

T. Govindaraju, Ph.D, FRSC

Professor

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DOB: June 20, 1976



EDUCATION

- 2001-2005 **PhD** (Bioorganic Chemistry), National Chemical Laboratory and University of Pune, Pune, India.
- 1995-1998 **Master of Science** (Chemistry), Bangalore University, Bengaluru, India
- 1995-1998 **Bachelor of Science**, Govt. Science College, Bangalore University, Tumkuru, India

WORK EXPERIENCE

- 2020-Present Professor, Bioorganic Chemistry Laboratory, New Chemistry Unit and School of Advanced Materials (SAMat), Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- 2014 - 2020 Associate Professor, Bioorganic Chemistry Laboratory, New Chemistry Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- 2008-2014 Assistant Professor, Bioorganic Chemistry Laboratory, New Chemistry Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru.
- 2018 (May) Visiting Professorship, University of Paris-Sud, University of Paris-Saclay
- 2015 (Apr-May) Visiting Professor, RMIT University, Australia
- 2011 (Jun-July) Visiting Scientist, Prof. Sam Stupp's Laboratory, Northwestern University, USA.
- 2006-2008 Alexander von Humboldt Research Fellow, Department of Chemical Biology, Max Planck Institute of Molecular Physiology, Dortmund, Germany
- 2005-2006 Postdoctoral Fellow, Departments of Biochemistry, and Chemical and Biological Engineering, University of Wisconsin-Madison, Madison, USA

- 2001-2005 Research Fellow, National Chemical Laboratory, Pune.
- 2000-2001 Research trainee (Campus selection), Cadila Pharmaceuticals, Dholka, Ahmadabad, Gujarat.

PROFESSIONAL RECOGNITION, AWARDS AND FELLOWSHIPS

- 2021 Shanti Swarup Bhatnagar (SSB) Prize for the year 2021 in Chemical Science**
- 2021 Fellow of Royal Society of Chemistry (FRSC)**, Royal Society of Chemistry (London), (invited) under "Leader in the Field" Category in the field of Bioorganic Chemistry
- 2020 Health & Wellbeing Winner**, Commonwealth Chemistry Posters – Building the Partnership, **Commonwealth Chemistry**, Federation of Chemical Sciences Societies
- 2020 National Prize for Research in Chemistry of Peptides and Nucleic Acids**, CNR Rao Education Foundation and JNCASR, Bengaluru
- 2019 Special Lecture Award, the Pharmaceutical Society of Japan**, Kyoto University, Japan
- 2019 CDRI Award for Excellence in Drug Research**, CSIR-Central Drug Research Institute, Lucknow, India
- 2018 Visiting Professorship**, University of Paris-Sud, University of Paris-Saclay, France
- 2017 IPS-Young Scientist Award** (2017), Indian Peptide Society
- 2017 R.A. Mashelkar Endowment Lecture**, CSIR-National Chemical Laboratory (NCL), NCL-Research Foundation, Pune
- 2017 MRSI Medal** (2017), Materials Research Society of India
- 2016 SwarnaJayanti Fellowship** (2015-2016), the Department of Science and Technology (DST), Govt. of India
- 2016 AVRA Young Scientist Award** (2015), AV Rama Rao Research Foundation, Avra Laboratories Private Limited, Hyderabad
- 2015 Sir C V Raman Young Scientist Award** (2014), by Government of Karnataka
- 2015 CRSI Bronze Medal** (2016) of Chemical Research Society of India
- 2015 Founding member of Indian National Young Academy of Science (INYAS)**. Selected by INSA council
- 2015 Prof. CNR Rao Award 2014/2015**, Royal Melbourne Institute of Technology (RMIT) University, Australia

- 2015** Selected for "**Emerging Young Investigator issue 2015**" of ChemComm, RSC Publications
- 2014** Selected for '**Emerging Career Series**' of ChemPlusChem. **An initiative to feature up and coming researchers** whose focus is on multidisciplinary research centering on chemistry
- 2014** **Prof. C. N. R. Rao Oration Award 2014**, JNCASR, Bangalore
- 2014** **Sheikh Saqr Career Award Fellow**, 2014, Sheikh Saqr Laboratory, JNCASR, Bangalore.
- 2012** **Prof. D. K. Banerjee Memorial Lecture Award** for the year 2012, Indian Institute of Science, Bangalore
- 2011** **Affiliate member**, International Union of Pure and Applied Chemistry (IUPAC)
- 2011** **INSA Medal for Young Scientist** (2011), Indian National Science Academy, New Delhi, India
- 2011** **Innovative Young Biotechnologist Award (IYBA) 2010**, Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India.
- 2011** **Associate** (2011), Indian Academy of Sciences, Bangalore, India
- 2006** **Alexander von Humboldt Fellowship (2006-2008)**: Awarded by Alexander von Humboldt Foundation, Germany
- 2006** Profiled as one of the **India's young blood**, in **Chemical and Engineering News (C&EN), American Chemical Society (ACS), USA, 2006**, Vol. 84, (12). (**Indian Science Coverage**)
- 2004** **Keerti Sangoram Endowment Award**: Best research scholar, **2004** (Chemical sciences), NCL Research Foundation
- 2004** Invited to NOST symposium (Selected from J-NOST)
- 2004** **Best Poster Award: IUPAC International Conference** on Biodiversity and Natural products: Chemistry and Medical Applications BNP-2004
- 2000** CSIR-JRF awarded through National Entrance Test (NET) conducted by CSIR-UGC
- 2000** **University Topper**, Master of Science, 2000. Awarded **four Gold Medals** with citations and **two cash prizes** with citations, Bangalore University, Bengaluru

Dr. B. D. Laroia Memorial Gold medal for having secured the highest marks in **Chemistry** (M. Sc. Chemistry).

Prof. Siddappa's 60th Birthday Commemoration Gold medal for having secured the highest marks in **M. Sc. Chemistry**.

Prof. K. M. Shivanandaiah Gold medal for having secured the highest marks in **Organic Chemistry** (M. Sc. Chemistry).

Smt. Myna Bai & Narayana Rao Gold medal for having secured the highest marks in **Organic Chemistry** (M. Sc. Chemistry).

Fakir Saheb Cash prize for having secured the highest marks in **Chemistry** (M. Sc. Chemistry).

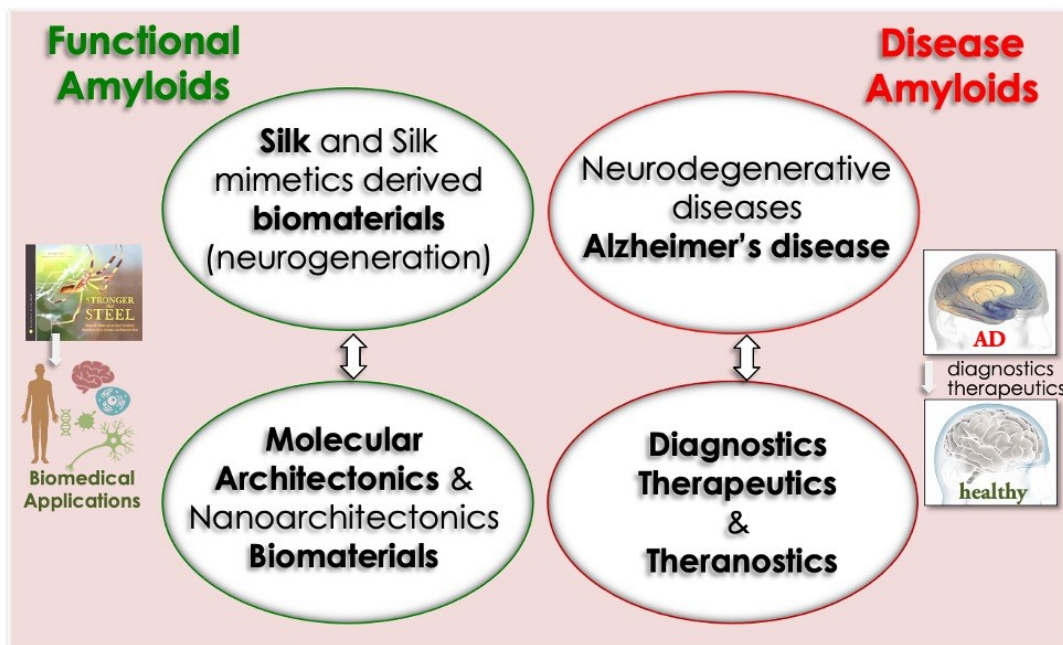
Prof. Vrishabendrappa Endowment Cash prize for having secured the highest marks in **Organic Chemistry** (M. Sc. Chemistry).

1998- Professor Shivanandaiah Scholarship (1998 and 1999) awarded to topper in each academic year, Bangalore University, Bengaluru.

1998 National merit scholarship (1998): Awarded by UGC, Govt. of India.

Research: Fundamental Chemistry of Biomolecules to Tackle Human Diseases

Govindaraju's research interests are at the interface of chemistry, biology and biomaterials science focussed on the theme of chemical biology of '**functional and disease amyloids**'. With expertise



in organic synthesis, peptide chemistry, bioconjugate chemistry, biophysical techniques and chemical biology, he has been engaged in solving challenging problems related to human health and society. Novel concepts and research themes in basic and applied interdisciplinary sciences have emerged from his laboratory.

Summary. With perseverant hard work on ambitious and innovative ideas, Govindaraju has effectively used tools from organic synthesis, biophysics, chemistry and chemical biology in tackling two classes of challenging problems currently relevant to human health and society: (A) his work on disease amyloids has led to development of novel diagnostics of Alzheimer's Disease (AD) that selectively detect AD and differentiate it from other neuro-degenerative diseases, and a novel drug candidate molecule (TGR63) that has been demonstrated to be effective in notable reduction of amyloid burden in the AD brain and reverse cognitive decline in animal models, and is now taken up for clinical studies by a pharmaceutical company with promise to treat AD in humans. His group is studying the relationship of AD with cancer, which resulted in the discovery of a potential theranostic (diagnostic therapy) drug candidate (TGP18) for lung cancer, one of the difficult cancer types to be diagnosed and treated. (B) his work on functional amyloids led to development of silk-derived formulations for sustained in vivo insulin delivery, diabetic wound healing, skeletal muscles and neuronal tissue engineering, a value addition to sericulture industry and farmers. This work further inspired the concept of Molecular Architectonics which integrates the realms of molecules and derived nano-scale molecular architectures into functional biomaterials.

TEACHING ACTIVITIES

Undergraduate level: Project Oriented Chemical Education (POCE)

Actively participate in Science Popularization Programmes, delivered several lectures.

Graduate

level:

2010-2012	Convener: Int. Ph.D (Chemical Science) program & designed course structure
2017-2009-2011	Convener: Integrated. Ph.D (Chemical Science) program Organic Chemistry, Credits 3:0 (JNC201)

2011-2019	NMR and Infrared Spectroscopy, part of 3:0 Credits Course
2010-2015	Biomaterials, Credits 3:0 (JNC303)
2015-2016	Coordinator: Physical Methods for Chemists, Credits 3:0
2010-2012	Coordinator: Chemistry Lab I, Credits 0:4 (JNC203)
2010-2012	Coordinator: Chemistry Lab II, Credits 0:4 (JNC204)
2017-	Chemical Biology (JNC312), Credits 3:0
2020-	'Translational Research' for Scientific Communications Course

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Chemical Research Society of India (CRSI)	Life member and Secretary
American Chemical society (ACS)	Member
Royal Society of Chemistry (RSC)	Member
Indian Peptide Society (IPS)	Life member and Secretary
Indian Society of Chemical Biologists (ISCB)	Life member
Asian Chemical Biology Initiative (ACBI)	Life member (and actively involved)
American Peptide Society	Member
Indian National Young Academy of Science (INYNAS)	Founder member
Indian Society for Radiation and Photochemical Sciences (ISRAPS)	Life member

- **Fellow of Royal Society of Chemistry (FRSC), Royal Society of Chemistry (London)**
- **Founding member of Indian National Young Academy of Science (INYNAS).**

ORGANISATION OF SCIENTIFIC MEETINGS

2011	Convener, JNCASR Chemistry Symposium organized by New Chemistry Unit, JNCASR in celebration of International Year of Chemistry 2011, during January 11-12, 2011. National and international eminent speakers participated in the programme.
2015	Elected Organizing Secretary, Indian Peptide Symposium 2015 (IPS2015), held at JNCASR, Bengaluru, during September 24-25, 2015.
2015	Invited co-chair for the satellite meeting on ' BioInspiration ' symposium organized in London by Royal Society London in celebration of 350 th anniversary of first scientific journal "Philosophical Transactions". Satellite symposium was held at JNCASR (AV). May 27, 2015.
2016	Co-organizer, Advanced School on "Nano, structural and single molecule approaches to biology: understanding and handling life at higher resolution conducted by ICTP, Italy and JNCASR, India during 11-16 January 2016.

- 2018, 2020 Coordinator to organize the "**Salters Chemistry Camp**" a flagship programme of Royal Society of Chemistry.
- 2015– As **Secretary (Chemical Research Society of India and Indian Peptide Society)** involved in organizing Symposia and Conference on regular basis.

INSTITUTIONAL RESPONSIBILITIES

- 2019– **Chair, Education Technology Unit (Department), JNCASR**
- 2019– Chair, Committee, Staff Welfare Fund, JNCASR
- 2020– Member, COVID19 Task Force, JNCASR
- 2017 -2018 Convener: Summer Research Fellowship Programme, JNCASR
- 2017 - Member, Medical Committee, JNCASR
- 2016 Member, Vision Document (20 yrs Road Map) Preparation Committee, JNCASR
- 2009 - 2012 Member, Library Committee, JNCASR
- 2012 - 2016 Chair, Day Care Facility (DCF) Committee, JNCASR
- 2010– In-charge Faculty: NMR, HPLC and LCMS facility.

COMMISSIONS OF TRUST/MEMBERSHIPS OF EVALUATION BOARD (if applicable)

- 2021 Evaluator/Committee Member, Falling Walls Lab India- a pitch competition for young researchers and entrepreneurs, German Centre for Research and Innovation- DWIH New Delhi
- 2020– Member, promotion and recruitment committees
- 2020 Panelist in Webinar Session on **Drug Discovery, Repurposing and Drug Delivery, VAIBHAV Summit** (October 2020), Govt. of India. Aatma Nirbhar Bharat initiative.
- 2020 Panelist, discussion on possibilities and mechanisms of collaboration in the area of **biomaterials, Materials & Processing Technologies** (MPT), **VAIBHAV Summit** (October 2020), Govt. of India. Aatma Nirbhar Bharat initiative.
- 2020 Expert Committee Member, Teachers Associateship for Research Excellence (TARE) selection.
- 2020 SERB, DST Govt of India, CRG project evaluation committee, Task force on COVID19.
- 2018 Expert Member, Panel Discussion, Brainstorming workshop on "Sericulture by-product utilization & diversification" at Central Silk Board (CSB), Bengaluru.
- 2018 Reviewer (Projects), French National Research Agency (ANR), France
- 2017 Reviewer (Projects), The Fund for Scientific Research-FNRS (F.R.S.-FNRS), Belgium
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- 2015 - Evaluation and Reviewer Committee, Vision Group on Science and Technology (VGST) and Karnataka State Council for Science & Technology (KSCST), Govt. of Karnataka
- 2010 - Reviewer, DST, SERB, DBT, Govt. of India
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- 2009 - Reviewer, International (RSC, ACS, Elsevier, Nature Publishing etc) Journals
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SUMMARY OF PUBLICATIONS

Total number of research papers published: **123**

Research papers published from independent research career (JNCASR): **113**

Patents (sanctioned/filed): **>37** (Granted: 6 US patents; 5 Indian patents; many are at PCT and various stages of national phase in several countries)

Book chapters: **18**

Book: **3**

Invited (National and International) Lectures delivered

He has delivered a number of invited lectures in both national and international symposia/conference and workshops

SCIENCE EDUCATION AND OUTREACH ACTIVITIES

Chair, Educational Technology Unit (Department), JNCASR

Coordinator for outreach programmes

Govindaraju is actively involved in Science Popularization and outreach activities. He has delivered popular science talks (in English, Hindi and Kannada), demonstrations and conduct regular programs for school children and college students at JNCASR, Bengaluru and various places in Karnataka and the country.