

**EDUCATION**

- 2007 – 2011**                      **Doctoral Studies (Ph.D.) in Synthetic Medicinal Chemistry**  
**Title:** Design, synthesis and biological evaluation of novel thiourea analogues as melanogenesis inhibitors  
**Advisor:** Prof. Dr. Sang-Hun Jung  
Pharmaceutical Chemistry  
Chungnam National University, Daejeon, South Korea  
**Date of award:** 25.02.2011.
- 2004 – 2006**                      **Master of Science (M.Sc.) in Chemistry**  
**Title:** Synthetic studies on quinoline alkaloids  
**Advisor:** Prof. Dr. K. J. Rajendra Prasad,  
Department of Chemistry  
Bharathiar University, Coimbatore, Tamil Nadu, India  
**Date of award:** 31.05.2006.
- 2001 – 2004**                      **Bachelor of Science (B.Sc.) in Chemistry (Maths, Physics)**  
Department of Chemistry  
University of Madras, Tamil Nadu, India  
**Date of award:** 31.05.2004.

**RESEARCH**

- February 2020**                      **Visiting Scientist**  
**Title:** Synthesis of biological active heterocycles using flow chemistry techniques  
**Advisor:** Prof. Steven V. Ley, Department of Chemistry, University of Cambridge, United Kingdom
- 2015 – present**                      **Senior Scientist**  
**Title:** Design, synthesis and biological evaluation of G protein-coupled receptor modulators  
**Advisor:** Prof. Dr. Christa E. Müller  
Department of Pharmaceutical & Medicinal Chemistry  
University of Bonn, Bonn, Germany
- 2013 – 2015**                      **Alexander von Humboldt-Bayer Postdoctoral Fellow**  
**Title:** Development of small molecules for G protein-coupled receptor 84 with potential as a novel drug target  
**Advisor:** Prof. Dr. Christa E. Müller

Department of Pharmaceutical & Medicinal Chemistry  
University of Bonn, Bonn, Germany

2011 – 2013

**Japan Society for the Promotion of Science (JSPS) Postdoctoral Fellow**

**Title:** Design, synthesis and biological evaluation of peptidomimetics as **SARS-CoV 3CL protease inhibitors**

**Advisor:** Prof. Dr. Yoshio Hayashi

Tokyo University of Pharmacy and Life Science

Tokyo, Japan

## INDUSTRIAL RESEARCH EXPERIENCE

June 2006 - July 2007

**Research Executive** in Orchid Research Laboratories Ltd, a subsidiary of Orchid Chemicals and Pharmaceuticals Ltd.

**Project:** Synthesis of Cephalosporin and Ciprofloxacin analogs

January - June 2018

**Research Scientist** at University of Bonn working on a collaboration project with Pharmaceutical Industry (European Company)

**Project:** Multi-step synthesis of modulators of purinergic receptors

## KEY RESEARCH PROJECTS INVOLVED

### Infectious diseases

- ⌚ Natural substrate to small molecule inhibitors of **SARS-CoV 3CL<sup>pro</sup>** (many compounds show nanomolar inhibition along with drug-like properties)
- ⌚ Synthesis of Cephalosporin and Ciprofloxacin analogs

### Cancer

- ⌚ Development of novel arylsulfonamides and pyrimidine derivatives with anticancer activity
- ⌚ Exploration of imidazole and imidazopyridine dimers as anticancer agents

### Inflammation and neurodegenerative diseases

- ⌚ Design, synthesis and evaluation of a number of novel chromone and isoflavones as potent interleukin-5 (IL-5) inhibitors
- ⌚ Development of small molecule modulators for orphan GPCRs with potential as novel drug targets (present work)

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<b>Duchenne muscular dystrophy</b>	⌚ Development of novel (+)-negamycin analogs as potent read-through of nonsense mutation for the Duchene muscular dystrophy (DMD)
<b>Heart failure</b>	⌚ Design, synthesis and evaluation of a number of novel arylureas as cardiac myosin activators
<b>Skin diseases</b>	⌚ Development of novel thiourea analogs as skin whitening agents through inhibition of melanogenesis ⌚ Discovery of novel chalcone-type inhibitors based on a WielandMiescher ketone as melanogenesis inhibitors

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## AWARDS AND RECOGNITIONS

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- (1) Argelander International Conference Grant by University of Bonn awarded for **ACS Fall 2020 National Meeting & Exposition- Chemistry from Bench to Market.**
  - (2) **Short-Term Scientific Mission (STSM)** (CA18133-45722) grant was awarded for doing an Internship at the Prof. Dr. Steven Ley's Laboratory, University of Cambridge.
  - (3) **Deutscher Akademischer Austauschdienst (DAAD)**-Travel grant for the Conference presentation.  
  
Invited to talk on **“Chemistry-Frontiers and Challenges”** organized by Post Graduate  
& Research Department of Chemistry (PSGR Krishnammal College for Women)  
February 5-7, 2014, Tamil Nadu, India.
  - (5) **Alexander von Humboldt (AvH)-Bayer award** for postdoctoral study from September 2013-August 2015, Bonn, Germany.
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- (6) Invited to **“2nd Research Alumni Conference Germany 2014”** organized by Alexander von Humboldt foundation, November 26-28, 2014 in Berlin, Germany.
  - (7) Invited for **“Bayer Science Day Program”** organized by Bayer foundation on October 21, 2014 in Köln, Germany.

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- (8) Invited to participate in “**Science For A Better Life Symposium**” organized by Bayer foundation on November 4-5, 2013 in Leverkusen, Germany.
- (9) **German Language Course Award from Alexander von Humboldt (AvH) Foundation** at Goethe Institute, July 1-August 31, 2013, Bonn, Germany.
- (10) Bioorganic and Medicinal Chemistry Letters Top **25 Cited Authors 2010-2011**.
- (11) Invited to participate in the "**Science Dialogue Program**" organized by **Japan Society for the Promotion of Science (JSPS)**, July 2012, Japan (Certificate of appreciation for participation).
- (12) Invited as a speaker to give an "**Inspiring talk about the basic chemistry**" to undergraduate and graduate students. KSR College, January 2012, India.
- (13) **Japan Society for the Promotion of Science (JSPS) award** for postdoctoral study from April 2011-March 2013, Tokyo, Japan.
- (14) **Brain Korea-21 (BK-21) scholarship** for graduate study (Ph.D.) from February 2009-February 2011, Daejeon, South Korea.
- (15) **Brain Korea-21 (BK-21) travel grants** for attending conferences in Australia (2009) and Hawaii (2010).
- (16) **Young researcher award for 2009-2010** from Brain Korea-21 (BK-21) Scholarship, Daejeon, South Korea.
- (17) **Incentive Cash award with an amount of 1,500 USD** for each international publication from BK-21 Foundation (more than 10,000 USD received for publications), Daejeon, South Korea.
- (18) Award for the “**Oral presentation on 5th PSK Medicinal Chemistry workshop**” organized by Pharmaceutical Society of Korea (PSK), June 2009, South Korea.
- (19) **Award for the best seminar** by College of Pharmacy, Chungnam National University, November 2008, Daejeon, South Korea.
- (20) **National Research Foundation of Korea (NRF) scholarship** for the graduate study from August 2007- January 2009, Daejeon, South Korea.

**MEMBERSHIP IN SCIENTIFIC SOCIETIES**

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- (1) Pharmaceutical Society of Korea (<http://www.psk.or.kr/home/kor/>)  
Member (Since 2008)
  - (2) Chemical Society of Korea (<http://new.kcsnet.or.kr/eng>)  
Member (Since 2008)
  - (3) The Japanese Peptide Society (<http://www.peptide-soc.jp/entop.html>)  
Member (Since 2011)
  - (4) Member of the “German Purine Club”, since 2014  
(<https://www.purineclub.unibonn.de/mitgliedschaft>)
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**TEACHING AND MENTORING**

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**2015 - present** Co-supervising doctoral/master students at the Pharmaceutical Institute, University of Bonn, Germany.

Synthetic Organic Chemistry Practical Course  
Teaching for third semester pharmacy students (~ 60 students/semester),  
Pharmaceutical Institute, University of Bonn, Germany.

Five international bachelor students and 3 local students were supervised during their exchange programs and lab rotations.

Six master students from Pakistan (CIIT Abbottabad) were supervised during their DAAD research exchange program.

Two international doctoral students were supervised during their exchange program.

Four ERASMUS students were supervised.

Four students were mentored for Master thesis work (thesis was corrected and evaluated).

**2011 - 2013**      Mentored two master students at the department of medicinal chemistry, Tokyo university of pharmacy and life sciences, Tokyo, Japan.

**2008 - 2010**      Mentored two students (Master and Ph.D. level) at the college of Pharmacy, Chungam national university, Daejeon, South Korea.

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## **PUBLICATIONS**

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I have been publishing in different well-reputed scientific journals

- Journal of medicinal chemistry (ACS publication)
  - Organic Letters (ACS publication)
  - Journal of organic chemistry (ACS publication)
  - ACS Omega (ACS publication)
  - Beilstein journal of organic chemistry (Beilstein Institute for the Advancement of Chemical Sciences)
  - European journal of medicinal chemistry (Elsevier publication)
  - Bioorganic and medicinal chemistry (Elsevier publication)
  - Bioorganic and medicinal chemistry letters (Elsevier publication)
  - Journal of enzyme inhibition and medicinal chemistry (Francis & Taylor publication)
  - Medchemcomm (RSC publications)
  - Forensic toxicology (Springer publication)
  - Cellular signaling (Elsevier publication)
  - Drug discovery today (Elsevier publication)
  - Expert opinion and therapeutic patents (Francis & Taylor publication)
  - Drug development and industrial pharmacy (Francis & Taylor publication)
  - ChemMedChem (Wiley publication)
  - Archiv der Pharmazie (Wiley publication)
  - Advanced synthesis and catalysis (Wiley publication)
  - Medicinal Research Reviews (Wiley publication)
  - Chemical and Pharmaceutical Bulletin (Pharmaceutical Society of Japan)
  - Current Medicinal Chemistry (Bentham Science Publisher) 🕒 Arkivoc (Arkat USA)
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## PEER REVIEWER

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I have been serving as a reviewer for many internationally recognized journals

- Journal of medicinal chemistry (ACS publication)
  - Journal of organic chemistry (ACS publication)
  - Archives of dermatological research (springer publications)
  - Advanced synthesis and catalysis (Wiley publication)
  - ChemMedChem (Wiley publication)
  - European journal of medicinal chemistry (Elsevier publication)
  - Journal of investigative dermatology (Nature Publishing Group)
  - Medicinal chemistry communication (RSC publication)
  - Journal of enzyme inhibition and medicinal chemistry (Francis & Taylor publication)
  - Medicinal chemistry (Bentham science)
  - Cosmetics (MDPI publication)
  - Molecules (MDPI publication)
  - International journal of molecular sciences (MDPI publication)
  - Marine drugs (MDPI publication)
  - Bioorganic and medicinal chemistry (Elsevier publication)
  - Bioorganic and medicinal chemistry letters (Elsevier publication)
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## COMMUNITY SERVICE

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- Participated in the local organizing team and scientific committee of the international conference **Frontiers in Medicinal Chemistry 2016**, March 13-16, Bonn, Germany (330 participants)
  - Participated in the local organizing team **of the international conference Purines 2014** international conference in Bonn, July 23-27, Germany (550 participants)
  - Participating the "**Science Dialogue Program**" organized by the Japan Society for the Promotion of Science (JSPS). I have given an "Inspiring and Motivating Talk on Medicinal Chemistry" to TSURU Higher Secondary School students, July 2012, Japan
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**WORKSHOPS**

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- Participated in the workshop of the Bonn graduate center (BGZ) “ **My First Grant proposal: Financing projects after the Doctorate**” on September 09, 2019, Bonn
  - Invited as a speaker to give an "Inspiring talk about the basic Chemistry" to undergraduate and graduate students. KSR College, January 2012, India
  - Participated in the workshop for graduate students **molecular modelling** organized by Bonn international graduate school of drug sciences (BIGS DrugS), spring semester 2016, Pharmaceutical Chemistry I, University of Bonn, Germany
  - Participated in the short term course on **Photophysics of Organic System: Theory and Application**" organized by Department of Chemistry, Bharathiar University with Jawaharlal Nehru Centre for Advanced Scientific Research and Indian Institute of Science, February 2006, Tamil Nadu, India
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