

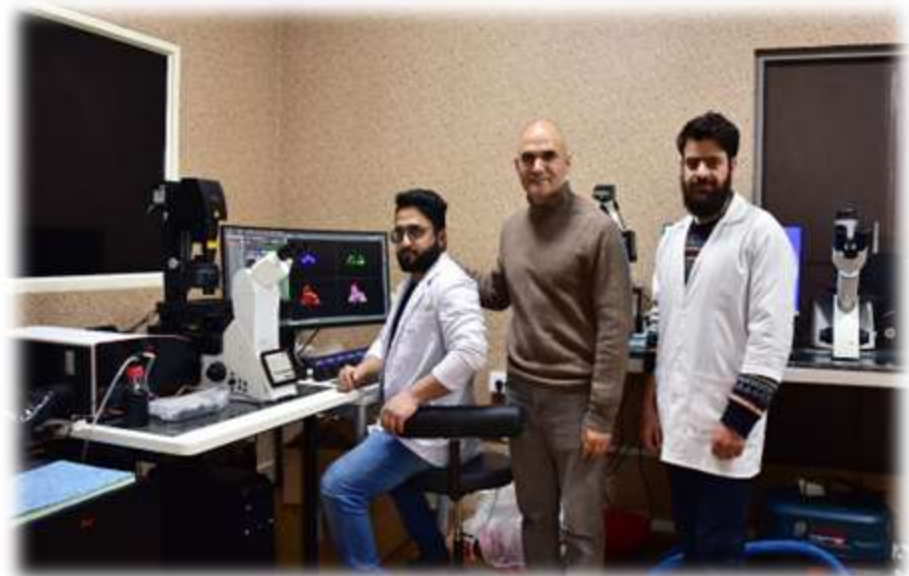


Centre for  
Interdisciplinary  
Research and  
Innovations (CIRI),  
University of Kashmir



# About CIRI

University of Kashmir established the Center for Interdisciplinary Research and Innovations (CIRI) in 2020 under the national brain-gain mission. This initiative aims to attract young talented and well trained Indian-origin overseas scientists through prestigious fellowships like Ramanujan, Ramalingamswami and Wellcome Trust-DBT India Alliance across disciplines to promote cutting-edge interdisciplinary research at the University. These fellowships are highly competitive and awarded to outstanding scientists and selected by high level national selection committees. It is a strategic effort to convert brain drain into brain gain and develop University as a hub of scientific excellence and innovation. CIRI is dedicated to foster a vibrant interdisciplinary research ecosystem with state-of-the-art research infrastructure that encourages interdisciplinary collaboration, promotes capacity building, and facilitates healthy brain circulation.



# Faculty



**Dr. Altaf Bhat**

Ph.D.: Laval University, Canada  
Post Doc: Harvard University, USA

**Specialization: Epigenetics and  
Genome Organisation**



**Dr. Humaira Gowhar**

(Adjunct Faculty)  
Associate Prof. Purdue University, USA

**Specialization: Genomics**



**Dr. Wajid Bhat**

Ph.D.: Laval university, Canada  
Post Doc: Laval University, Canada

**Specialization: Epigenetics**



**Dr. Javaid Yousuf**

Ph.D.: JNCASR, Bangalore  
Post Doc: Max Planck Institute, Germany

**Specialization: Protein Biochemistry**



**Dr. Gulzar Ahmad**

Ph.D.: IIT, Mumbai  
Post Doc: Texas A&M University, USA

**Specialization: Green Chemistry**



**Dr. Rafeeq Mir**

Ph.D.: IISER, Pune  
Post Doc: Medical Research Council, UK

**Specialization: Neuroscience**





## Chromatin Biology

- 3D-Genome Organization and Nuclear Architecture
- Epigenetics in Development and Disease
- Epigenetic control of gene expression



## Neuroscience

- Mechanism underlying disorders like Alzheimer's, Parkinson's
- Cell Signaling Pathways in neurodevelopmental disorders



## Protein Structural Biology

- Protein structure-function
- Enzymology,
- Biological mass spectrometry



## Green & sustainable Chemistry

- Green chemistry
- CO<sub>2</sub> based polymer chemistry
- Polycarbonates and biodegradable plastics

# Research Infrastructure

CIRI is equipped with state-of-the-art infrastructure featuring fully equipped research laboratories, a cell culture facility, and an advanced Central Instrumentation Facility designed to facilitate high-quality scientific research and innovation.



## Proteomics & Metabolomics

This facility houses Exploris 480 mass spectrometer with Trajan HDX module and several UHPLCs and is the first such facility in Indian academia. Useful for analysis and quantitation of whole proteome/metabolome and structural proteomics in research and clinical sciences.



## Imaging and Microscopy

The facility houses Stellaris Confocal microscope and Thunder Live cell imager. Used to visualize broad range of biological samples like stained histological sections on microscope slides, unstained biological samples, living cells, tissues or even small organisms (e.g. zebrafish larvae)



## FACS

Our facility has BD FACS Aria Fusion system which is very accurate, flexible and able to handle complex sorting tasks. Used in single-cell sorting and analysis with advanced laser technologies.



## X-Ray Diffraction

This facility houses XRDynamic 500. A platform covering a wide variety of applications with optimal solutions for powder XRD, non-ambient XRD, PDF analysis, SAXS, etc, with fully automated optics and alignment routines.



# Research Laboratories



# Interdisciplinary Ph. D programme

CIRI offers a rigorous Ph.D. program specifically designed to address pressing local and global challenges through a collaborative and interdisciplinary framework. Our program encourages students to engage with complex problems from various perspectives and leverage knowledge from multiple fields.

CIRI provides state-of-the-art facilities for integrative biology and the enrolled students are strengthened with a range of seminars, meetings, trainings and workshops. This provides them with opportunities to interact and learn contemporary advancements in the field. Students are often encouraged to attend national and international meetings and conferences.

CIRI offers a broad range of research themes including Genomics, Epigenomics, Disease biology, Protein Structural Biochemistry, Green Chemistry and Neurosciences.

Students across disciplines like Life Sciences, Chemistry, Physics, Computer Science/Artificial intelligence, Mathematics, Environmental Science, Food Science, and Geography are eligible for the program. We seek candidates who are passionate about contributing to innovative solutions and who are eager to engage in cutting-edge interdisciplinary research with a meaningful impact





# Mentorship, Guidance and Handholding

We are deeply committed to nurture next-generation young scientific talent through structured mentorship and hands-on training programs. As part of this initiative, the Centre has supported 84 M.Sc. dissertation students across disciplines—including Biochemistry, Biotechnology, Nanotechnology, and Microbiology—representing institutions like University of Kashmir, Cluster University Srinagar, GDC Bemina, Central University of Kashmir, Jamia Millia Islamia and BGSBU. This engagement reflects CIRI's dedication to capacity building and fostering a strong foundation for future researchers.





# Collaboration

CIRI puts lot of emphasis on collaborations and these partnerships enhance the exchange of knowledge, facilitate joint research projects, and provide access to global expertise, thereby strengthening the interdisciplinary research ecosystem.

## International

Prof. John A Tainer, MD Anderson Cancer Centre, USA

Prof. Danesh Moazed, Harvard University, USA

Prof. Taj K Pandita, Baylor College of Medicine, USA

Prof. Humaira Gowhar, Purdue University, USA

Prof. Job Dekker, University of Massachusetts, USA

Prof. Donald Darensbourg, University of Texas A&M, USA

Prof. Jacques Cote, Laval University, Canada

Prof. Petra Wandler, University of Potsdam, Germany

Dr. Jakub, University of Warsaw, Poland

Dr. Raja Shekher, University of Dundee, UK

Dr. Ikhlaq Ahmad, Sidra Hospital, Qatar

Prof. Ahmed H. Al-Marzouqi, United Arab Emirates University, UAE

## National

Dr. Mridula Nambiar, IISER, Pune

Dr. Vinay Bulusu, IISER Berhampur

Prof. Hemalatha Balaram, JNCASR, Bangalore

Dr. Prem Singh RCB, New Delhi

Prof. Sanjeev Galande, Shiv Nadar University,

Uttar Pradesh

Dr. Mohammad Faruq, IGIB, New Delhi

Dr. Rajesh Panday, IGIB, New Delhi

Prof. V. Chandrasekhar, TIFR Hyderabad

Prof. Nishant K. T, IISER Thiruvananthapuram

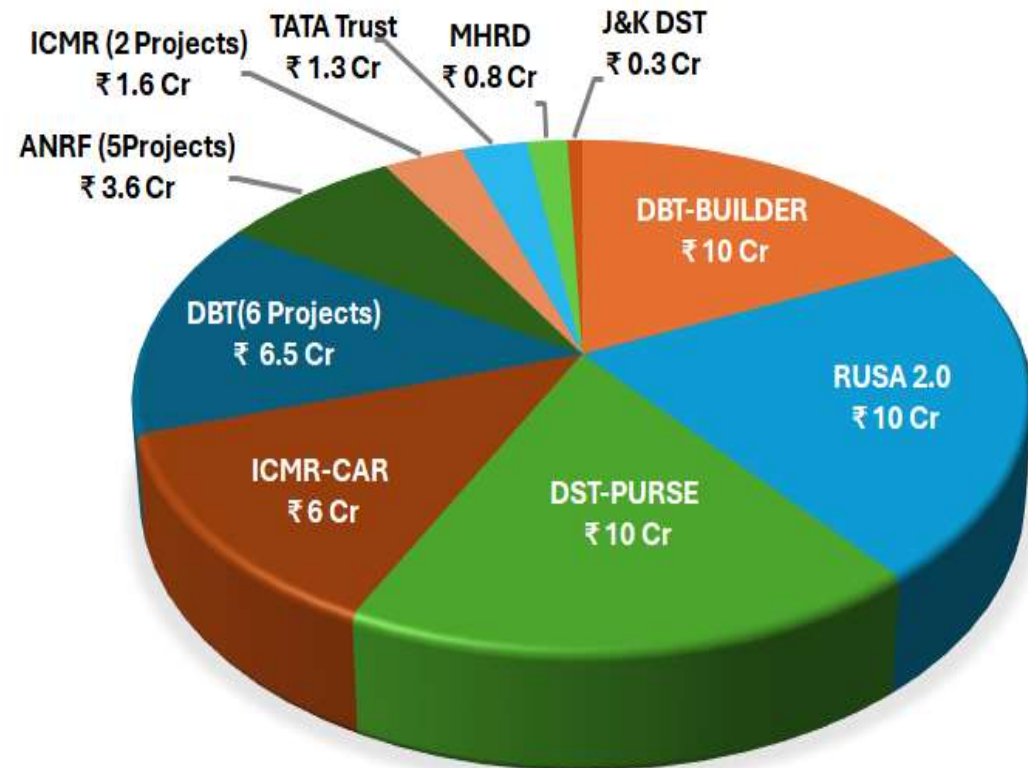
Prof. Ashok Kumar IIT, Kanpur

Dr. Syed Nisar, SKIMS, Srinagar

Dr. Tariq Malik, SKIMS, Srinagar

Dr. Zubeida, SKIMS, Srinagar

**Funding**  
(~ 50 cr/23 projects)



Supported by:



Department of  
BioTechnology,  
Government  
of India



**icmr**  
INDIAN COUNCIL OF  
MEDICAL RESEARCH  
Serving the nation since 1911



विज्ञान एवं  
प्रौद्योगिकी मंत्रालय  
MINISTRY OF  
SCIENCE AND  
TECHNOLOGY



# Extension and outreach

CIRI is dedicated to academic extension and outreach by organizing conferences, workshops, and training programs that promote a culture of research and innovation. A special emphasis is placed on social outreach initiatives targeting college students, aiming to inspire young minds and increase awareness of advanced interdisciplinary scientific research. Over the years, many of the undergraduate students from neighboring colleges visited CIRI and actively interacted with faculty and students.





# Invited Lectures and Seminars

Seminars and conferences are essential to CIRI's mission of promoting academic excellence and facilitating interdisciplinary research. These events serve as platforms for sharing research ideas, networking among scholars, and introducing students and faculty to emerging trends and global perspectives. By hosting renowned experts, CIRI enriches its research environment and fosters a culture of collaboration, innovation, and ongoing learning.



Prof. P. Balaram,  
Former Director, IISc Bangalore, India



Prof. L.S. Shashidhara  
Director, NCBS, Bangalore, India



Prof. Tej Pandita  
Texas University



Dr. Ibrahim Dar,  
University of Cambridge, UK



Dr. Shweta Tyagi  
CDFD, Hyderabad



Dr. Ishtiyag Ahmed,  
Rutgers University, USA



Dr. Ashesh  
IISc Bangalore, India



Dr. Humaira Gowher,  
Purdue University,



Dr. Sudha Kumari  
IISc Bangalore, India



Dr. D. Maiti  
IIT Mumbai



Dr. Haider Dar,  
University of Pittsburgh, USA



Dr. M. Azhar Aziz,  
AMU, U.P., India





## Contact us:

Centre for Interdisciplinary Research and Innovations (CIRI)

🌐 <http://ciri.uok.edu.in>

✉ [ciri@uok.edu.in](mailto:ciri@uok.edu.in)

☎ 9596553650