



2021-2022 Annual Report

RMIT-AcSIR Joint Research Program

STEM College



Acknowledgement of country

RMIT University acknowledges the people of the Woi wurrung and Boon wurrung language groups of the eastern Kulin Nation on whose unceded lands we conduct the business of the University. RMIT University respectfully acknowledges their Ancestors and Elders, past and present. RMIT also acknowledges the Traditional Custodians and their Ancestors of the lands and waters across Australia where we conduct our business.



Artwork "Luwaytini" by Mark Cleaver, Palawa.



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Our Mission

**From the Office of the Dean, Research & Innovation (India),
STEM College, RMIT University**



Distinguished Professor Suresh Bhargava AM, Dean, Research & Innovation (India), STEM College, RMIT University.

As we persist in our efforts to achieve a more globally connected student experience, our goal of enhancing the partnership between RMIT and India has provided us with the chance to elevate and shape the upcoming cohort of scientists and trailblazers.

The continuous expansion of the RMIT-AcSIR Joint Research Program has resulted in an additional 16 individuals transitioning from their initial student status, to globally competitive, analytical thought leaders. They are now equipped with practical expertise to initiate their journeys in academia, industry, and entrepreneurship.



Message

Joint message from the Deputy Vice-Chancellor, STEM College and the Deputy Vice-Chancellor, International & Engagement, RMIT University



At RMIT we recognise that our greatest achievements are always the result of the communities we engage in the process. Our diverse and inclusive university cohort is fundamental to this. Students and staff of all nationalities, backgrounds and cultures make us who we are, and provide the wide-ranging perspectives we depend on.

We value our strategic partnerships with Indian research institutions and laboratories, and our relationship with India more broadly is longstanding and continues to grow in strength. Importantly, the outcomes of these relationships – from scientific discovery to innovative research – change lives for the better and generate positive impact.

Highlights are plentiful, including the increasing numbers of AcSIR students. We have 80 students currently enrolled, 60 more joining in October 2023 and 400+ anticipated to take part from across India over the next 5 years. More than 40 AcSIR students are currently studying in Melbourne and we know how rewarding these experiences are for everyone involved.

The RMIT-IICT joint international workshop (28-29 November 2022) was held at CSIR-IICT Hyderabad, with the intention of widening the scope for collaboration between Australian and Indian researchers and fostering both faculty and student exchange programs. This workshop brought together exceptional minds from academia and research across both countries, to share knowledge and research experiences, and to connect.

Currently, RMIT has partnered with 23 of 39 CSIR laboratories, reaching right across India. Putting our knowledge into action through applied research and productive partnerships will continue to be a priority. Because, along with our friends in India and of Indian heritage, wherever we operate across the region and the world, we are committed to solving our shared challenges and to expanding the difference we can make.

We look forward to our ongoing continued collaboration.

Professor Ian Burnett

Deputy Vice-Chancellor STEM College and Vice-President, RMIT University

Saskia Loer Hansen

Deputy Vice-Chancellor International & Engagement and Vice-President, RMIT University

Message

Message from the Dean, Research & Innovation (India), STEM College, RMIT University



United under the overarching theme of 'Student success is our success,' RMIT's strategic collaboration with the Academy of Scientific & Innovative Research (AcSIR) aims to establish a comprehensive and diverse educational hub. Notably, India stands as the world's second-fastest growing economy, with AcSIR playing a pivotal academic role in India's CSIR laboratories network.

This impactful partnership achieved remarkable milestones in 2020 and remains poised to fortify RMIT's position in the years ahead. The significance of this strong alliance is particularly pronounced in the current geopolitical landscape, marked by unprecedented volatility that is disrupting existing business connections. The emergence of the COVID-19 pandemic further compounds the disruption to conventional business practices and, more significantly, to RMIT's ambitious strides into the future.

Consequently, it becomes crucial to approach the challenges presented by this international environment with careful consideration, thoughtful planning, and judicious foresight. The foundation of the partnership with India rests upon trust, respect, and collaboration, and the ongoing mutual benefits between the two entities. India's demographic advantage is complemented by RMIT's established technological capabilities, fostering a real-world impact.

Amidst celebrating successes, our primary responsibility during these trying times is to stand hand-in-hand and shoulder-to-shoulder with our esteemed partner. The second wave of the Coronavirus pandemic inflicted significant casualties across all sectors of society in India, resulting in the loss of numerous innocent lives. Our heartfelt sympathy extends to our Indian counterparts – their challenges resonate deeply with us, and we are fully committed to supporting them. Our digital connectivity continues, enabling ongoing academic engagement despite the physical distance.

RMIT's commitment to its partnership with India, facilitated through AcSIR, remains unwavering and resolute as we venture forward together. Rather than merely enduring challenges, our partnership thrives and evolves through these trying times. The lauded RMIT-AcSIR Joint Research Program is set to become a blueprint for the future, fostering the emergence of a diverse and inclusive workforce primed to tackle global issues for years to come. It will become an example for others to follow.

Distinguished Professor Suresh Bhargava AM

Dean, Research & Innovation (India),
STEM College, RMIT University

Director, Centre for Advanced Materials
and Industrial Chemistry, RMIT University

Message

Message from the Deputy Vice-Chancellor, Research & Innovation, RMIT University



The partnership with India is very important to RMIT University. Consistent with previous years, 2023 was a year of outstanding achievements.

The RMIT-AcSIR Joint Research Program continues to be our largest offshore PhD program, with a current intake of 80 students, and 60 students to join in late 2023.

More than 40 AcSIR students are currently studying in Melbourne, with an additional 20 students visiting Melbourne by the end of this year.

Our innovative collaborative program offers Higher Degree by Research candidates a unique experience complete with state-of-the-art facilities, and a supervisor cohort with diverse language skills, cultural understanding, and local-area expertise.

With a 100 per cent employment rate after graduation, the RMIT-AcSIR Joint Research Program is producing job-ready global citizens.

We are proud that RMIT has partnered with 23 out of 39 Council of Scientific and Industrial Research (CSIR) laboratories out, covering India geographically. This has helped contribute to more than 600 publications with Indian collaboration over the past 5 years.

I was delighted to attend the RMIT-IICT joint international workshop in November 2022 in Hyderabad, India. This workshop provided the great opportunity to explore how we further widen the scope for collaboration between Australian and Indian researchers and foster both faculty and student exchange programs.

RMIT remains committed to further strengthening our relationship and research collaborations with India in 2024

Professor Calum Drummond AO

Deputy Vice-Chancellor, Research & Innovation and Vice-President, RMIT University

Message

Message from the Chancellor, AcSIR



It gives me immense pleasure to include my message on the sixth anniversary of the academic collaboration between the Academy of Scientific and Innovative Research (AcSIR), India and the Royal Melbourne Institute of Technology University (RMIT), Australia.

Over the years, the collaboration of AcSIR with RMIT has been a great success, with 16 students completing their doctoral programs in the past five years. I have been profoundly impressed by the remarkable adaptability and resilience of our students and supervisors, both from India and Australia, during the challenging period of COVID-19.

The AcSIR-RMIT Joint Research Program is a unique opportunity for students to pursue cutting-edge research in a world-class environment. They also benefit from the close collaboration between RMIT and AcSIR, which brings together the best minds from both institutions. This collaboration synergises the strengths of RMIT's academic excellence and global footprint with AcSIR's scientific strength, world class infrastructure and mentoring faculty of CSIR with research focussed in alignment with the societal needs.

Participation in this international program has not only equipped our Indian doctoral students with the academic knowledge and skills essential for advancing their careers but has also provided them with a platform to make a global impact. The continued collaboration between RMIT University and AcSIR solidifies the AcSIR Cotutelle PhD program's position as a cornerstone of India's research landscape.

I am deeply impressed by the significant accomplishments of our AcSIR students and graduates, including the publication of over 120 research papers and the acquisition of 2 patents during 2021-2022. It is also heartening to know that the graduates of the RMIT-AcSIR Cotutelle PhD program achieved a 100% employment rate post-graduation, securing positions both in India and around the world. These achievements are a true reflection of the exemplary mentors, leaders, and above all, the doctoral students themselves, who have consistently demonstrated exceptional talent and commitment.

I am confident that this collaboration will continue to produce outstanding research outcomes benefitting both the institutions. I would like to thank the RMIT and AcSIR teams for their hard work and dedication in making this collaboration and program a grand success.

I wish you all the best for the future of the AcSIR-RMIT Joint Research Program.

Professor N Kalaiselvi

Chancellor, AcSIR (Academy of Scientific and Innovative Research)

Director General, Council of Scientific and Industrial Research (CSIR)

Secretary Department of Scientific & Industrial Research (DSIR), India

Message

Message from the Vice-Chancellor, AcSIR



I take great pride in witnessing the flourishing academic collaboration between the Academy of Scientific and Innovative Research (AcSIR), India and the Royal Melbourne Institute of Technology University (RMIT), Australia.

This partnership is an embodiment of the ancient Indian philosophy of “Vasudhaiva Kutumbakam”, which means “the world is one family”. Declaration of the recently concluded G20 summit, which was held in New Delhi, also emphasised the importance of International Cooperation in addressing global challenges such as climate change, poverty, and inequality. The declaration inter alia called for the need to build a more sustainable and inclusive world.

The partnership between AcSIR and RMIT is a shining example of how international cooperation can be used to achieve major goals set forth by world leaders. By working together, we are creating opportunities for young doctoral students from India and Australia to learn from each other, collaborate on research, and build a better future for all. The program is also aligned with the message of our Hon'ble Prime Minister, “one world, one family, one future”. This message recognises that we are all interconnected, and that we must work together to create a better future for everyone.

AcSIR-RMIT's pioneering international Cotutelle PhD program has proven immensely beneficial for our doctoral students. It has allowed them to expand their academic horizons, gain valuable industrial exposure, and thrive in a cross-cultural environment. The feedback we have received from program graduates has been overwhelmingly positive, with students highlighting the invaluable

learning experiences, mentorships, networks, and friendships they have cultivated through the program. Further the essential life skills which they have acquired during the program, shall stand by them throughout their lives.

I am delighted to see that RMIT University and AcSIR have extended the collaborative academic partnership until 2027, with plans to expand the existing Cotutelle PhD program. Over the next five years, we anticipate the participation of more than 400 AcSIR doctoral students from various regions of India and at least 50 RMIT doctoral students from Australia. As this alliance continues to grow, we foresee an annual intake of over 100 students in the coming years.

This Cotutelle PhD Program model has set a benchmark for others to follow, and I extend my heartiest congratulations to the founder of this program, Distinguished Professor Suresh Bhargava for his commendable work over the years, even during the challenging times of COVID-19. It's truly remarkable to see how far-reaching the impact of this program has become, and I eagerly anticipate witnessing its continued success for many years to come.

I am confident that this partnership will continue to grow and strengthen. Together, we will train the next generation of leaders who will be responsible for building a more sustainable and inclusive world.

Professor Manoj Kumar Dhar

Vice-Chancellor, AcSIR (Academy of Scientific and Innovative Research)

Message

Message from the Director, IICT



Collaboration is a key part of the success for any organisation, and I take great pleasure in witnessing the thriving joint research and academic collaboration between CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, India and The Royal Melbourne Institute of Technology (RMIT), Australia.

The journey undertaken by RMIT-IICT Research Centre, which was established in 2011, is truly remarkable and commendable. Under this program, around 35 Indian research scholars have been awarded PhD, and more than 150 research papers in high-impact international journals of repute are published. It is indeed a proud moment to note that several of these students received prestigious national and international awards. These achievements underscore the program's resilience and the exceptional leadership it enjoys. Moreover, the successful model of this collaborative program further expanded and resulted in "RMIT-AcSIR Joint Research Program" in 2018. Under this program, The Academy of Scientific and Innovative Research (AcSIR) an autonomous governing body and an 'Institution of National Importance', which functions through CSIR, means India can access all the 37 leading national laboratories of CSIR and provide joint PhD's with RMIT.

I had the privilege of attending the RMIT-IICT joint international workshop, which took place on November 28th and 29th, 2022, at CSIR-IICT. This event played a pivotal role in broadening the horizons of collaborations between Australian and Indian researchers, fostering opportunities for both faculty and student exchange programs.

These collaborations have not only enriched networks for conferences and research activities but have also strengthened the bonds between our two nations. This innovative partnership has served as an invaluable platform for young, talented, and dedicated students to access transformative opportunities and experiences that would have otherwise remained out of reach.

I extend my heartfelt gratitude to Distinguished Professor Suresh Bhargava for his exemplary leadership and unwavering commitment. It was his visionary initiative that laid the foundation for the unique collaboration on the IICT campus in 2011. These collaborative efforts leave an indelible mark on the lives of young Indian scientists and making substantial contributions to the field of science. Its enduring legacy is certain to shape the future for years to come. My congratulations and best wishes to all the people involved in this collaborative journey.

Dr D Srinivasa Reddy

Director, CSIR – IICT (Indian Institute of Chemical Technology)

We care

From the Office of the Dean, Research & Innovation (India), STEM College



Distinguished Professor Suresh Bhargava AM, the Dean, R&I India and AcSIR students at a welcome session at RMIT University.



Distinguished Professor Suresh Bhargava AM and AcSIR students in a monthly catch up meeting.



Meeting in Melbourne with Mr Raj Kumar (fourth from the right), the former Consulate General of India.



AcSIR students having a coffee catch up with Tae Kim, Senior Officer, Offshore HDR Program Support, at STEM College. Left to right: Yogesh Kumar, Vikash Shaw, Shiva Nandala, Tae Kim.

Amidst the ongoing challenges posed by the COVID-19 pandemic in 2021 and 2022, our students in India found themselves grappling with the profound loss of loved ones, the disruptive consequences of lockdowns on their way of life, and the subsequent delays in obtaining visas for the next phase of their academic pursuits.

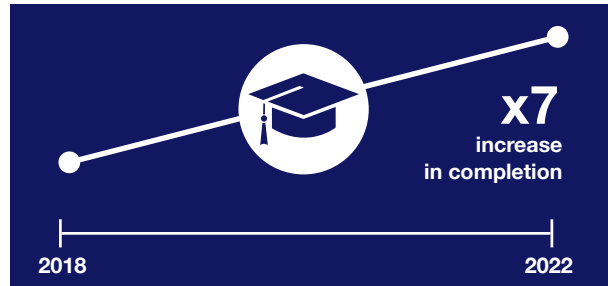
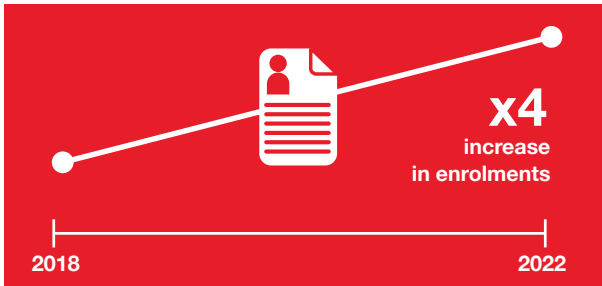
However, despite these obstacles, the steadfast determination and resilience of our PhD cohort shone through, evidenced by a notable increase in publications, research endeavours, enrolments, and program completions. This culminated in the RMIT AcSIR Joint PhD Program achieving its most productive year to date. Throughout this trying period, our RMIT supervisors and partner organisations in India dedicated their unwavering efforts to supporting our students.

The Office of the Dean orchestrated a diverse array of events during 2021-2022, both online and on campus, with the primary aim of fostering and enriching student engagement within the program. These events served to reinforce a strong sense of community amongst the participants. The heightened opportunity for in-person interactions facilitated the establishment of stronger connections between students and supervisors, bridging the gap after an extended period of lockdowns.

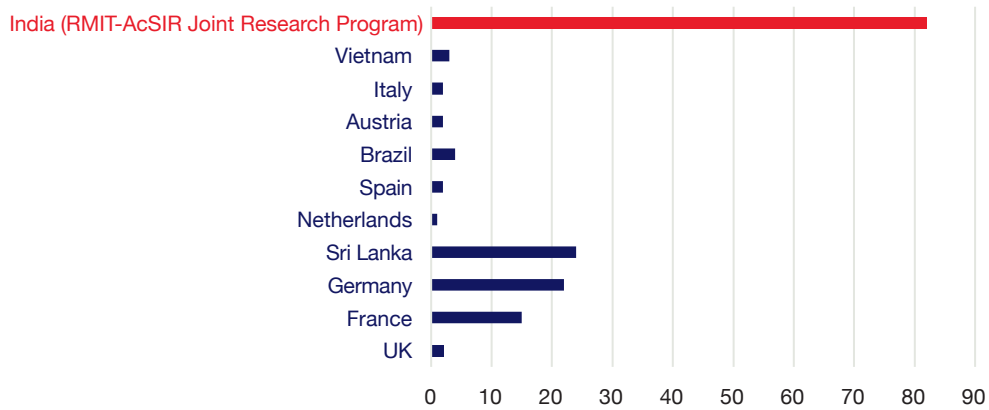
A significant milestone during this timeframe was our pioneering celebration of Diwali with our Indian students and partners via an online platform. Esteemed executives, including Chancellors and the Vice Chancellor of RMIT, as well as our Indian counterparts, delivered speeches, creating a unique and memorable event that transcended geographical boundaries.

Our unwavering commitment remains focussed on student satisfaction. We are resolute in our pursuit of crafting an inclusive and nurturing environment, as we continue to contribute to the meaningful academic journeys of our esteemed students at RMIT University.

Our numbers

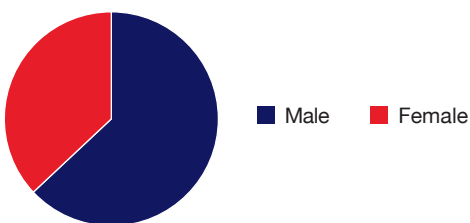


RMIT-AcSIR Joint Research Program enrolment and completion growth over 4 years

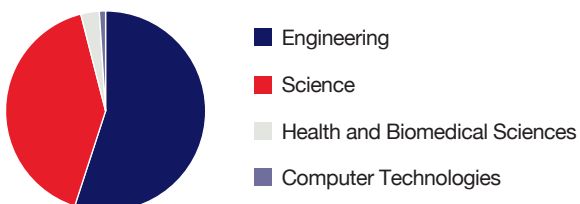


STEM Enrolments – Offshore collaborative PhDs and cotutelle agreements. Comparison of graduate programs in the STEM College (Data for 2022)

Gender balance male-female ratio - 60:40 (Male: Female)



Program ratio - 58:39:2:1 (Engineering: Science: Health and Biomedical Sciences: Computing Technologies)



100%

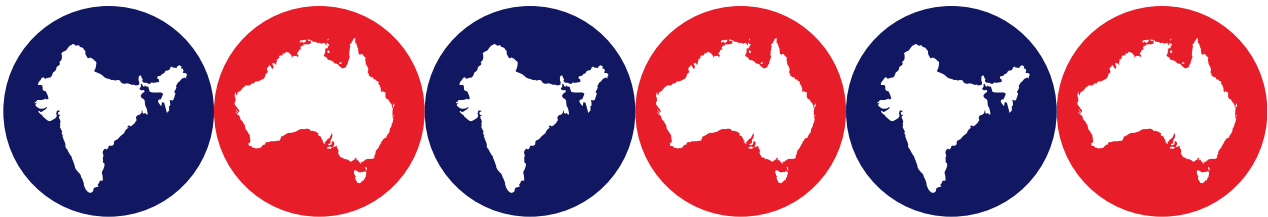
COMPLETION RATE FOR INDIAN INSTITUTE OF CHEMICAL TECHNOLOGY (IICT) COHORTS (NOW MERGED INTO RMIT-ACSIR JOINT RESEARCH PROGRAM)

&

EMPLOYMENT AFTER GRADUATION

95%

COMPLETION RATE FOR RMIT-ACSIR JOINT RESEARCH PROGRAM IN 2021-2022



RESEARCH FUNDING

2 X AUSTRALIA-INDIA STRATEGIC RESEARCH FUNDS (AISRF) IN 2021-2022 - \$ 1.5 MILLION
AUSTRALIA INDIA RESEARCH STUDENTS (AIRS) FELLOWSHIP FOR 2023 - \$20,000

RMIT-ACSIR JOINT RESEARCH PROGRAM (2021-2022) CONNECTING THE WHOLE OF INDIA BY 1 PROGRAM



83 Enrolments



17 Completions
(including IICT program)



18 Awards



425 Publications



2 Patents

RMIT-AcSIR Joint Research Program



RMIT University and the Academy of Scientific and Innovative Research (AcSIR) signed on to a joint PhD agreement during a formal ceremony in Melbourne on the 27th of July 2017.

Under the joint PhD program, students will be enrolled at both institutions, spending the majority of their program at the AcSIR host institute, and coming onshore to RMIT for up to 12 months at the latter stages of their program.

The first cohort of 17 candidates enrolled under the new joint program in August 2018. Now, we have nearly 100 hundred enrolled students and we are anticipating over 50 new candidates by mid this year.

This is a disruptively innovative program, with new challenges that come with uncharted progress. The program will illuminate RMIT in the Indian education system and holds the potential for enormous change.

Students in the AcSIR programs are the top performing HDR candidates producing excellent publication rates, completion rates, and graduate outcomes. Admission to AcSIR is highly competitive, with roughly a 0.1% success rate; 500-600 candidates accepted from some 500,000 who sit the entrance exam each year. At the successful completion of their degrees, the students will be awarded PhDs from both RMIT University and AcSIR.

We now look to the future, and how to capture the next brilliant minds from India through research and innovation partnerships with this rapidly modernising country.



Australian Industries



Indian Industries

RMIT-AcSIR relies on a four-pronged approach with industry collaborations across India and Australia.

Having a regular catch up with Distinguished Professor Suresh Bhargava, Mr Tae Kim and my AcSIR friends is always an enjoyable experience. Distinguished Professor Suresh Bhargava provided insightful comments on current and future research. I look forward to having the next meeting so we can gather and openly share our thoughts.

Prashant Kumar

It is always a pleasure to have a meeting with Distinguished Professor Suresh Bhargava and Mr Tae Kim. Distinguished Professor Suresh Bhargava always leaves us with a life mantra for research success, and this time it was "if he could do it, I could do it even better." And then there is Mr Tae Kim - what an amazing personality! Every time I meet him I feel a surge of positive energy from his smile and enthusiasm. With both Distinguished Professor Suresh Bhargava and Mr Tae Kim leading the way, I am confident that any student in this program will have a seamless experience.

Vikash Shaw

Pursuing a PhD at two different institutions has been a delightful experience. My biggest strength has been my supervisors – both at RMIT and AcSIR. They are the reason I have sailed smoothly through this transition from India to Australia. This opportunity has moulded me into a more confident individual, and I am grateful to the STEM College and Distinguished Professor Bhargava for providing this platform and making this experience one of the most memorable parts of my PhD journey.

Minal Chaturvedi



Prashant Kumar received Best Presentation Award at Material Oceania.

Who is the Academy of Scientific and Innovative Research?



Established in 2011 as an 'Institution of National Importance', the Academy of Scientific and Innovative Research (AcSIR) has adopted the mandate to create and train some of the best of tomorrow's science & technology leaders through a combination of innovative and novel curricula, pedagogy and evaluation. AcSIR's focus is on imparting instruction and providing research opportunities in such areas that are not routinely taught in regular academic universities in India.

AcSIR has been set-up based on a 'hub and spoke' model where the hub (AcSIR-HQ Ghaziabad) is responsible for centralised administrative functions. The spokes are located in the 38 institutes/units (AcSIR Academic Centres) and 15 non-CSIR Institutes (AcSIR Associate Academic Centres) spread along the length and breadth of India, which act as the academic campuses of AcSIR. In addition, AcSIR has collaborative academic programs with other national and international educational institutions.

Current academic programs are offered under 5 faculties of study:

1. Biological Sciences
2. Chemical Sciences
3. Engineering Sciences
4. Physical Sciences
5. Mathematical & Information Sciences.

As of January 31st 2023, more than 4,300 Masters and PhD students have already graduated from AcSIR; PhD graduates comprise the major proportion of them. Currently, with about 6,000 PhD students on its rolls in Science & Engineering, AcSIR is the largest institution of higher learning in India and has awarded 577 PhD degrees in the year 2022 in various areas of STEM.

Rankings

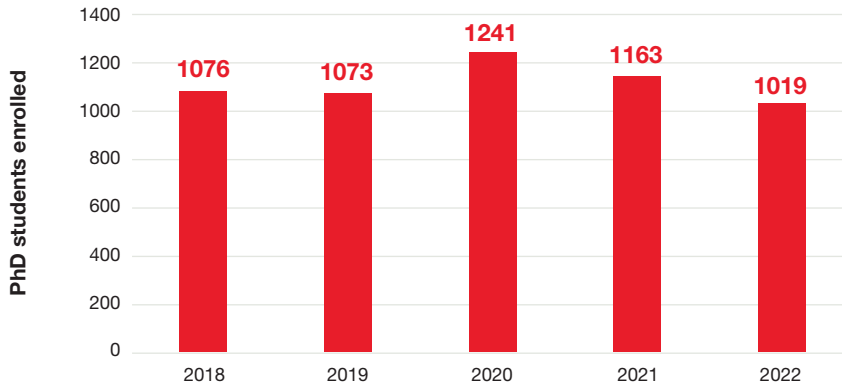
- Ranked 2nd in India by "Scimago Institutions Ranking" (2022)
- Ranked 13th in India by "Nature Index" (2021-2022)
- Ranked 18th by "NIRF (2022), Ministry of Education, Govt of India" in the Research Category

Governance

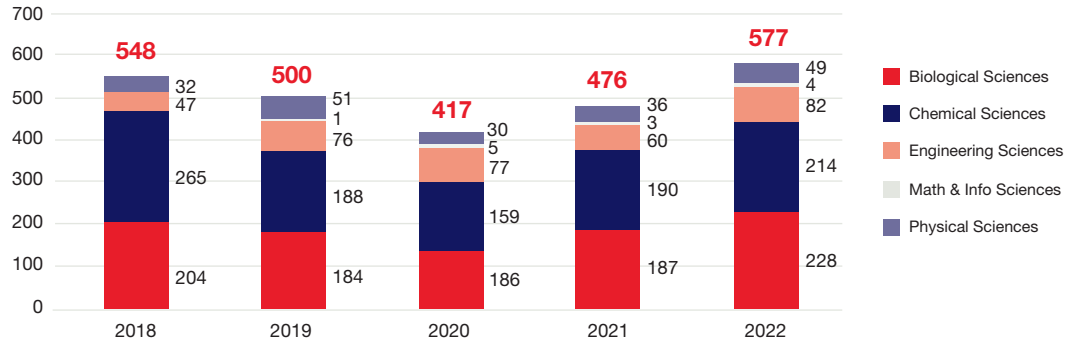
- Board of Governors is the highest regulatory and decision making body of AcSIR
- Senate is the principal executive body of AcSIR and is responsible for key academic decisions



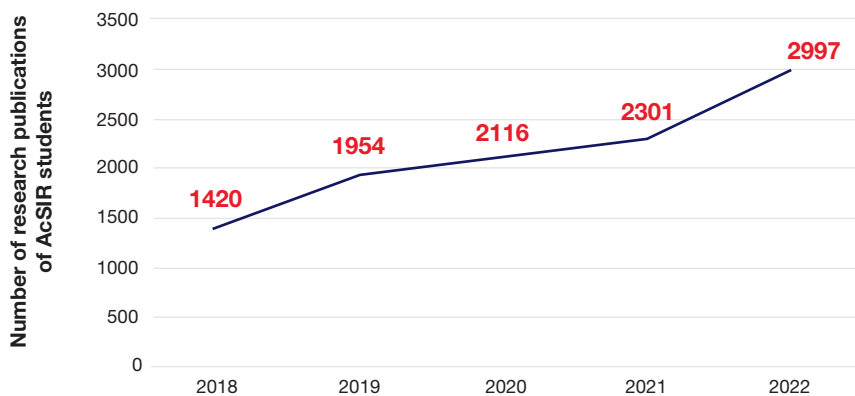
Currently AcSIR has the highest number of PhD students for PhD degree (>6000) among educational institutions in India



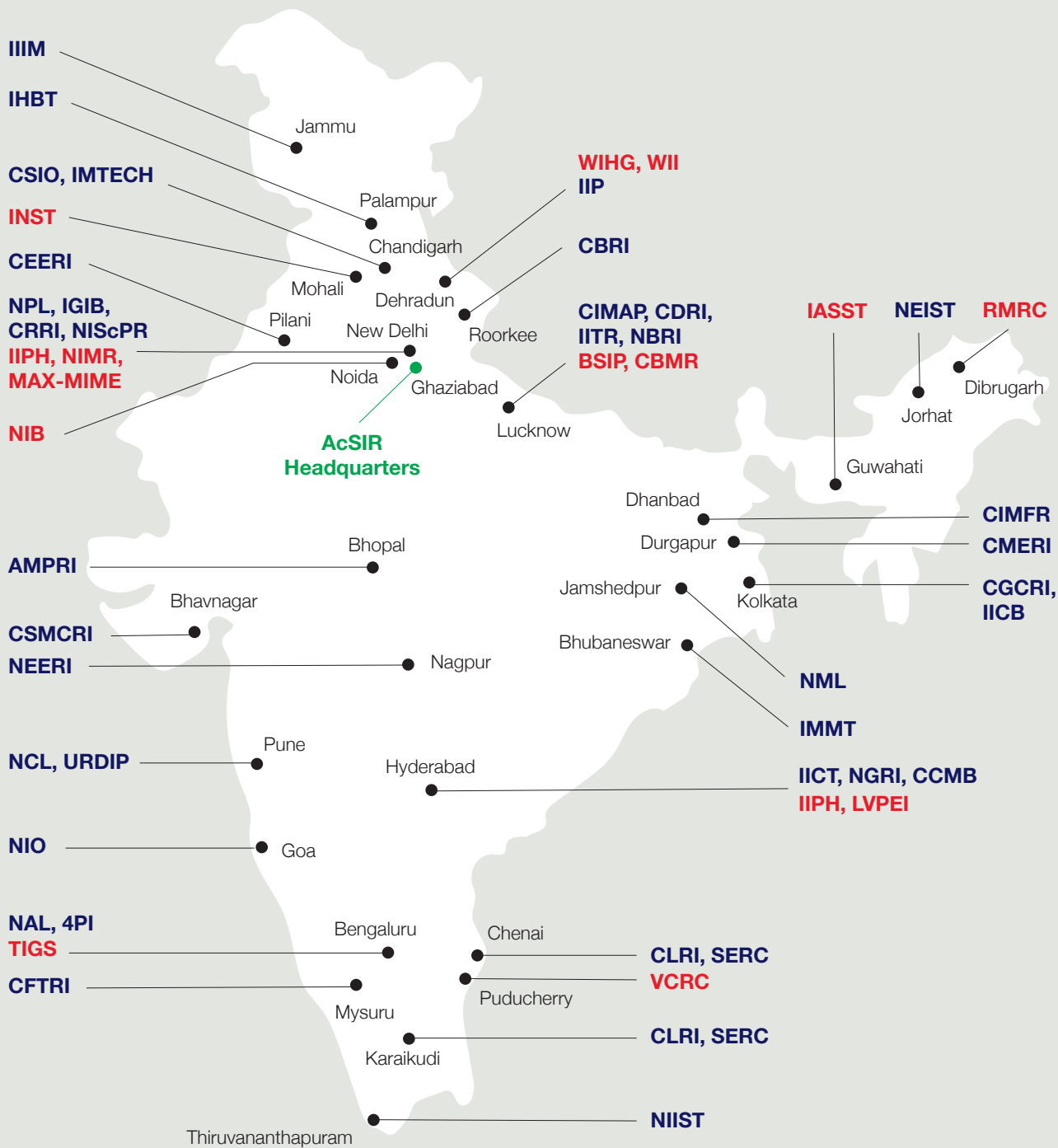
Calendar year-wise and faculty-wise number of PhD degrees awarded



Year-wise AcSIR publications



AcSIR covers India



AcSIR Affiliated Intitutes (CSIR)
AcSIR Affiliated Intitutes (non-CSIR)

About Council of Scientific & Industrial Research (CSIR)

The Council of Scientific & Industrial Research (CSIR) was established in 1942, and has become known for its cutting edge R&D knowledge base in diverse S&T areas. CSIR has a dynamic network of 37 national laboratories, 39 outreach centres, 1 Innovation Complex, and three units with a pan-India presence.

CSIR covers a wide spectrum of science and technology – from oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nanotechnology to mining, aeronautics, instrumentation, environmental engineering and information technology. It provides significant technological intervention in many areas concerning societal efforts, which include the environment, health, drinking water, food, housing, energy, farm and non-farm sectors. Further, CSIR's role in S&T human resource development is noteworthy.

CSIR's R&D expertise and experience are embodied in about 3,521 active scientists supported by about 4,162 technical and support personnel.

As a pioneer of India's intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches for the country in select technology domains. CSIR filed around 229 Indian patents and 202 foreign patents during 2021-2022. CSIR has

a patent portfolio of 1,132 unique patents in force, out of which 140 patents have been commercialised. CSIR also has 2,587 in force patents granted abroad in multiple countries. Amongst its peers in publicly funded research organisations globally, CSIR is a leader in filing and securing patents worldwide.

CSIR has pursued cutting edge science and advanced knowledge frontiers. In 2021, CSIR published around 5,769 papers in SCI Journals with an average impact factor per paper of 5.401.

CSIR has operationalised desired mechanisms to boost entrepreneurship, which could lead to enhanced creation and commercialisation of radical and disruptive innovations, underpinning the development of new economic sectors.

CSIR is ranked 37th among 1,587 government institutions worldwide and is the only Indian organisation among the top 100 global government institutions (Scimago Institutions Ranking World Report 2021). CSIR holds the 7th rank in Asia and leads the country with the first position.

Shri Narendra Modi Ji, Hon'ble Prime Minister of India, is the President of CSIR, Dr Jitendra Singh, Hon'ble Minister of State, Ministry of Science of Technology, is the Vice President while Dr Kalaiselvi.N is the Director General, CSIR.



RMIT-CSIR Partners

Geographically we are dispersed across the whole of India.

RMIT's partnership with CSIR allows access to all 39 CSIR laboratories across India, making the RMIT-AcSIR Joint Research Program the most expansive joint Australian-

Indian program in Australia. Since the initiation of the RMIT-AcSIR agreement, RMIT has partnered with 23 CSIR laboratories.



CSIR - Central Scientific Instruments Organisation (CSIO)

CSIO is a premier national laboratory dedicated to research, design and development of scientific and industrial instruments. It is a multi-disciplinary and multi-dimensional apex industrial research & development organisation. CSIO has been working in various areas of instrumentation and skill development programs by awarding diplomas through the Indo-Swiss Training Centre (ISTC) at Chandigarh and established centres at Chennai and Delhi to meet the regional needs.



CSIR - Central ElectroChemical Research Institute (CECRI)

CCECRI is one of the largest electrochemical laboratories in the world with extension centres in Chennai, Mandapam and Tuticorin. It focusses on fuel cells, marine corrosion and offshore corrosion testing. CECRI's activities are directed towards the development of new and improved products and processes as well as novel innovations in electrochemical technology. A number of investigations are run in collaboration with laboratories from within and outside India.



CSIR - Indian Institute of Petroleum (IIP)

IIP is a pioneer in the area of Petroleum & Hydrocarbon, and is presently engaged in the development of sophisticated green technologies to cater to the energy needs of the modern world and for reducing carbon foot prints. IIP has developed and transferred technologies to industries in the areas of petroleum refining, natural gas, petrochemicals, chemicals and utilisation of petroleum products, provided technical services and imparted world class training to the human resource of the oil and refining industry. IIP has strong collaborations with industries and academia in India and abroad and has outstanding scientists working in the multidisciplinary areas of R&D in hydrocarbon and related industries.



CSIR - National Chemical Laboratory (NCL)

NCL is a science and knowledge-based research, development and consulting organisation. It is internationally known for its excellence in scientific research in chemistry and chemical engineering as well as for its outstanding track record of industrial research involving partnerships with industry from concept to commercialisation.



CSIR - National Physical Laboratory (NPL)

NPL is the premier research laboratory in India in the field of physical sciences. It has developed core competencies in standards, apex level calibration, engineering materials, electronic materials, materials characterisation, radio and space physics, global change and environmental studies, low temperature physics, and instrumentation. Its main activities are research and development, consultancy, sponsored and contract research, and calibration and testing.



CSIR - Indian Institute of Toxicology Research (IITR)

IITR, Lucknow, contributes towards cutting-edge research and innovation in toxicology. IITR has world class infrastructure and human resources in toxicology and provides a one stop solution to address environmental and health issues. Innovations produced at IITR ensure the health and safety of communities in India. IITR has made an impact in addressing problems critical to human health & the environment as well as safety of chemicals and products.



CSIR - Structural Engineering Research Centre (SERC)

SERC has built up excellent facilities and expertise for the analysis, design and testing of structures and structural components. Services of SERC are being extensively used by the Central and State Governments and public and private sector. Scientists of SERC serve on many national and international committees and the Centre is recognised both at the national and international level as a leading research institution in the field of structural engineering.



CSIR - Central Building Research Institute (CBRI)

CBRI has been assisting the building construction and building material industries in finding timely, appropriate and economical solutions to the problems of building materials, health monitoring and rehabilitation of structures, disaster mitigation, fire safety, energy efficient rural and urban housing. The Institute is committed to serve the people through R&D in the development process and maintains linkages at both international and national levels.



CSIR - National Metallurgical Laboratory (NML)

NML focuses on research and development of minerals, metals and materials. NML has a strong presence in magnetic materials, rapidly solidified alloys, surface coatings, metallic foams, and many others. Advanced materials processing and post-processing carried out include mechanochemical activation, semi-solid processing, biomimicry, thermo-mechanical treatments, high-temperature synthesis, advanced joining, grain boundary engineering, high strain rate forming, and several other techniques.



CSIR - Advanced Materials and Processes Research Institute (AMPRI)

AMPRI carries out projects on the synthesis and characterisation of aluminum-graphite metal matrix composites and natural fibres. AMPRI is equipped with modern facilities for material synthesis, processing and property characterisation such as SEM, pressure die casting, semisolid processing, rolling, Mg melting as well as others. FESEM, a cryomilling unit and those related to nanoscale R&D are being established.



CSIR - Indian Institute of Chemical Technology (IICT)

IICT conducts research into the areas of basic and applied chemistry, biochemistry, bioinformatics, chemical engineering. The institute also provides science and technology inputs to the industrial and economic development of the country.



CSIR - Central Mechanical Engineering Research Institute (CMERI)

CMERI is the apex R&D institute for mechanical engineering under the aegis of the CSIR. CMERI's mandate is to serve industry and develop mechanical engineering technology so that India's dependence on foreign collaboration is substantially reduced in strategic and economy sectors.



CSIR - North East Institute of Science And Technology (NEIST)

NESIT is working in areas of science such as agro-technologies, environmental studies, herbal formulations, bioremediation of hydrocarbon contaminated soil, earthquake seismology, geotechnical investigations, soil and building materials, nano and advanced materials, catalysts, synthetic molecules, coal & petroleum, oilfield chemicals, paper products and natural products and fibres.



CSIR - National Institute for Interdisciplinary Science and Technology (NIIST)

NIIST conducts research and development activities in areas related to effective utilisation of resources of the region. Currently NIIST is engaged in R&D programmes in areas related to agro-processing and technology, chemical sciences and technology, materials science and technology, microbial processes & technology as well as environmental technology.



CSIR - Institute of Minerals and Materials Technology (IMMT)

IMMT conducts research and technology oriented programs to address the R&D problems of mining, mineral and metal industries and to ensure their sustainable development. For the last decade, the main focus of R&D at CSIR-IMMT has been to empower Indian industries to meet the challenges of globalisation by providing advanced and zero waste process know-how and consultancy services for commercial exploitation of natural resources through the public-private-partnership (PPP) approach.



CSIR - Central Institute of Medicinal and Aromatic Plants (CIMAP)

CIMAP is steering multidisciplinary high quality research in biological and chemical sciences and extending technologies and services to the farmers and entrepreneurs of medicinal and aromatic plants (MAPs) with its research headquarters at Lucknow and research centres at Bangalore, Hyderabad, Pantnagar and Purara.



CSIR - Central Food Technological Research Institute (CFTRI)

CFTRI pursues research and development in the areas of food science and technology. Research is in engineering sciences, technology development, translational research and food protection as well as safety areas. With food technology being inter-disciplinary in nature, the mandate of the Institute is fulfilled through various R&D departments and support departments along with its resource centres at Hyderabad, Lucknow and Mumbai.



CSIR - Central Salt and Marine Chemicals Research Institute (CSMCRI)

CSMCRI pursues research on marine resources. CSMCRI focuses on diverse and highly applied research areas such as salt and marine chemicals, water desalination and purification, membrane based processes for separation & concentration, inorganic materials and catalysis, fine & speciality chemicals including sensing and diagnostics molecules, renewable energy, plant molecular biology & biotechnology with emphasis on seaweeds & salinity tolerance and waste management with a focus on value recovery and environmental impact assessment.



CSIR - Central Electronics Engineering Research Institute (CEERI)

CEERI advances R&D in the field of electronics, including areas of microwave tubes, plasma devices, MEMS and microsensors, optoelectronics devices, microelectronic processing and fabrication, VLSI Design, LTCC technology, nano structures, power electronics, industrial process control, agri-electronics, instrumentation and embedded systems.



CSIR - Fourth Paradigm Institute (4PI)

4PI promotes mathematical modelling and data driven research. The 4PI institution played a pivotal role in shaping the computational research capability in CSIR over the past 30 years, and aims to solve problems of societal and strategic importance.



CSIR - Central Glass and Ceramic Research Institute (CGCRI)

CGCRI provides scientific industrial research and development in the areas of glass, ceramics refractories, vitreous enamels, composites and allied materials. CGCRI provides technical advisory and infra-structural services like project engineering, testing & evaluation, training & education and dissemination of scientific information to the public domain.



CSIR - National Environmental Engineering Research Institute (NEERI)

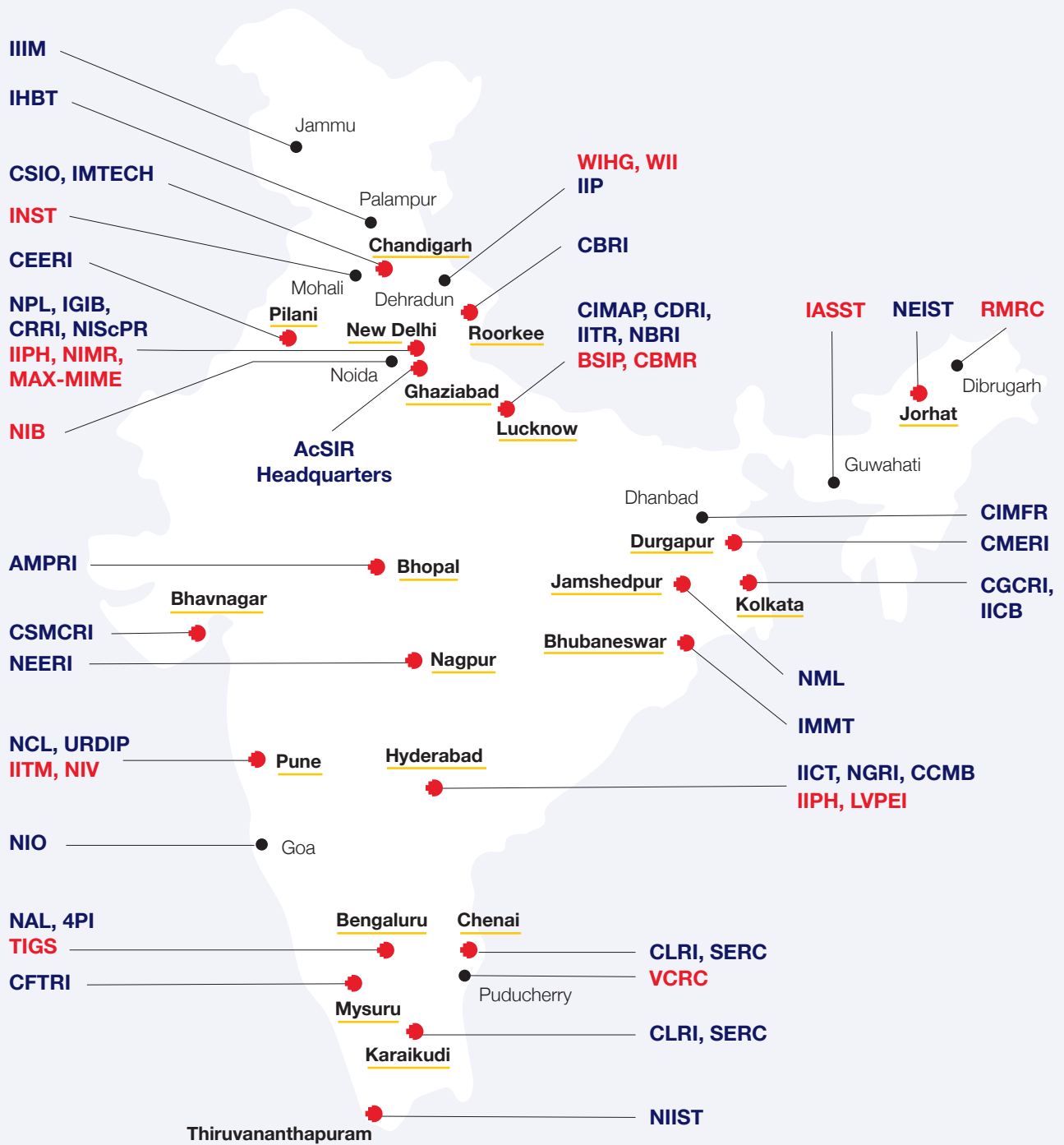
NEERI is in the field of environmental science and engineering. The institution focusses predominantly on water supply, sewage disposal, communicable diseases as well as industrial pollution and occupational diseases.



CSIR - National Geophysical Research Institute (NGRI)

NGRI is a geoscientific research organisation, carrying out research in multidisciplinary areas of earth sciences. Research areas include hydrocarbon and coal exploration, mineral exploration, deep seismic sounding studies, exploration and management of groundwater resources, earthquake hazard assessment, structure of earth's interior and its evolution (theoretical studies), geophysical instrument development and geothermal exploration.

RMIT-AcSIR partnerships



AcSIR Affiliated Intitutes (CSIR)
AcSIR Affiliated Intitutes (non-CSIR)
● RMIT-CSIR Partner

Extended RMIT-AcSIR Partnership



Signing ceremony at RMIT City campus by Professor Calum Drummond AO the interim DVC of STEM College, RMIT and Professor Rajender Sangwan the VC of AcSIR.



Professor Rajender Sangwan, Professor Calum Drummond AO and Distinguished Professor Suresh Bhargava AM.



AcSIR VC's executive team with RMIT staff members and AcSIR students.

RMIT and the Academy of Scientific and Innovative Research (AcSIR) in India extended their collaborative partnership another 5 years with the aim of expanding the existing research program.

The signing ceremony was held on Tuesday 21 June 2022 by Professor Calum Drummond AO, the Deputy Vice-Chancellor of Research & Innovation, and Vice President & Professor Rajender S. Sangwan the Vice-Chancellor and director of Academy of Scientific & Innovative Research (AcSIR) at Council Chamber, RMIT University.

This partnership has been in place since 2011, originally with the Indian Institute of Chemical Technology (IIT), CSIR India and has seen connections made with leading national CSIR laboratories across India, offering HDR candidates global research training experience and access to labs in both India and Australia.

Speaking about the partnership, Deputy Vice-Chancellor Research and Innovation and Vice President, and Interim Deputy Vice-Chancellor STEM College, Professor Calum Drummond AO said that this partnership will see over 150 Indian PhD students from all over India study their PhD at RMIT's Melbourne campuses by 2025.

The program will cater for up to 50 new PhD candidates per years with a maximum of 250 over the 5-year period.



Dist. Prof Suresh Bhargava and Dr Ruchika Ojha meet with Prof Ajay Dhar and Arpita Sengupta from the Academy of Scientific and Innovative Research (AcSIR) in India.



RMIT and the Academy of Scientific and Innovative Research (AcSIR) in India extended their collaborative partnership another 5 years with the aim of expanding the existing research program.

The 6th AcSIR Convocation

The 6th Convocation of the Academy of Scientific and Innovative Research (AcSIR) was held on 12th May 2022 at CSIR-National Physical Laboratory (CSIR-NPL) Auditorium, New Delhi.

All our graduates of the RMIT University and Academy of Scientific and Innovative Research (AcSIR) Joint Research Program have been employed successfully. One of our graduated students Dr Poonam Yadav has been awarded a Humboldt fellowship. Dr Yadav commented *“I had such a great time at RMIT. I learned significant characterisation techniques and made good friendships – also the working culture at RMIT was very friendly and supportive.*

RMIT-AcSIR Joint Research Program is such a beneficial program for PhD students and I highly recommend this program to anyone. I received guidance and support at each point of the program. You get exposure to working in an international environment and multi-functional teams. Also the chances of collaboration are immense. Moreover, university-sponsored study tours and conferences are added advantages.”

Distinguished Professor Suresh Bhargava AM, Dean, Research & Innovation (India) attended the ceremony to celebrate the students' achievements. At the ceremony he said that *“the RMIT- AcSIR partnership is unique in the world and extends throughout the whole of India through the CSIR network of laboratories. It is designed to produce real-world graduates who will serve both countries for many years to come”.*



Dr Yogalakshmi Jayakumar the RMIT-AcSIR Joint Research Program graduate with Distinguished Professor Suresh Bhargava AM the Dean, Research & Innovation (India), STEM College, RMIT University.



The 6th convocation of the AcSIR, group photo.

RMIT-IICT joint workshops in India

The Workshop: Creating Profound Impact Through Multidisciplinary Collaborations (CPIMC)

The RMIT-IICT joint international workshop was held on 28th and 29th November 2022 at CSIR-IICT Hyderabad, India, to widen the scope for collaboration between Australian and Indian researchers and foster both faculty and student exchange programs.

This workshop brought together some of the best academic minds from Australia and India to share knowledge and research experiences, and to connect like-minded professionals.

RMIT delegates including Professor Calum Drummond AO, Distinguished Professor Suresh Bhargava AM and Professor Charles Brennan also attended the workshop.

CPIMC-2022 provided a great platform for demonstrating the best research and innovations in several fields of science and engineering. The keynote addresses enriched the participants' knowledge and facilitated a holistic learning experience.

More than 100 students from 15 institutes presented their research work through posters and received tremendous encouragement from the judges, academic professionals, and all participants. At least 12 industries showcased their scientific instruments to provide a demonstration of state-of-the-art equipment and information for the benefit of all participants.

As a collaborative workshop between India and Australia, CPIMC-2022 has further strengthened the close bond shared by these two great nations.



RMIT delegates at IICT Campus.



Opening ceremony with candle lighting by Professor Goverdhan Mehta, the recipient of Padma Shri, India's fourth highest civilian award.



Opening ceremony showing the conference book.



Group photo after the workshop.

Feedback from workshop participants

As the convenor of the RMIT-IICT joint international workshop (CPIMC-2022) held 28-29 November, I was extremely pleased to oversee its success. We brought researchers together from across Australia and India to share and foster knowledge.

It was a great pleasure to have Padma Shri Professor Goverdhan Mehta as our Chief Guest. The workshop was a great platform for gaining knowledge, with nearly 25 highly innovative keynote addresses. Students also showcased more than 110 posters under six different themes of science and engineering. These would help build their scientific temperament in the long run and create innovative ideas.

On a personal note, it was truly wonderful to make new friends and possible collaborators from RMIT during CPIMC-2022, which has strongly aspired to widen the research and innovation horizon for both Australia and India. I thank all the RMIT faculty and IICT PhD supervisors, with special gratitude towards Distinguished Professor Suresh Bhargava AM the Dean of Research & Innovation (India) at STEM College, RMIT and Dr D. Srinivasa Reddy the Director of CSIR-IICT for their wonderful support in conducting the workshop successfully.

Dr S. Sridhar, Scientist, CSIR-IICT



Dr S. Sridhar at the workshop.

This conference brought together scientists from research areas including chemistry, medicine, engineering, food science and more. It was a great learning and networking experience for myself as an Early Career Researcher. I presented my research work by delivering a talk and also judged the two poster sessions at the two day conference.

IICT hosted this conference very well, right from the RMIT delegate welcoming pick-up from the airport through to the city tour.

I spoke with many CAMIC collaborators at IICT, especially those related to the gold anticancer project.

There was another Student festival at IICT where many students from other universities participated and attended, in which Associate Professor Samantha Richardson and I had another opportunity to promote RMIT.

Dr Ruchika Ojha, Vice Chancellor's Research Fellow, School of Science, RMIT University



Dr Ruchika Ojha with Professor Nallathamby Kalaiselvi.



Meeting with Professor Nallathamby Kalaiselvi, the first woman Director General of the Council of Scientific and Industrial Research (CSIR), India's top scientific body, with Professor Calum Drummond AO and Distinguished Professor Suresh Bhargava AM.

Supervisor comments



**Professor Madhu Bhaskaran,
School of Engineering,
RMIT University**

It is such a privilege to be able to host and co-supervise PhD students through the RMIT-AcSIR Joint Research Program. AcSIR represents a collection of the premier and specialised research labs in India, with a very stringent student selection process. Combined with the selection process for the joint PhD program, we end up with highly motivated and brilliant students who spend time at RMIT.

Hosting students at RMIT and within our research teams is a mutually beneficial experience. The students bring across strong fundamental knowledge and technical depth, while we create access to state-of-the-art facilities and experimental expertise and capabilities. Moreover, they bring across their work ethic, passion, and culture to improve the exposure of our RMIT PhD cohort to a variety of research approaches.

My experience with these students has been extremely positive, and we would take on AcSIR students without hesitation both for the research and for the long-term impact on their careers.

Given it is a condensed experience and a major cultural shift for the AcSIR students, we should significantly improve the support and empathy we provide through the admission, candidature, and local acclimatisation to help this program create outstanding impact.



**Dr Ravichandar Babarao,
Senior Lecturer, School of
Science, RMIT University**

Despite the slowdown in research activities due to COVID-19, it is extraordinary to see that we had two students graduating under this program with several joint publications in top Q1 journals.

I have already advertised several new joint projects with CSIR-NCL Pune and CSMCRI Bhavnagar on the RMIT online system. One of the students, Ashakiran Maibam, was voted by judges as Runner Up for the recently completed 2022 3MT Thesis Competition.

This shows the tremendous calibre of the students enrolled in this program and the extraordinary opportunity we have to build future collaboration.



Outstanding student achievement



RMIT-IICT Joint Research Program (now merged into AcSIR program) graduate, Dr Sameena Begum, has been awarded the 2021 Young Engineer of the Year Award by the Government of Telangana and the Institution of Engineers in India. This is one of the highest young researcher awards in India. Dr Begum is a Chemical Engineering PhD graduate and is currently working as a research fellow at CSIR-Indian Institute Of Chemical Technology.

I consider myself fortunate for being one of the students of the RMIT-IICT Joint Research Program. The initiation of this program by the Distinguished Professor Suresh Bhargava is the greatest boon to students like myself.

Firstly I would like to express my sincere gratitude to Distinguished Professor Suresh Bhargava, Dr S. Chandrasekhar, Dr S. Sridhar and Dr A. Gangagni Rao for considering me as a candidate for the RMIT-IICT Joint Research Program. I also express my sincere thanks to Professor Nicky Eshtiaghi and Professor Veeraiah Jegatheesa (senior RMIT Supervisors) for their continuous encouragement and support.

Thanking all the professors within the program, in particular Professor Sreenivasan Madapusi, Professor Kalpit Shah and Dr Liam Ward for having been so supportive.

My experience at IICT and RMIT as a Joint Research student has been extremely wonderful, which I will cherish for life. I consider myself courageous as I have lived in Melbourne Australia for a year alone facing many tough times professionally and personally.

I have visited industries to collect samples for my experiments, I have operated a pilot scale continuous anaerobic digester, I have shared the know how that I have developed

in operating such equipment (that has been used by master degree students) and have tested and developed operating procedures.

My thesis has been evaluated as “Outstanding work”, by the examiners and passed without any amendments.

I have always been open to new ideas, accepted time bound challenges of research, adapted to new environments (such as Melbourne) and made good friends. My research ethics and outputs have created a positive impact in our research group at RMIT as well as IICT.

Finally, I would like to send my deep gratitude to Distinguished Professor Suresh Bhargava. He has been so kind towards all the RMIT students, especially the RMIT-IICT Joint Research Program students. I never felt like I was away from my mother country and my acquaintances because of the hospitality that I received from him and RMIT. I have received exposure to new experiences which have enhanced me as a researcher, developed my personality, and improved my research capabilities with his support. I am so proud to be a graduate of RMIT!



Dr Sameena Begum at the Award Ceremony.

RMIT-AcSIR student experiences

Students share their new found Australian work-life, travels and research

Ashakiran Maibam

CSIR Laboratory:

National Chemical Laboratory (NCL)

RMIT School:

School of Science

RMIT Senior Supervisor:

Dr Ravichandar Babarao

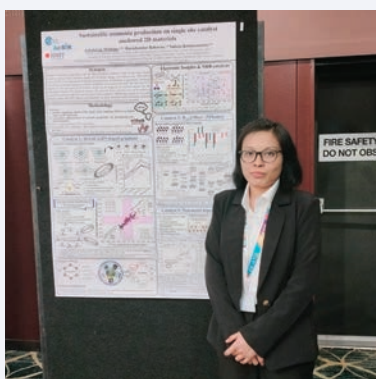
AcSIR Supervisor:

Dr Sailaja Krishnamurty

Hailing from Imphal (Manipur), a small town in India, the move to Melbourne was one of the most daunting experiences of my life. The RMIT-AcSIR Joint Research Program has been more than a blessing for me; but the bigger boon for me was the generosity and kindness of everyone I have met at RMIT. Distinguished Professor Suresh Bhargava with his anecdotes, Mr Tae Kim with his cheerful advice and my supervisor, Dr Ravichandar with his constant guidance tops the list of my experiences in Melbourne. I had an awesome work-life balance and Melbourne offers a multitude of fun activities; for a history buff like me, it was the perfect opportunity to explore museums and art galleries.

My research (on computational exploration of next generation electrocatalysts) attracts a tiny research community and I have been struggling to reach out to a larger audience. While Dr Sailaja Krishnamurty, my supervisor in India had taught me about resilience and patience in research, Dr Ravichandar, my supervisor in RMIT, has emphasised networking and reaching out to a larger audience.

All the while RMIT has provided me the perfect platform to network in the form of symposiums, conferences, expos, 3-Minute Thesis presentations and more. I will remain ever grateful to my country, CSIR-National Chemical Laboratory, RMIT University, Distinguished Professor Suresh Bhargava and my supervisors for providing me this wonderful opportunity to grow into a better researcher.



Ashakiran presenting her poster at the 4th ICEAN Conference 2022 in Newcastle.



Ashakiran with her supervisor Dr Ravichandar (right) and Dr Ravi Prakash Jagadeeshan (centre) in Geelong.



Ashakiran with AcSIR students at RMIT University for Indian Independence Day Celebrations.

Minal Chaturvedi

CSIR Laboratory:

Indian Institute of Toxicology Research (IITR)

RMIT School:

School of Health and Biomedical Science

RMIT Senior Supervisor:

Dr Celine Valery

AcSIR Supervisor:

Dr Smriti Priya

Pursuing a PhD at two different institutions has been a delightful experience. My biggest strength has been my supervisors (RMIT and AcSIR). They are the reason I have sailed smoothly through this transition from India to Australia. This opportunity has moulded me into a more confident individual.

Being a student at RMIT has granted me several opportunities to learn and enhance my skills as a PhD student. I had the opportunity to attend the SAS2022 (Small Angle Scattering workshop, 2022) organised by ANSTO (Australian Nuclear Science and Technology Organization) held at Lucas Heights in Sydney.

The workshop comprised of 20 participants from across the globe getting hands-on training on the applications of x-rays and neutron scattering. This gave me the opportunity to learn new and state of the art techniques currently being implemented, in particular, to study protein structures that are aligned with my PhD.

I took opportunities to travel to both Sydney and Hobart at the same time. The beautiful ferry ride through the Sydney Harbour Bridge, a coffee facing the Opera house are sites to remember. The fresh air of Hobart and the extremely fancy MONA (Museum of Old and New Art) were the highlights of my Australian travel diary. Being in Melbourne I lucked out by attending the India vs Pakistan T20 world cup match at the legendary MCG. India having won the match was a cherry on top.

I also had the opportunity to give a talk at the Australian Biophysics Society (ASB 2022) held in Hobart, Tasmania. This proved to be a great platform for meeting and making contacts in the biophysics fraternity of Australia.

I am grateful to Distinguished Professor Suresh Bhargava for providing this platform and making this experience one of the most memorable parts of my PhD journey.



India vs Pakistan T20 World Cup match at the Melbourne Cricket Ground (MCG) in Melbourne.



SAS2022 workshop with the organising committee chairman Dr Jitendra Mata.



Lucas Heights during a practical at the SAS2022 workshop.

Ekansh Agarwal

CSIR Laboratory:

Central Building Research Institute (CBRI)

RMIT School:

School of Engineering

RMIT Senior Supervisor:

Professor Annan Zhou

AcSIR Supervisor:

Professor Anindya Pain

My enrolment at RMIT has provided me with unmatched global exposure through its various competitions, global leadership experiences, forums, and conferences.

RMIT has provided me with immense benefits some of which include licensed access to world class computer software, plagiarism detection software, and participation in global level competitions like 3MT (3 Minute Thesis).

The best part is the online library service which offers access to millions of research papers, journals, and books. Additionally, I had the opportunity to work under the dual supervision from RMIT University and AcSIR. This has exceptionally helped me in refining my PhD research work maintaining the global standards.

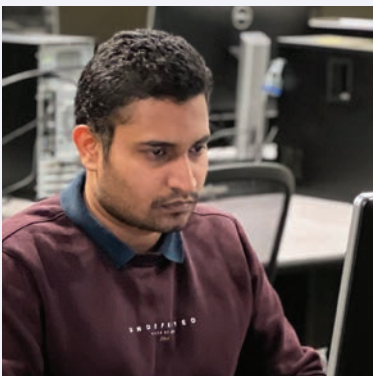
RMIT has taught me many skills through carefully crafted global online conferences

and forums, research conclaves, thesis boot camps, masterclasses, and Research+ programs (formerly PhD up). I have attended each one of them and it has been a great experience meeting people from different nationalities through these programs. The institute gave me an exceptional opportunity to directly work as a research consultant with Australian and Indian industries. Also, I learned substantially through their global citizenship SDG programs.

I am sincerely grateful to Professor. Anindya Pain, my supervisor at AcSIR for introducing me to the contemporary research practices and allowing me to explore the world through this program. I am thankful to Professor Annan Zhou, my supervisor at RMIT, for his untiring support at every stage of my candidature. He has always supported and guided me on how to prepare well for the milestone reviews, 3MT competition, and research manuscripts.

I further take pleasure in thanking Distinguished Professor Suresh Bhargava for his motivation and support throughout this program. Despite being busy he spares time to motivate, personally talk, and congratulate the students on their achievements.

Last but not the least, sincere thanks to Mr Tae Kim for his prompt emails, support, and providing necessary information required during our candidature at RMIT.



Ekansh working on his research.



Ekansh on a one-year visit to Purdue University, USA.



Ekansh presenting his ideas and sharing his research work before Honourable Ambassador of India to the US Shri Taranjit Singh Sandhu.

Digambar Chavan

CSIR Laboratory:

National Environmental Engineering
Research Institute (NEERI)

RMIT School:

School of Engineering

RMIT Senior Supervisors:

Associate Professor James Tardio,
Professor Nicky Eshtiaghi

AcSIR Supervisors:

Dr Sunil Kumar,
Dr Lakshmikanthan P

Extending my research work into RMIT has been a great experience. RMIT has provided me with an excellent opportunity to advance my career. Frequent meetings with RMIT supervisors and their feedback helped me to shape my research outputs and contributions effectively. As an international student staying in one of the world's most liveable cities, it's a valuable experience.

I am thankful to RMIT-AcSIR Joint Research Program for its welcoming, innovative and inspirational approach to magnetize the young and ignited minds towards research. RMIT-AcSIR Joint Research Program has provided me with a platform to learn new skills and

gain knowledge from the esteemed experts and researchers at RMIT University, Australia.

RMIT University offers state-of-the-art research facilities and laboratories to conduct advanced research studies for higher-degree-by-research (HDR) students. I believe that the knowledge I have gained at RMIT will help me excel in environmental engineering for the betterment of the next generation.

Melbourne city has everything to thrive as an international student. Watching a T20 cricket World Cup game between India and Pakistan at Melbourne Cricket Ground (MCG) was one of the great experiences to remember for life.

I sincerely thank my supervisors Dr Sunil Kumar (CSIR-NEERI), Dr Lakshmikanthan P, (CSIR-NEERI), Associate Professor James Tardio (RMIT, Melbourne) and Professor Nicky Eshtiaghi ((RMIT, Melbourne) for their timely support and guidance to effectively improve the quality of my research work.

I am thankful to Distinguished Professor Suresh Bhargava for his continuous support, guidance and inspiring words, which helped us to stay highly motivated and work with passion and enthusiasm. I want to thank all the committee members from AcSIR, India and RMIT, Australia who are working hard for the collective success of the RMIT-AcSIR Joint Research Program.



At the Melbourne Convention and Exhibition Centre (MCEC) for the Chemeca Conference.



India vs Pakistan T20 World Cup match at the Melbourne Cricket Ground (MCG) in Melbourne.



Enjoying the culture and sights of Melbourne CBD.

Gayatri Bagree

CSIR Laboratory:

Indian Institute of Toxicology Research (IITR)

RMIT School:

School of Science

RMIT Senior Supervisors:

Professor Vipul Bansal,
Associate Professor Rajesh Ramanathan

AcSIR Supervisors:

Dr Sandeep Kumar Sharma,
Professor Alok Dhawan

Being selected for the Joint Research Program came as a very pleasant surprise to me. I was elated that my accomplishments were recognised, and I was given an exciting opportunity to conduct my research at an international forum. I am grateful to Distinguished Professor Suresh Bhargava, Professor Callum Drummond and Professor Rajender Sangwan for facilitating the establishment of this program and for providing me with this opportunity. I thank my AcSIR supervisors for motivating me to embark on this journey to RMIT. I also thank my RMIT supervisors for accepting my proposal to develop a multidisciplinary PhD project by combining the fundamental work I did at AcSIR with applied research at RMIT.

I have always been forthcoming when learning new things. However I was new to biosensor research, and the amazing people here made the learning processes seamless and enjoyable. This helped me become even more excited about my work, than I already was, because it provided me with numerous opportunities to communicate with non-specialist audiences and explain to them what I do in non-technical terms. With the tough years that COVID-19 has put everyone through, the entire scientific, technical and administrative staff in the School of Science were immensely supportive in numerous ways, I cannot begin to list.

Apart from academic progress, living in Australia was a truly enriching experience personally and socially. I learnt to balance my student and social life. I went on numerous trips in and around Melbourne and Tasmania with friends and RMIT colleagues. Being a classical Indian dancer, I had always wanted to learn other dance forms but could never find them, until I found the weekly RMIT Dance Classes where I learnt some Latin Ballroom, Salsa and Rumba.

I am truly thankful to everyone who had a part to play in giving me the opportunity to experience the knowledge, culture, and nature in Australia.



Gayatri at the Loch Ard Gorge on the Great Ocean Road during an RMIT trip.



Gayatri with her supervisors Dr Sandeep K Sharma, Professor Vipul Bansal and Professor Alok Dhawan, during Professor Bansal's visit to CSIR-IITR.



The beautiful RMIT city campus on a classic rainy Melbourne winter evening.

Ashis Chhetri

CSIR Laboratory:

Central Salt and Marine Chemicals
Research Institute (CSMCR)

RMIT School:

School of Science

RMIT Senior Supervisor:

Dr Subashani Maniam

AcSIR Supervisor:

Dr Joyee Mitra

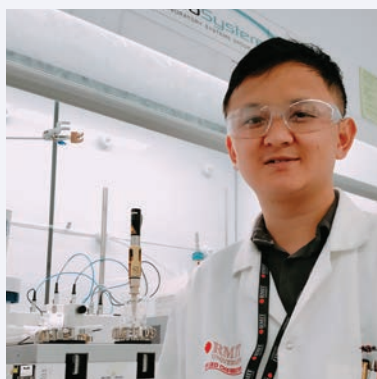
During my stay in Melbourne, I found many similarities between Melbourne and my hometown. I heard that Melbourne is a multicultural city, and I got to witness this first-hand when we celebrated the Indian Independence Day and Diwali.

My stay at RMIT escalated my passion for research and made me more expressive in disseminating my research to the global audience. Working in a well-established laboratory with colleagues from all over the globe, fruitful discussions with fellow labmates of the SMAC group, and all the positive comments for my efforts boosted my confidence levels. I was touched by the way I was welcomed from my very first day on campus and the kind of cordial atmosphere created by all the staff members of RMIT.

My experience in RMIT has been enjoyable, and this institute has since become my home, away from home. During my stay in Melbourne, I explored many local places, got to experience different events, and a new cultural atmosphere. Cheering on our Indian cricket team during the world cup matches in the world famous Melbourne Cricket Ground was one of the best moments that I had.

I am indebted to the RMIT staff and all the members of the RMIT-AcSIR Joint Research Program for giving me the opportunity to visit a world class laboratory. I am very grateful to Distinguished Professor Suresh Bhargava who is the brains behind this program. Though he is not my supervisor, he never fails to encourage me wherever I meet him; be it foyer, offices or any corner of the campus, he spends his valuable time to say hello. My sincere thanks to Mr Tae Kim, who made things easy during the application procedure and my stay here.

I am thankful to my AcSIR supervisor Dr Joyee Mitra for her support and the belief she had in me to make me a responsible researcher. Lastly, my heartfelt thanks to my RMIT supervisors Professor Karen Wilson, Professor Adam Lee and Dr Subashani Maniam for their meticulous guidance. I will always treasure the help and suggestions received from my fellow SMAC group members.



Ashis at an RMIT lab.



Brighton Beach in Melbourne.



Melbourne Fringe Festival 2022.

Prince Sharma

CSIR Laboratory:

National Physical Laboratory (NPL)

RMIT School:

School of Engineering

RMIT Senior Supervisor:

Professor Sharath Sriram

AcSIR Supervisor:

Dr V.P.S Awana

It is my first journey abroad, and I feel it is the most delightful experience ever.

This program helped me develop experimental skills and modelled my thoughts to create noble and productive research. The research environment at RMIT is so relaxed and calm that I can easily conduit my ideas.

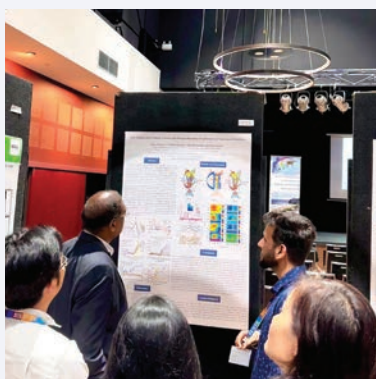
During my stay in Australia I have attended a few conferences too and seen various natural beauties whose glimpses are also shown here.

Research at RMIT is a complete package of noble research culture and a relaxed and chill-out life.

I would like to thank my supervisors Professor Sharath Sriram, Professor Madhu Bhaskaran, Professor Sumeet Walia, Dr Rajour Tanyi Ako at RMIT and Dr V.P.S Awana and Dr Mahesh Kumar at AcSIR-CSIR-NPL. It is a privilege to work under such great scientists and special thanks to Distinguished Professor Suresh Bhargava and Professor Ajay Dhar, who provided me such a great opportunity.



Sydney Opera House.



Interactive session with some experts in their fields during ICEAN.



ICEAN 2022 Conference in Newcastle.

Pushpa Ragini S

CSIR Laboratory:

Indian Institute of Chemical Technology (IICT)

RMIT School:

School of Science

RMIT Senior Supervisors:

Professor Calum Drummond AO,
Professor Charlotte Conn

AcSIR Supervisors:

The late Dr B Surendar Reddy,
Professor Rajkumar Banerjee

RMIT-AcSIR Joint Research Program is an excellent opportunity to work on a global platform, and I feel privileged to be part of this program. While CSIR-IICT helped me gain expertise in the synthesis of small organic molecules, the state-of-the-art facilities at RMIT took me further, facilitated my exploration of designed molecules as drug delivery agents to treat cancer. I loved working at RMIT with its friendly work culture, technical staff and the freedom given to handle the expensive instruments.

I sincerely thank my supervisors Professor Calum Drummond, Professor Charlotte Conn, and Dr Rajkumar Banerjee, for extending their kind support when I lost my Indian supervisor, The late Dr B. Surendar Reddy, to COVID-19.

Also, I thank my supervisors for their continuous guidance, suggestions and feedback during the meetings which helped me to hone not only my analytical skills but also presentation skills. Besides research, I had good times in Australia interacting with people from different cultures, I enjoyed a Christmas get-together with our research team and group parties.

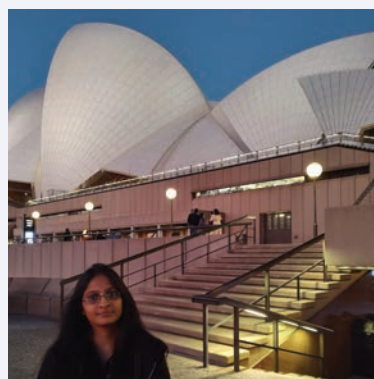
I sincerely thank Distinguished Professor Suresh Bhargava, for providing this opportunity and for extending his kind support throughout my stay in Melbourne.



Pushpa with RMIT supervisors, Professor Calum Drummond and Professor Charlotte Conn.



At Melbourne zoo with a cute lamur.



At Sydney Opera House.

Nipon Sarmah

CSIR Laboratory:

Indian Institute of Chemical Technology (IICT)

RMIT School:

School of Engineering

RMIT Senior Supervisor:

Professor Rajarathinam Parthasarathy

AcSIR Supervisor:

Dr Sumana Chenna

I had a great learning experience at RMIT Campus exploring world-class research facilities. I gained hands-on skills and expertise in various experimental techniques and managing equipment. Interacting and working with some great brains over here is a privilege. I thank my supervisors, Professor Rajarathinam Parthasarathy and Dr Sumana Chenna, for their continuous support and guidance. I am grateful to Distinguish Professor Suresh Bhargava and his team for providing this research platform and for their support and utmost care while onshore at the campus.

RMIT organises many workshops that are immensely helpful for research scholars to learn various tips and tricks. The Turbocharge writing masterclass, PhD up-Shut up and write, and PhD completion Masterclass are a few to mention. I had the privilege of attending the Chemeca 2022 conference and the WETT 2022 symposium and presenting my research work at the international level. It was a wonderful learning experience. RMIT has many clubs which organise a series of events throughout the year. One such club is the RMIT Indian club, which celebrates the Indian festivals around the year, giving a fantastic home-away-from-home feeling.

Melbourne is beautiful and ranked Australia's most liveable city. The city and its suburbs offer breathtaking views, an absolute treat for the eyes. The graffitied laneways, cultural diversity, excellent coffee, and diversity in cuisines are worth mentioning. The free tram zone in the city makes it even more convenient for daily commuting to the university. I am having a great time living and exploring the beauty of this city.

I thank all the people associated with the RMIT-AcSIR Joint Research Program for making it successful and giving me this opportunity.



Nipon giving the vote of thanks at the Indian Independence Day celebrations at RMIT University.



Nipon with Distinguished Professor Suresh Bhargava AM.



Nipon at RMIT city campus.

Yogesh Kumar

CSIR Laboratory:

National Physical Laboratory (NPL)

RMIT School:

School of Science

RMIT Senior Supervisors:

Adjunct Professor Lan Wang,
Associate Professor James Partridge

AcSIR Supervisor:

Dr V. P. S. Awana

It was a dream-come-true experience for me at RMIT, Australia. Due to the COVID-19 situation, I had lost all hope for conducting research abroad. But the quick academic process ended all my concerns and allowed me to explore the research in Melbourne.

After having research exposure for over seven months at RMIT, I realised truly the difference in working culture from India which gives equal weightage to work and extracurricular activities.

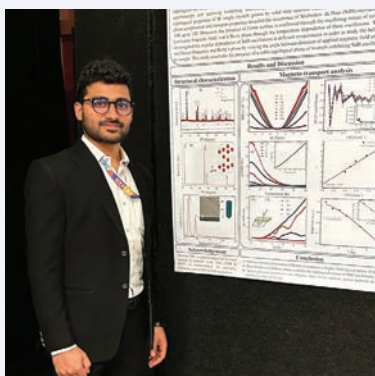
I aspire to further work as a postdoctoral fellow, scientist, and most importantly, remain a researcher forever, inspiring the upcoming generations to pursue science as their passion and profession.

I sincerely thank my supervisors Professor Lan Wang and Associate Professor James Partridge and Dr V. P. S. Awana for their kind support and supervision.

Also I would like to thank Distinguished Professor Suresh Bhargava for giving deserving AcSIR students this opportunity. Finally a leaving message to my juniors – take advantage of this program which may change your vision and future in science.



Enjoying the 12 Apostles at the Great Ocean Road.



Poster presentation in ICEAN-2022 in Newcastle.



Sharing a dinner with participants at ICEAN-2022 in Newcastle.

Rena

CSIR Laboratory:

National Environmental Engineering Research Institute (NEERI)

RMIT School:

School of Engineering

RMIT Senior Supervisors:

Professor Nicky Eshtiaghi,
Associate Professor Ken Chiang

AcSIR Supervisor:

Dr Sunil Kumar

I am immensely thankful to Distinguished Professor Suresh Bhargava for coming up with this remarkable academic program. The guidance and support provided by Distinguished Professor Bhargava were very helpful in navigating the academic journey smoothly at RMIT University.

My supervisors Professor Nicky Eshtiaghi and Associate Professor Ken Chiang at the School of Engineering were very approachable and supportive, which has made my transition to a new education system and culture much smoother.

RMIT University has also provided various opportunities for me to engage in conferences and expos. I attended two such events; “Chemeca 2022” and “Victoria Clean Tech

Cluster Expo 2022”. These events offered a spectacular opportunity for environmental and chemical engineering professionals and those in associated disciplines to learn from each other.

The cultural diversity and openness of the people have broadened my perspective and enriched my life experience. Celebrating Christmas, new year and not to forget Easter was a different kind of joy. Melbourne will always be remembered for its unique inclusiveness of different ethnic groups.

I am very thankful to my supervisor Dr Sunil Kumar at CSIR-NEERI who has been a guiding light right from my initial research career. Also, Professor Nicky Eshtiaghi and Associate Professor Ken Chiang at RMIT University for their constant support, guidance and encouragement throughout the tenure of this program. My first edited book “Biofuels: Technologies, Policies, and Opportunities” the foundation of which was laid down at CSIR-NEERI, got its final shape at RMIT University.

I also want to extend my sincere thanks to Mr Tae Kim the Senior Officer of STEM College at RMIT University, Dr R.J. Krupadam the AcSIR Coordinator and Mr Vivek Ramteke the Executive Assistant at AcSIR for their extraordinary administrative support and who helped throughout the duration of this program.



At Chemeca Conference 2022, Melbourne Convention & Exhibition Centre.



Having a fun time during Christmas celebrations at Scape in Carlton.



Diwali Celebrations at Pearson & Murphy's café hosted by Distinguished Professor Suresh Bhargava.

A word from our Graduates

Stories of our ambassadors from across the globe

Dr Sangita Kumari

Assistant Professor at Department of Chemistry, Faculty of Science, University of Allahabad, Prayagraj, India



RMIT-AcSIR Joint Research Program opened a pathway in gaining a doctoral degree from an Australian University in a short period of time. Under this program I got a chance to pursue dual doctoral degrees. One from AcSIR and one from RMIT.

This program enhanced my career with the opportunities of employment and postdoctoral experience either in my home country or abroad. While completing my PhD RMIT-AcSIR Joint Research Program, I got a chance to expand my connections to a global network of researchers outside my institution and home country.

I extend my vivid thanks to RMIT supervisors (Distinguished Professor Suresh Bhargava and Professor Sumeet Walia) and my AcSIR supervisors (Dr Om P. Khatri and Dr S. S. Ray). They supported me throughout my PhD journey and enlightened my path with their guidance and time. During COVID-19 they continued to provide discussion, ideas and enthusiastic support through online sessions.

My sincere thanks to Distinguished Professor Suresh Bhargava, the Dean of Research & Innovation (India) at STEM College, RMIT and Dr Anjan Ray, the Director of CSIR-Indian Institute of Petroleum for considering my candidature for this program and providing me with the excellent opportunity to work under the RMIT-AcSIR Joint Research Program.

I achieved Assistant Professor position at the Department of Chemistry, Faculty of Science, University of Allahabad, Prayagraj, India. This is an excellent opportunity for me to teach and provide research and technical skills training to the younger generation.

Dr Saurabh Pathak

Senior Research Associate at Seoul National University, Seoul, South Korea



I was awarded my joint PhD in July 2020 by the RMIT-AcSIR Joint Research Program. This allowed me the opportunity to work in the two best labs in the field of magnetic fluid research.

Coming to RMIT University was a life-changing experience for me and the training and confidence I developed was beyond my dreams.

The Joint PhD program has allowed me to develop key international collaborations which helped me to broaden my research skills and work with pioneers of the magnetic fluid research industry. The research training and supervision I received from my supervisors helped to excel in my research and I have published more than 30 research articles and have had 1 patent granted.

Soon after my graduation in July 2020, I joined the Department of Mechanical Engineering, The University of Melbourne, Australia, as a postdoctoral fellow. I worked on implementing novel measurement techniques to understand the melting of ice-shelves in seawater. I have also been actively involved in teaching and supervision, and supervised 10 master's students and worked as a tutor in one of the courses as well.

I have recently moved to Seoul National University, South Korea National Creative Research Initiative Centre for Spin Dynamics and Spin Wave Devices, to take up a new role as Senior Research Associate where I am further expanding the horizons of my research.

Dr Poonam Yadav

Humboldt Postdoctoral Fellow at Max Planck institute for Eisenburg research, Germany



I successfully completed my PhD at RMIT in 2021 and I had a very good time at RMIT and AcSIR. I started my PhD at AcSIR with synthesis and battery experiments and at RMIT I learned several characterisation techniques and made good friendships.

The working culture of RMIT was very friendly and supportive. The location of RMIT city campus is in the heart of the city, and I had the best time of my life. I explored places nearby including the Great Ocean Road, Melbourne Zoo, as well as local beaches.

The RMIT-AcSIR Joint Research Program is such a beneficial program for PhD students and I highly recommend this program to anyone. I received guidance and support at each point of the program. You get exposure to working in an international environment and multi-functional teams. Also, the chances of collaboration are immense. Moreover, university-sponsored study tours and conferences are added advantages.

As a successful graduate, I have worked at Rechargion Energy Pvt. Ltd. as a battery scientist and my work is on Na-ion battery pouch cell development. I received the Humboldt Fellowship in 2022. For this fellowship, instrumental handling and battery experience both were required and I had these experiences due to the RMIT-AcSIR Research Program. I will join the Max Planck institute for Eisenburg research in Germany as a Humboldt Postdoctoral Fellow in 2023.

Dr Shiva Prasad Nandala

Postdoctoral Research Fellow at CSIRO, Australia



I am grateful for the opportunity in this prestigious RMIT-AcSIR collaborative joint research program. Pursuing a PhD from two world class universities is an awe-inspiring platform which enabled me to explore new facilities, work environments and culture. The most illuminating experience at RMIT is the access to the state-of-the-art RMMF (RMIT Microscopy and Microanalysis Facility) where I am learning physiochemical characterisation techniques such as SEM-EDX, AFM, and XPS.

The training and access to all equipment and modelling facilities are extremely advantageous and advanced which enabled me to improve both my experimental and simulation research skills. My special gratitude to the supervisory team who constantly provided me with their guidance and support during my candidature.

Finally, I would like to convey my sincere thanks Distinguished Professor Suresh Bhargava and Dr S Sridhar for bringing me into the limelight through this program.

The research experience gained through this program will be helpful in solving real-world scientific problems. I highly recommend this program to candidates who might be considering pursuing their studies at RMIT University.

As a successful graduate of this program, I obtained the CSIRO Early Research Career Postdoctoral and Engineering Fellowships and I am working at CSIRO as Postdoctoral Research Fellow.

Dr Shubhendra Kumar Jain

**Electrical Engineer at Applied Materials
in Cambridge (MA), USA**



The Joint RMIT-AcSIR PhD program offers a great platform for learning and collaborating with leading universities and research groups around the world.

It was a great opportunity for me to be the first cohort student in this program. I pursued my PhD at FMM research group, RMIT University and CSIR-NPL, India.

I gained a lot of experience during my stay in Melbourne while working in the RMIT Class-100 cleanroom facility and acquired fruitful collaborations at RMIT University, University of Melbourne, University of Technology Sydney, and Australia National University.

This program provided a great research platform, and I published more than 20 research articles including 8 articles in SCI journals in collaboration with RMIT University.

I graduated from the program in 2021 and joined the University of Ottawa as a postdoctoral fellow. Currently, I am working at Applied Materials as an Electrical Engineer in Cambridge (MA), USA. Here, I focus on developing the solutions for IoT, Communications, Automotive, Power and Sensor technologies.

Dr Naresh Gutta

**Senior Research Officer at Indian Oil
Corporation Limited**



The RMIT-AcSIR Joint Research Program is such a great program for those who really want to pursue their PhD abroad.

During my PhD, Indian side CSIR-Indian Institute Of Chemical Technology (IICT) provided me with world class research training under the supervision of highly experienced scientists; and on the other side, RMIT provided me the opportunity to work in cutting edge analytical laboratories and interact with multi-disciplinary research teams.

These exposures moulded me as an independent scientist. After the completion of my thesis, I got the opportunity to work in a collaboration project with CSIRO-Energy team (Clayton) for a short time. It helped me to learn the critical aspects involving the translational research from lab to commercialisation.

I am currently working as a Senior Research Officer at Indian Oil Corporation Ltd, R&D Centre-India in the lubricants area.

Celebrating special days

**From the Office of the Dean, Research & Innovation (India),
STEM College**

75th year of Indian Independence

As RMIT University celebrates the 75th year of Indian Independence, we hosted a series of events including a flag raising ceremony on our city campus with nearly 1,500 students.

Delegates from RMIT-STEM College met with the Indian Education Minister while he was in the country, and hosted an event alongside other key personnel including the Principal Science Advisor to the Prime Minister of India, RMIT's student organisation RUSU, and students from the RMIT-Academy of Scientific and Innovative Research joint PhD program.

Speaking at the event about the meaningful collaboration between Australia and India, Deputy Vice-Chancellor Research & Innovation and Vice-President, Professor Calum Drummond AO, highlighted the importance of freedom as a human right:

“We have many common traditional and cultural values which have brought the two nations closer. I think in the last 10 years, Australia’s relationship with India has been stronger than it ever has been, and it’s going to go from strength to strength moving forward.”



Students and staff celebrating at RMIT city campus.



Watching the recorded India flag raising ceremony at the Indian Independence celebration session.



Distinguished Professor Suresh Bhargava AM and Mr Adam Steiner, the RUSU president in 2022.

RMIT celebrates Diwali with students

Diwali is the biggest festival for the people of India. Traditionally, the festival is a warm celebration of lights, joy and happiness.

RMIT University celebrated Diwali in collaboration with the RMIT Indian Club.

Students, staff and friends gathered to celebrate the Diwali festival of lights on the campus and they enjoyed a day full of food, warm decor and performances.

The celebration was joined by several STEM College executives including Distinguished Professor Sujeeva Setunge, the Associate Deputy Vice Chancellor, Research & Innovation, STEM College and Distinguished Professor Suresh Bhargava AM the Dean, Research & Innovation (India).



Dean, R&I (India), and School HDR Associate Deans are having lunch with RMIT-AcSIR Joint Research Program students on Diwali day.



RMIT-AcSIR Joint Research Program students celebrating Diwali.



Drawing Rangoli for Diwali.



Group photo on Diwali.



Konark Sun Temple is a UNESCO World Heritage Site known for its exquisite architecture and intricate stone carvings.

Contact us

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Connect with RMIT

