Dr Ahmed Kamal

Positions Held	:	Pro-Vice Chancellor Jamia Hamdard New Delhi 110062 Former Outstanding Scientist Head, Medicinal Chemistry and Pharmacology CSIR - Indian Institute of Chemical Technology (IICT) Hyderabad Former Project Director National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad
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Born	:	April 5, 1956

Education

Post-Doc. Research (Medicinal Chemistry), University of Portsmouth, UK, 1988-89

Ph.D. (Chemistry), Aligarh Muslim University, Aligarh, 1982 (worked at IICT)

M.Phil. (Chemistry), Aligarh Muslim University, Aligarh, 1979 (worked at IICT)

M.Sc. (Organic Chemistry), Aligarh Muslim University, Aligarh, 1977

B.Sc. (Chemistry, Biology), Osmania University, Hyderabad, 1975

Professional Positions

Oct 3, 2017 till date	Pro-Vice Chancellor, Jamia Hamdard, New Delhi, India
June 9, 2015 to May 2016	Outstanding Scientist (Director Level) CSIR - Indian Institute of Chemical Technology, Hyderabad, India
Sept, 2009 to April, 2016	Project Director, National Institute of Pharmaceutical Eduction and Research [NIPER], Hyderabad
April 1, 2015 to June 8, 2015	Acting Director CSIR - Indian Institute of Chemical Technology, Hyderabad, India
April 8, 2013 - March 31, 2015	Outstanding Scientist (Director Level) CSIR - Indian Institute of Chemical Technology, Hyderabad, India
Sep 2012- April 7, 2013	Acting Director CSIR - Indian Institute of Chemical Technology, Hyderabad, India
2010-2012	Outstanding Scientist CSIR - Indian Institute of Chemical Technology, Hyderabad, India
2007 - 2010	Chief Scientist (Scientist-G), Indian Institute of Chemical Technology, Hyderabad, India

1992 - 2007	Scientist at different levels, Indian Institute of Chemical Technology, Hyderabad, India
1993 - 94	Visiting Scientist, University of Alberta, Edmonton, Canada
1983 - 92	Scientist-B and Scientist-C, Indian Institute of Chemical Technology, Hyderabad, India
1977-82	CSIR - Junior / Senior Research Fellow

Publications (Total citations morethan 9400, h-index 44) :

- Peer reviewed articles in journals : Over 490
- Review articles : 23
- Chapters in books : 9
- Others : 2 (Guest editors of special issues of journals)
- Popular articles : 5

Patents

- Total number of patents : 432
- Patents granted : 306
- Patents filed : 126

Five (5) of the US patents have been licensed to a pharmaceutical company for their clinical development at an upfront payment of Rs. 5 million and milestone payments of about Rs.24 million apart from royalties. Some of the compounds from these patents have been completed preclinical studies, and are likely to taken up for clinical studies.

Invited Lectures : Over 150 lectures

Honours and Awards

YMSA Young Scientist Award from MAAS & TWAS – 1988

CSIR Young Scientist Award in Chemical Sciences – 1991

Fellow of National Academy of Sciences, India – 1999

Best Patent Award from the Indian Drug Manufacturers Association (IDMA) – 2005

Medal from the Chemical Research Society of India (CRSI) for contributions to research in Chemistry – 2005

Ranbaxy Research Award in the field of Pharmaceutical Sciences - 2005

UKIERI Standard Award for Biomedical Solutions between India and UK – 2006

Andhra Pradesh Scientist Award in Chemical Sciences by A P State Council of Science & Technology – 2007

OPPI Scientist Award from the Organization of Pharmaceutical Producers of India – 2009

Fellow of Andhra Pradesh Academy of Sciences (FAPSc) – 2010

Fellow of Royal Society of Chemistry (FRSC) – 2011

Most Outstanding Researcher in the field of Chemistry by Careers 360 - 2018

Fellowships

JSPS Research Fellowship for Foreign Researchers (Japan) – 2002

DAAD Fellowship under the Indo-German Academic Exchange Programme – 2005

Visiting Professorship

College of Chemistry-Faculty of Science, King Saud University - 2011-12, 2014-17

Research Students

Ninety three (93) students have completed their Ph.Ds and about 10 are working for their Ph.D. programmes of different Universities under the guidance.

Present Research Interests

Multi-disciplinary research programmes including organic synthesis, medicinal, combinatorial and green chemistry including chemical biology and biocatalysis.

Design and synthesis of gene-targeting compounds as new and novel anticancer agents, and their targeted delivery as prodrugs.

Significant Research Contributions

Development of Anticancer Therapeutics

The discovery of potent, selective and less toxic anticancer agents has been considered as one of the major challenges in medicinal chemistry. Significant efforts have been made to design and synthesize a large number of heterocyclic hybrids and their conjugates wherein at least two biologically well established components were brought in to a single moiety that could interact or sometimes enhance the biological effect for the same target. In this pursuit, structural modifications on the pyrrolo[2,1-c]benzodiazepine (PBD) ring system has been explored extensively. These results provided further inputs to explore the combination of certain non-covalent interacting groups with a PBD moiety that led to the design and synthesis of a variety of hybrids and conjugates. Most of the anticancer agents using chemotherapy of cancer lack selectivity towards tumour cells leading to secure side effects and dose limitation. In this context, the development of glycoside prodrugs of PBDs has been investigated. This provided improved selectivity of the PBDs towards cancer tissues, through β-galactosidase based ADEPT and PMT strategies.

Moreover, a large number of DNA topoisomerase II and tubulin polymerization inhibitors as well as inducers of apoptosis have been designed, synthesized and evaluated.

Development of New Antitubercular Agents

Many heterocyclic scaffolds like phthalamido/naphthalimido linked phenazines, 1,2,4-benzothiadiazines, benzothiazole conjugates, arylsulfonamido oxazolidinones and thialactone based conjugates have been designed and investigated to evaluate their antitubercular potential.

Biocatalysis / Biotransformations and Biofuels

A large number of enantiomerically pure chiral intermediates have been obtained by lipase catalyzed transesterification processes.

Career Profile Including Managerial Role

The research and development activities during the career represent many conceptual and original ideas with experimental excellence that is in tune with the priorities and requirements. The contributions made are mostly relating to multidisciplinary research programmes, which include Organic Synthesis, Medicinal Chemistry, Combinatorial Chemistry, Green Chemistry

and Chemical Biology. Played an important role in the formulation and development of a large number of projects/programmes with industry collaboration/sponsorship that led to fruitful industry-institute linkages.

Establishment of NIPER, Hyderabad / BTIC

As a Project Director of National Institute of Pharmaceutical Education and Research (NIPER), Hyderabad for about seven years, has taken up several measures for the overall growth and improvement of this institute of national importance. Many new concepts have been introduced with respect to a large number of aspects, such as administrative, academics/examinations and research activities. New disciplines that could be important for this region including PhD Programmes as well as management courses in pharmaceutical sciences have been introduced. Significant inputs have been provided for the conceptualization of the National Centre for Research and Development in Bulk Drugs (NCRDBD). Played an important role in the conceptualization and establishment of Biotechnology Incubation Centre (BTIC) at the Biotech Park in the Genome Valley. This facility has attracted several entrepreneurs to setup their own biotech companies in and around Hyderabad and presently, this centre is being managed by Alexandria.

Impact of Research Work on Industry / Society / Environment

A large number of projects were undertaken in collaboration or by sponsorship with industry for the development of new chemical entities and innovative process technologies. The research work relating to new chemical entities has been focused towards the affordable healthcare (cancer therapeutics). Substantial number of process technologies have been investigated in collaboration/sponsorship with industry, particularly, in the development of environmentally benign processes by utilizing microbes/enzymes as biocatalysts with an endevour to bring organic synthetic processes closure to that practised by nature. This challenging area of research has considerable impact on the environment apart from the development of cost-effective processes.

Research programmes in association with industry were conceptualised. Some of the industries that were associated with are: Yamanachi Pharmaceuticals Limited (Japan), Mitsubishi (Japan), Marubeni (Japan), Sheratori Pharma (Japan), Dupont (USA), Spirogen Pharmaceuticals (UK), Evolva (Switzerland), Ranbaxy Laboratories (New Delhi), Lupin Laboratories (Pune), Acoris, (Pune) and Pedilite (Mumbai).

Several academic collaborations were developed internationally and nationally and some of these institutes are - Imperial College London, Kings College, London, University of Wuppertal, Germany, University of Greifswald, Germany, University of Cape Town, University of Southern California, USA, ACTREC, Mumbai, and IISc, Bangalore.

Indo-US Clean Energy Research Initiative

Coordinated a US-India Consortium for the Development of Sustainable Advanced Lignocellulosic Biofuel Systems under the Second Generation Biofuels.

UK-India Education and Research Initiative (UKIERI)

Institute of Pharmaceutical Sciences, King's College London and the Indian team have coinvented a new nanoparticle platform that could have substantial implication for new nanomedicine therapeutics.

Membership of Professional and Academic Bodies

- Member, Editorial Advisory Board "ChemMedChem"(Wiley)
- Member, Editorial Advisory Board "Med.Chem.Com."(RSC)
- Member, Editorial Advisory Board “J. Saudi Chem. Soc.” (Elsevier)
- Member, Editorial Advisory Board of the journal “Letters in Drug Design & Discovery.” (Bentham Publications)

Institutional Memberships

- Executive Committee Member, Jawaharlal Nehru Technological University (JNTU), Hyderabad
- Chairman, Recruitment and Assessment Board (RAB), Defence Research and Development Organization (DRDO), New Delhi
- Board Member, Life Sciences Sector Skill Development Council (LSSSDC), New Delhi
- Member, Expert Appriasal Committee (Industry), Ministry of Environment, Forest and Climate Change, New Delhi
- Member, Unani Pharmacopoeia Committee (UPC), Ministry of Ayush, New Delhi

Summary of Outstanding Achievements

- Published over 490 papers in reputed international journals.
- Publications received more than 9400 citations, h-index 44.
- Published 23 review articles and contributed 9 chapters in books.
- Total number of patents 432 (Granted 306 and Filed 126).
- Five (5) of the US patents have been licensed to a pharmaceutical company for their clinical development at an upfront payment of Rs. 5 million and milestone payments of about Rs. 24 million apart from royalties on the sales.
- Provided Human Resource Development and 90 students have obtained their Ph. D. degrees under the guidance.
- Delivered over 150 invited lectures at different international/national meets and seminars.
- A large number of NCE’s and ICE’s have been developed, and some new lead compounds (4 to 5) are undergoing detailed biological studies for their development as potential anticancer agents.
- Played a keyrole in the conceptualization and establishment of Biotechnology Incubation Centre (BTIC) at Biotech Park, Genome Valley, Hyderabad, being operated by Alexandria.
- Created and established Pre-Biotechnology Process Generator facility at the Indian Institute of Chemical Technology (IICT) and also involved in the facility creation for the Chemical Biology.
- Organized many National and International conferences like Indo-German Symposium in September 1996, National Symposium in Chemistry in January 2000, 12th CRSI National Symposium in February 2010 and Royal Society of Chemistry, London MedChem Congress 2011 and 2013.
- As the Project Director of NIPER, Hyderabad for about seven years, played an important role in the establishment and functioning of this National Institute.

- A National Centre for Research and Development in Bulk Drugs (NCRDBD) has been conceptualized and obtained necessary approvals to setup at NIPER Hyderabad campus with a project cost of Rs. 90 crores. This will be an innovative R&D provider in the field of bulk drugs and offer competitive and eco-friendly technologies in specified areas products and processes.
- Member of the Editorial Advisory Board for the journals like ChemMedChem (Wiley), Med.Chem.Comm. (RSC) and Letters in Drug Design & Discovery (Bentham).
- Expertise has attracted prestigious international projects from Yamanouchi Pharmaceutical Co. Ltd., Japan, Mitsubishi Chemical Corporation, Japan, Shiratori Pharmaceutical Co., Japan, Dupont, USA, IndUS Pharmaceuticals, USA, apart from international academic collaborations with Imperial College London, Kings College London, Greifswald University, University of Cape Town, King Saud University and University of Michigan.