



COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH

Anusandhan Bhawan, 2 Rafi Marg, New Delhi-110 001

CSIR is looking for Eminent Scientists/Technologist for the position of Outstanding Scientists

Council of Scientific and Industrial Research (CSIR) established in 1942, is an autonomous Society under the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology. CSIR has the distinction of having the Prime Minister of India as the president of its Society. CSIR is a premier R&D organization in the country and has been contributing to the socio-economic development through its varied S&T interventions from its inception. With 37 state-of-the-art constituent laboratories, today CSIR is amongst the largest publicly funded innovative scientific and research organizations in the world. CSIR expertise and experience is embodied in its nearly 3,500 Scientists and 4200 scientific and technical support personnel apart from the 7,000 JRFs, SRFs, RAs and project staff. CSIR publishes more than 5,000 papers annually in peer-reviewed international journals (SCI) and also produces more than 500 Ph.D. students. CSIR has a patent portfolio of 1,132 unique patents in force, out of which 140 patents have been commercialized. CSIR also has 2,587 in force patents granted abroad in multiple countries. CSIR has ushered India into knowledge economy while grooming and nurturing talent in various streams of Science and Technology.

CSIR is looking for visionary R&D leaders to shape a new science and technology landscape in India so as to address global scientific and technological challenges as Outstanding Scientist through its prestigious national Laboratories/Institutes. The search is for scientists and technologists with scientific contributions of international eminence, excellent track record in the desired areas of cutting-edge S&T, and with proven leadership to develop and translate laboratory inventions to industry ready interventions. The selected candidate shall be able to participate and contribute in conceived vision and mission of CSIR which includes providing S&T leadership for sustainable development of the country encompassing economic growth with environment and societal benefits. The scientists would be expected to mentor and lead research activities in the identified areas, establish and implement mega research programmes, interact actively with the younger scientists, and involve in various academic activities including teaching and training programmes of the concerned CSIR laboratory. The details are given below:

1. **Name of Lab./Instt.** – CSIR-Institute of Mineral & Materials Technology, Bhubaneswar

No of Position: 01

Specialization: Development of special steels/alloys, refractory metals and alloys (Physical Metallurgy)

Area of work: CSIR-Institute of Mineral & Materials Technology, Bhubaneswar is a premier national laboratory of India, engaged in R&D on sustainable utilization of mineral and material resources, waste to wealth and circular economy of critical and strategic materials. It deals with major R&D programmes catering to the needs of iron & steel, aluminum and other non-ferrous industries. Currently, a group of six scientists are working in the area of both physical and mechanical metallurgy. The R&D activities include preparation of special/ strategic alloys such as, high density tungsten, ODS steel, iron aluminide, REE dispersed aluminum alloys, high entropy alloys, bio-compatible alloys etc. as well as, mechanical evaluation and failure analysis. We would like to strengthen R&D on areas, such as, development of special steels/alloys, refractory metals and alloys and high performance cutting tools.

2. **Name of Lab./Instt.** – CSIR- Indian Institute of Toxicology Research, Lucknow.

No of Position: 01

Specialization: Mechanistic Toxicology

Area of work: CSIR-IITR is working in the area of Mechanistic Toxicology and undertaking molecular biology approaches to understand the cellular & molecular pathways involved in the toxicity of environmental chemicals, food additives and drugs. Integration of various omics-technologies such as transcriptomics, metabolomics and proteomics has enabled our scientists to pin-point pathways and their use in therapeutic intervention as well as prevention. Currently 20 scientists and more than 100 research students of this institute are working in this area. CSIR-IITR is looking forward to strengthen this activity to make this R&D area globally competitive.

3. **Name of Lab./Instt.** – CSIR-Central Drug Research Institute, Lucknow.

No of Position: 01

Specialization: Cancer immunotherapy and antineoplastic biologicals

Area of work: CSIR-CDRI is having a strong group of cancer biologists, undertaking advanced research in the area of cancer biology. Recently, we created Division of Cancer Biology to augment academic and fundamental science driven innovative research in the area of cancer biology. Currently, 4 core faculties, 3 associate faculties, group of Medicinal Chemists and large number of research scholars are contributing to the cancer research at CSIR-CDRI. Our cancer biology team is currently focusing on Triple Negative Breast Cancer covering fundamental science to diagnostics and new drug development. We have our in house established multiple xenograft/allograft orthotopic tumor models in Nude and NOD-SCID mice to address basic and translational questions pertaining to particular type of cancer. We look forward



to strengthen our forte in Cancer Immunotherapy sector as immunotherapy alone and with small molecule drug combinations are forefront in current cancer therapy.

4. Name of Lab./Instt. – CSIR-National Physical Laboratory, New Delhi

No of Position: 01

Specialization: Development and dissemination of Indian Reference Materials (BNDs)

Area of work: Dissemination of measurement traceability to SI units and the development of Certified Reference Materials (CRMs) in different areas such as Physical, Chemical, Physico-chemical and Physico-mechanical linked to metals & alloys, materials, fuel, petroleum, automobile, energy sector, serum, ores, food, minerals and mines etc. which are essentially required for quality assurance in the country. The applicant primarily needs to lead a national/international importance on recently funded mega project by Min of commerce and line ministry for the indigenous production of Indian Reference Materials (Bharatiya Nirdeshak Dravays-BND) for the realization of Self-Reliance-India. Further, to develop the synergy with regulatory bodies, certification bodies, accreditation bodies in line with NMI of India. Apart from this he is required to work for the realization of Quantum Metrology Standard as per the BIPM mandate. The candidate also required to have expertise for the development of devices based on environmental friendly energy conversion devices. He also has to work for the import substitution by developing technology process, BNDs and devices to cater needs of the country.

5. Name of Lab./Instt. – CSIR-Indian Institute of Chemical Technology, Hyderabad.

No of Position: 01

Specialization: Drug discovery & medicinal chemistry

Area of work: CSIR-IICT has been working in the area of identifying new scaffolds with therapeutic potential with a strong and committed team of medicinal chemists and biologists. The team has identified new scaffolds and carried out studies to bring them upto IND stage. CSIR-IICT is creating a Department of Lead Discovery where scientists with drug discovery background will be working together to identify and develop new molecules to IND stage and clinical evaluations. At present 7 core faculty members, 4 associate faculty members and many research scholars are contributing the drug discovery efforts. Current areas of interest are pulmonary fibrosis and tuberculosis, CNS-related diseases and antiviral therapeutics. The institute has excellent in-silico modelling, library and large-scale synthesis and in-vitro, in-vivo screening facilities to support drug discovery. We are looking forward to strengthen and lead the drug discovery efforts of CSIR-IICT and develop new molecules to treat human diseases.

6. Name of Lab./Instt. – CSIR-National Chemical Laboratory, Pune

No of Position: 01

Specialization: Surface science and heterogeneous catalysis

Area of work: CSIR-NCL has the division of Catalysis and Inorganic Chemistry which has a major program in the area of heterogeneous catalysis and surface catalytic phenomenon. A fundamental understanding of the interactions at a molecular level between the catalyst surface and the reactant / product by designed experiments and spectroscopy is an important area of emphasis. The development of highly active and selective catalysts for industrial chemical processes is the aim of the group. Photoelectron and IR spectroscopy probes and photochemical characterization of micro and nanomaterials for catalysis and surface chemistry is an important program. Applications of the designed catalysts for industrial processes such as dehydration, condensation, esterification, etc. and development of process on pilot scale for clean and renewable fuels and energy is the end goal. The candidate must demonstrate proven ability to lead a team of scientists and research staff in the abovementioned areas.

7. Name of Lab./Instt. – CSIR-National Chemical Laboratory, Pune

No of Position: 01

Specialization: Hollow fibres and proton exchange membranes

Area of work: CSIR-NCL has the division of Polymer Science & Engineering which has a major program in the area of membranes and polymers for separation / purification of gases and liquids. The group is focussing on the design and fabrication of polymers, fibres and films for applications in water discharge treatment with special emphasis on functional membranes for industrial and energy applications. A focussed team is working on the selective enrichment of gases by hollow fibre membranes. Furthermore, proton exchange membrane fuel cell and advanced energy devices is another area of fundamental and applied research. The candidate must demonstrate proven ability to lead a team of scientists and research staff in the abovementioned areas and should preferably have transferred technology to industry.

8. Name of Lab./Instt. – CSIR- Centre for Cellular and Molecular Biology, Hyderabad.

No of Position: 01

Specialization: Structural biology and fundamental mechanisms

Area of work: CSIR-CCMB has made worthwhile contribution in Structural Biology in the recent past and established state-of-the-art technology and interdisciplinary research programme to address biological questions in

structural context. CSIR-CCMB is looking for an Outstanding Scientist with leadership capabilities to address questions of fundamental biology with structural insight. Established credentials of interdisciplinary approach to address fundamental questions of biology cutting across technology platforms and model systems will be preferred.

9. Name of Lab./Instit. – CSIR-Central Institute of Mining and Fuel Research Dhanbad

No of Position: 01

Specialization: Coal Petrology and Coal Characterisation

Area of work: The core research activities of the Resource Quality Assessment group include characterization and quality assessment of coal through chemical and petrographic analyses for augmentation of national coal resources. Currently, the group has 12 core scientists, 45 technical and supporting staff, and large number of research scholars. The group is dedicated towards characterisation studies on coal and lignite in the form of studies on borehole coal cores received from drilling in virgin coal blocks. The group is the coordinator for International Working group on reflectance of complex blends of coal on behalf of International Committee for Coal and Organic Petrology. The group has been making significant contributions for the power and steel sectors through development of new and advanced concepts to blend the inferior quality of coal. The Resource Quality Assessment team is currently focusing on fundamental research for generation of advanced knowledge in coal geology along with coal petrography parameters so that value added products can be obtained from coal. We look forward to strengthen our forte in the area of coal petrology and coal characterisation which will help in efficient, economic, and environmentally safe generation of power. Also, proper assessment of combustion behaviour of Indian coals will help reduce coal import for metallurgical use.

10. Name of Lab./Instit. – CSIR-Central Building Research Institute, Roorkee

No of Position: 01

Specialization: Structural Fire Engineering for concrete / Energy efficient Building Technologies

Area of work: CSIR-CBRI, Roorkee has created strong niche areas on Fire Research / Building Energy Efficiency, undertaking advanced research catering to industries including L&T and other construction giants. Recently, CSIR-CBRI had completed some spectacular tests/experimental program on the structural fire engineering tests on in-plane shear walls with 300 tonnes of loading. These unique tests have been conducted for the first time in south Asia and immediately catering to the requirements of construction industry. We require a strong leader with both academic and industrial experience who can lead and mentor this newly envisaged group on structural fire engineering and bring out



immediate engineering solutions for the fretting problems on explosive spalling mechanics of reinforced concrete structures at CSIR-CBRI.

Another important area which require globally competitive research at CSIR-CBRI is on building energy efficiency so as to stem the prolific usage of energy consumption in building sector. This consumption is roughly 30% of the total energy guzzle for this country. This niche area also requires a strong leadership to mentor the energy efficient building group on smart/green building concepts, energy balance algorithms, energy simulation studies, geo-thermal / solar cooling, developing of appropriate technologies for an Indian rural house-hold.

11. Name of Lab./Instt. – CSIR-Central Leather Research Institute, Chennai

No of Position: 01

Specialization: Leather Science, Chemistry, Physics

Area of work: The strength of CSIR-CLRI is in its ability to take fundamental principles of chemistry and biology in application oriented leather process technologies. The institute has been in the forefront of bringing out paradigm shifts from chemical to bioprocessing and also introducing technologies for environmental sustainability and reducing the carbon footprint in leather processing. The leather process technology department in the institute and its associated regional centres in Jalandhar, Kanpur, Kolkata and Ahmedabad has a core strength of 20 core faculties and 20 associated faculties and about 20 research scholars. Our process technology group is now focusing on understanding the mechanism of the developed bio-processes so as to maximize the biomolecule – collagen interactions and optimize the reaction conditions. Furthermore, we are also conducting fundamental research to understand the mechanism of tanning at the molecular scale. We have our in house established facilities such as molecular modelling, nuclear magnetic resonance and chromatographic facilities to support fundamental research in leather science. We look forward to strengthen our forte in mechanistic understanding of newer methods of leather processing through various instrumental and theoretical modelling techniques

12. Name of Lab./Instt. – CSIR-Central Leather Research Institute, Chennai

No of Position: 01

Specialization: Leather Science

Area of work: CSIR-CLRI is a part of a 75 year old unique partnership model of Academy – Research – Industry, where a State University (Anna University) serves to meet the HR needs of the industry. The CSIR-CLRI as a partner serves as the Department of Leather Technology of the University, thus developing young minds in tune with global leather industrial needs. Over 60% of the leather professionals in India and elsewhere are alumni of this unique Academy – Research partnership model. With the Director CSIR-CLRI serving as the Hon. Head of the Department of Leather Technology and the scientists



of CSIR-CLRI as the Honorary faculty, the institute has a major role to play in the development of curriculum not only for connected State university but also other institutions in India and across the world. In addition to this, the institute with the support of various Central and State Government Socio-economic ministries, is also involved in skill development programs and its implementation. We look forward to strengthen our forte in academic and skill development across the globe leading to the institute developing into a worldwide hub for leather education.

Essential qualification:

I. Ph.D. in any branch of Science/Social Science or Master's degree in Engineering or Health/ Medical Sciences.

Desirable qualifications/Recognitions:

- i. Ph.D. in Engineering or Health/ Medical Sciences.
- ii. National/International recognition like awards, Fellowship of Academies, Visiting Fellow/Professor

Experience:

- (i) Minimum 16 years of experience in Research and Development in National/ International R&D/ Academic laboratory/ Institution including corporate R&D.
- (ii) Should hold a position at Scientist F/G/Professor level in Govt./Statutory/Autonomous Institutions or equivalent in Non-Govt./Private Institution/Organization with outstanding academic records.

Age: Minimum 45 years.

Relaxation: The qualifications, age and experience can be relaxed in the case of exceptionally meritorious candidates with the approval of DG, CSIR.

Eligibility Criteria: The applicant must be a citizen of India.

Candidate: Should be creative, innovative and a well-recognized scientist/technologist having a demonstrated leadership and man-management qualities and to manage multidisciplinary R&D teams with excellent interpersonal relations.

Tenure of Appointment: The appointment to the post of Scientist H/Outstanding Scientist shall be made for a period of five years or till superannuation, whichever is earlier. In deserving cases, the tenure can be extended as per rules. For those who are in CSIR service, the term shall be till superannuation.

The post of Scientist 'H'/Outstanding Scientist in CSIR shall be in Level 15 (Rs. 1,82,200-2,24,100) of pay matrix i.e. pre-revised HAG Pay scale of Rs. 67,000-79,000/-. In addition, residential accommodation, transport, medical, LTC and other facilities are provided as per rules.

The number of vacancies indicated is provisional and may vary at the time of selection.

Notwithstanding the above, the selected candidate can be posted in any Division/Unit of CSIR Hqrs or at any of its Labs/Institutes, in the exigencies of organization needs.

How to apply: The application/nomination for the post of Outstanding Scientist with detailed bio-data highlighting scientific and translational contributions in details alongwith list of publications/patents etc. may be sent through email on email ID drc@csir.res.in or by post to Director Recruitment Cell, Council of Scientific and Industrial Research (CSIR), Anusandhan Bhawan, 2, Rafi Marg, New Delhi-110001. A brief bio-data in the proforma given below may also be sent. The last date of the receipt of applications is **15.02.2021**.

Format for Bio-Data

1. Name:
2. Name of the Lab. applied/nominated for:
3. Area of Specialization applied/nominated for:
4. Date of Birth:
5. Current Position and Address:
6. Educational Qualification:

Sl. No.	Degree/Certificate	Year of Passing	University/Institute	Subjects

7. Academic/Research Experience/Employment

Sl. No	From	To	Name of Organization	Position held

8. Areas of Specialization:
9. Honors/Awards/Recognitions received:
10. Professional Affiliations:
- 11.* (a) List of Research Publications including popular articles, if any;
(b) List of best professional outputs/outcomes in last 10 years, relevant to present field of specialization;
(c) Highlights of contributions to the area of specialization.
(b) Technologies developed, Licensed and/or commercialized with details.
12. Dissertations supervised:
(a) Ph.D.
(b) Post-Graduation

13. 1-2 page summary of vision for the post applied.

14. List of 5 professional referees of high reput with whom candidate has interacted in the past;

Signature of the Applicant

Date:

Place:

* Details may be enclosed separately

