels. The sonication process did not change the basic repeating units of ScIg, as evidenced by means of NMR spectra. Thus, sonication appeared a rather easy and suitable method to reduce the molecular weight of ScIg without destroying the structural characteristic of the polymeric chains. Applications in the field of pharmaceuticals, cosmetics, and food industry. The same characterization carried out by using different polysaccharides and got the incredible results.

During my research I have achieved the different chemical approaches carried out in order to derivatize the ScIg and GG polymeric chains for the final formation of self-assembled structures in the form of nanoparticles suitable for modified drug delivery systems. I also developed the preparation of new ScIg films loaded with tioconazole, a drug usually used for dermal therapies. Preliminary "in vitro" studies showed the noticeable fungal activity of the new formulation against *Candida Albicans* infections.

Projects:

- Evaluation of Rheological Properties and Swelling Behaviour of Sonicated Scleroglucan Samples.
- Sonication-Based Improvement of the Physicochemical Properties of Guar Gum as a Potential Substrate for Modified Drug Delivery Systems.
- Synthesis and Characterization of Polysaccharides Nanohydrogels.
- Development and characterization of new Scleroglucan films for topical antifungal therapy.

Award and recognition:

- I got First position in PhD selection in University of Rome La Sapienza, it is the best Italian universities and is among the top world universities according to the most important international rankings.
- Awarded 20.000 Euro grant by University of Rome La Sapienza, Italy from 2010-2011.
- Awarded 20.000 Euro grant by University of Rome La Sapienza, Italy from 2011-2012.
- Awarded 20.000 Euro grant by University of Rome La Sapienza, Italy from 2012-2013.

Company : University of Torino Italy and University of Rennes 1 France.

During M.S in Material Science technology

Time period : August 2009 to July 2010.

Task and Responsibilities :

One month training Master in Material Science Exploring Large-Scale Facilities (MaMaSELF) summer school conducted at **University of Rennes 1 France**.

I have given seminar on Insitu study of the UiO-66 and UiO-67 Metal Organic Frameworks crystallization, at annual status meeting from May 3 to 6, 2010 in **Rigi-Kulm, Switzerland**.

Project

Insitu study of the UiO-66 and UiO-67 Metal Organic Frameworks crystallization at **European synchrotron Radiation facilities ESRF BM01A Grenoble France**

Award and recognition:

- Awarded ERASUMS MUNDUS scholarship 21000.00 Euro by EUROPEAN UNION for MAMASELF 2009-2010.

Company : University Department of Chemical Technology (UDCT), Aurangabad, India

During M.Tech in Pharmaceutical Technology

Time period : May 2007 to June 2009

Task and Responsibilities :

- Synthesis of α -Amidoalkyl- β -naphthol by using novel catalyst. α -Amidoalkyl- β -naphthol exhibit cardiac activity.
- $ZrOCl_2 \cdot 8H_2O$ catalyzed solvent-free synthesis of isobenzofuran-1(3H)-ones.
- Work on Techno Economic Feasibility Project on Oral Hypoglycemic Anti diabetic Drug

Award and recognition:

- Recipient of Merit-Cum Means Based Scholarship of Govt of India 2007-2008.
- Recipient of Merit-Cum Means Based Scholarship of Govt of India 2008-2009.

Company : University Department of Chemical Technology (UDCT), Aurangabad, India

During B.Tech in Pharmaceutical Technology

Time period : May 2001-02 to June 2004-05

Task and Responsibilities :

- Seminar presented on the **in-plant training** done in the final year of the Bachelor of Technology at **WOCKHARDT Pharmaceuticals & Chemicals Pvt Ltd.**, Waluj Aurangabad.
- Successfully Developed Microwave assisted One Pot Synthesis of 3, 4-Dihydropyrimidin-2(H)-Ones and Thiones using $ZrOCl_2 \cdot 8H_2O$

Subject :

- Chemical reaction engineering, Heat transfer, Mass transfer, Chemical engineering thermodynamic, Pharmaceutics, Medicinal chemistry, Pharmaceutical Analysis, pharmaceutical technology etc.

Publications

1. Synthesis of α -Amidoalkyl- β -naphthol by using novel catalyst. α -Amidoalkyl- β -naphthol exhibit cardiac activity. *Indian Journal Of Chemical Technology* Vol. 17, January, 2010. pp.71-73
2. $ZrOCl_2 \cdot 8H_2O$ catalyzed solvent-free synthesis of isobenzofuran-1(3H)-ones. *Chinese Chemical Letters Volume 22, Issue 2*, February 2011, Pages 163–166
3. Evaluation of Rheological Properties and Swelling Behaviour of Sonicated Scleroglucan Samples, *Molecules* 2012, 17(3), 2283-2297; doi:[10.3390/molecules17032283](https://doi.org/10.3390/molecules17032283).
4. Sonication-Based Improvement of the Physicochemical Properties of Guar Gum as a Potential Substrate for Modified Drug Delivery Systems, *BioMed Research International Volume 2013 Article ID 985259, 11 pages*.
5. **Poster presentation** at 3rd Conference on “Innovation in Drug Delivery: Advances in Local Drug Delivery”, September 22-25, 2013 (**Pisa, Italy**). **S. A. Ansari**, P. Matricardi, C. Cencetti, C. Di Meo, M. Carafa, F. Alhaique, T. Coviello. “**Effect of sonication on rheological and swelling behaviours of Guar Gum and Guar Gum/borax systems**”
6. **Poster presentation** at 9th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, 31st March 3rd April, 2014 (**Lisbon, Portugal**). **F. Alhaique, S.A Ansari, P. Matricardi, C. Di Meo, C. Cencetti, T. Coviello**. “**Sonicated Guar Gum and Scleroglucan as substrates for modified drug delivery systems**.”

Overseas conference seminar, Training and Professional Experience

1. Attended 3rd Conference on “Innovation in Drug Delivery: Advances in Local Drug Delivery”, September 22-25, 2013 (**Pisa, Italy**).
2. Epigenetic Rome Training School at **University of Rome “La Sapienza” Italy**. from May 21-24 (2013).
3. Attended the complete workshop on the use of Light Scattering in coupling with chromatographic techniques for the Characterization of proteins and bio molecules from 12 Mar (2012) at **University of Rome “la sapienza” Italy Organized by ALFA TECH**.
4. Attended the complete workshop Roadshow Material Characterization from 19 Feb (2013) Organized by ALFATEST at **University of Rome “la sapienza” Italy**.
5. Seminar attended on formation and application of organic nanoparticles by **Prof. Shlomo Magdassi**, 26 Oct 2011 at **department of chemistry university of Rome “la sapienza” Italy**.
6. Attended 2011 annual work shop-CRS Italian Chapter on Nanostructured devices for drugs delivery from small molecules to biotech drugs **Rome Italy**.
7. Attended 2010 annual work shop-CRS Italian Chapter on Polysaccharide for Pharmaceutical and Biomedical application **Rome Italy**.
8. One month Master in Material Science Exploring Large-Scale Facilities (MaMaSELF) summer school training conducted at **University of Rennes 1 France**.

Linkedin and Google scholar

Linkdin: Ansari Siddique Akber it.linkedin.com/pub/dr-ansari-siddique-akber/22/734/29/

Scientific Contribution

- **Member of controlled Release Societies CRS**

Equipments Well Acquainted

Good expertise on the instruments like Freeze drier, Spray drier, GPC,HPLC, GC, UV, FTIR, NMR, XRPD,DSC, TGA, Raman, SEM,TEM, optical microscopy, Delsa Nano Particle size & Zeta potential analyzer,viscometry and Texture analyzer etc.

References

Prof. Tommasina Coviello (PhD Supervisor) Department of Drug chemistry and Technology, University "La Sapienza"Rome Italy E-mail: tommasina.coviello@uniroma1.it	Prof. Franco Alhaique Department of Drug chemistry and Technology, University "La Sapienza"Rome Italy E-mail: franco.alhaique@uniroma1.it
Prof. Pitro Matricardi Department of Drug chemistry and Technology, University "La Sapienza"Rome Italy E-mail: pietro.matricardi@uniroma1.it	Prof.D.B.Shinde (Research Guide) Prof in Pharmaceutical Chemistry Department of Chemical Technology, Aurangabad Maharashtra-431001. India. Email: devas@bamu.net