विज्ञान एवं
प्रौद्योगिकी मंत्रालय
MINISTRY OF
SCIENCE AND
TECHNOLOGY
विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

# Scheme Guidelines: India–Netherlands Hydrogen Fellowship Programme

***(Human and Technical Capacity-Building Programme)***

Under Climate, Energy, and Sustainable Technology Division

सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF SCIENCE & TECHNOLOGY
TECHNOLOGY BHAVAN, NEW MEHRAULI ROAD
NEW DELHI – 110016

## 1. Introduction

1.1 The Department of Science and Technology (DST), Ministry of Science and Technology, Government of India, initiated the Hydrogen and Fuel Cell (HFC) Programme in 2018 with the primary objective of fostering innovation and making hydrogen-based solutions more affordable and technically viable for future commercial deployment. The programme prioritizes the indigenous development and deployment of the entire value chain in the hydrogen ecosystem, including the demand side management, safety systems, and important regulatory needs, which will throttle the faster deployment of hydrogen in the ecosystem. This includes critical components such as electrolyzers, alternative hydrogen production facilities, the use of renewable energy and grid-based systems to power hydrogen generation, hydrogen storage technologies, various hydrogen carriers and their round-trip efficiencies, and multiple demand-side applications including fuel cells, boilers, furnaces, hydrogen refuelling stations, and hydrogen use in chemical, petrochemical, and pharmaceutical industries. Together, these elements are essential for building a robust hydrogen ecosystem in India. These efforts are being advanced through a combination of national initiatives and international collaborations, enabling joint research and technology co-development in clean hydrogen technologies.

1.2 Mission Innovation (MI) 2.0 is a global platform dedicated to driving a decade of action and investment in research, development, and demonstration to make clean energy affordable, attractive, and accessible to all. Mission Innovation (MI) 2.0 comprises seven missions, with the Department of Science and Technology (DST) serving as the nodal agency for India. Under MI 2.0, the Clean Hydrogen Mission, co-led by Australia, Chile, the European Union, the United Kingdom, and the United States, with India (DST) as a core coalition member, the mission aims to reduce the cost of clean hydrogen to USD 2 per kilogram by 2030. Additionally, MI 2.0 seeks to establish 100 hydrogen valleys worldwide by 2030. Building on this, DST has conceptualized and launched the Hydrogen Valley Innovation Cluster (HVIC) initiative, a programme designed to demonstrate the complete hydrogen value chain from production and storage to distribution and end-use at a small scale through integrated regional clusters. The HVIC has now been integrated into the Ministry of New and Renewable Energy's National Green Hydrogen Mission as a new initiative, while its implementation, monitoring, and supervision continue to be carried out by DST.

1.3 The Netherlands, with its advanced hydrogen infrastructure and strategic connectivity through the Port of Rotterdam, has emerged as a global leader and gateway for hydrogen deployment in Europe and beyond. The Northern Netherlands region, home to Europe's first operational Hydrogen Valley under the flagship HEAVENN project, was recognized as the Hydrogen Valley of the Year (2022) for its pioneering contributions to integrated hydrogen systems. The region also hosts major hydrogen innovation platforms such as the Hydrogen Valley Campus Europe initiative, the Baseload Project, and the Hydrohub Initiative, which support large-scale research, demonstration, and system-integration activities. Rotterdam is simultaneously evolving into one of the world's largest green hydrogen import and distribution hubs, driven by giga-scale electrolyzer plans, international supply corridors, and hydrogen-ready port and pipeline infrastructure. The country also hosts the annual World Hydrogen Summit & Exhibition, the world's largest hydrogen event, bringing together key stakeholders from across the global hydrogen value chain.

## 2. Rationale and Objectives

2.1 India has set an ambitious goal of achieving energy independence by 2047 through a strategic transition from fossil fuels to clean and sustainable energy systems. This transformation is being pursued by expanding the renewable energy network, electrifying the transport sector through electric and fuel-cell vehicles, and promoting the generation, storage, and utilization of clean hydrogen across diverse sectors. Clean hydrogen is recognized as a critical enabler in India's pathway to net-zero emissions, particularly for hard-to-abate sectors such as steel, cement, and chemicals, where direct electrification remains challenging. With an estimated 2.95 lakh jobs expected to be created in India's hydrogen sector by 2030, it is imperative to develop a highly skilled workforce capable of designing, implementing, operating, and maintaining hydrogen technologies across the value chain. To achieve this, structured capacity-building and international exposure are essential to ensure that India's emerging hydrogen workforce is equipped with globally benchmarked technical knowledge and operational expertise.

Salient features of the Fellowship programme

**a.** Hydrogen research is rapidly evolving, requiring deep-tech, interdisciplinary solutions to advance current systems and adopt emerging technologies. The fellowship programme offers hands-on training within the Netherlands' hydrogen ecosystems, enabling fellows to gain real-world technical exposure and co-develop next-generation solutions through a focused India–Netherlands research exchange.

**b.** Enable participants to develop advanced experimental and analytical skills and apply them to India-specific hydrogen challenges, fostering innovation and problem-solving capacity.

**c.** Successful hydrogen adoption depends on societal acceptance and viable socio-economic models, especially for distributed production and new entrepreneurship opportunities. The fellowship programme supports joint India–Netherlands studies on socio-economic modelling, community acceptance, and inclusive deployment pathways.

**d.** Scaling hydrogen deployment demands strong regulatory and safety frameworks. The Netherlands' mature permitting, certification, and safety systems offer valuable learning opportunities. Through direct exposure to these practices, fellows will build capabilities to support flexible, harmonised, and safety-aligned regulatory development in India.

**e.** Promote knowledge transfer and collaborative research, accelerating the adaptation and indigenization of advanced hydrogen technologies suited to India's climatic, industrial, and infrastructural conditions.

**f.** Encourage fellows to engage in joint research, curriculum development, and technology-transfer activities with the Netherlands partner institutions to strengthen academic and research linkages.

**g.** Facilitate the integration of international best practices and operational frameworks into Indian academic, research, and industrial hydrogen programs.

**h.** Strengthen India's human resource and institutional capacity to design, implement, and operate hydrogen technologies, thereby contributing to the creation of a robust, competitive, and sustainable hydrogen economy aligned with national clean energy goals.

i. Learnings from India's and the Netherlands' hydrogen ecosystems will help identify new R&D challenges, which can be jointly addressed through this fellowship platform.

**3. Fellowship Categories**

| Sno | Target Group | Duration | Host Institution |
|---|---|---|---|
| 1 | Doctoral | 12 months | University in the Netherlands |
| 2 | Postdoctoral | 12 months | University in the Netherlands |
| 3 | Academic Faculty (Assistant/Associate professor level only) | Up to 12 months | University in the Netherlands |

**4. Research Themes (Indicative) – relevant to Indian conditions only**

**(A) Doctoral and Postdoctoral Fellows**

1. **Low-Carbon and Clean Hydrogen Production (Resource and Process Optimization)**
   - Conversion of wastewater, agricultural residue, and stubble biomass into hydrogen through electrolysis, reforming, and gasification routes.
   - Carbon capture–integrated hydrogen production systems and improved catalyst utilization for yield enhancement and cost reduction.
   - Development of unitized regenerative fuel cell systems for co-production of power and hydrogen.
   - Development of scalable hydrogen production pathways tailored to India's resource availability, climatic conditions, and infrastructure realities.
   - Alternate methods to produce hydrogen via electro-thermochemical routes (viz. Cu bromide, Ce intermetallic, etc.) and the electro-photochemical route.
   - Development of single-step hydrogen conversion technologies for producing ammonia, Liquified Organic Hydrogen Carriers (LOHCs), methanol, and other emerging hydrogen-derived materials, reducing reliance on high-pressure hydrogen storage and improving overall safety and logistics.
2. **Hydrogen Compression, Storage, Transport, and Distribution**
   - High-TRL solutions such as blending with natural gas, dedicated hydrogen pipelines, and composite high-pressure cylinders.
   - Development of advanced 350, 700, and 1000 bar hydrogen storage systems for bulk storage, transportation, and on-board (automotive) applications, including materials innovation and integration with carbon nanofibre–based supply chains.
   - Research on high-pressure cryogenic hydrogen generation, storage, and safe handling systems, with emphasis on thermodynamic optimization, insulation technologies, and operational safety.
   - Development of next-generation hydrogen refuelling stations for compressed, cryogenic, and carrier-based hydrogen, with emphasis on design optimization, safety, throughput, reliability, and cost efficiency.
   - Low-TRL routes including LOHCs and metal hydrides adapted for India's climatic and supply-chain environments.
3. **Digital Twinning and Simulation for Hydrogen Systems**
   - Development of digital twins for hydrogen generation, storage, and end-use systems to support predictive maintenance, safety validation, and Hydrogen ecosystem optimization.
   - Application of data-driven models and Geographic Information System (GIS) tools for regional hydrogen planning and system visualization.

4. **Hydrogen Utilization Pathways**
   - Application studies in transport, decentralized energy, green industrial fuels (steel, cement, fertilizer, chemicals), and ammonia/methanol-based energy carriers.
   - -Hydrogen combustion for thermal energy applications, including burner design, flame characteristics, emissions control, and retrofitting of existing systems. Additionally, investigation of hydrogen use in chemical process industries for hydrogenation and related reactions, covering reactor design, kinetics, safety, and integration into existing industrial process chains.
   - System-level evaluation of SOFC, PEMFC, DMFC, unitized regenerative fuel cell systems, and hybrid systems.
5. **Techno-Economic and Life-Cycle Studies**
   - Comprehensive techno-economic feasibility analysis, cost curve development, and sensitivity assessment of hydrogen production, storage, transport, and utilization systems under Indian techno-policy and market conditions.
   - India-specific life-cycle assessments (LCA) (with various system boundaries and sensitivity analysis) encompassing component and material recycling, water–energy nexus evaluations, and carbon footprint benchmarking to support sustainable hydrogen deployment and informed policy or investment decisions.
6. **Policy and Regulatory Studies for Hydrogen Economy**
   - Analysis of India's policy landscape for hydrogen production, certification, and trade.
   - Comparative assessment of international best practices (EU, Netherlands) and their applicability to Indian conditions.
   - Development of policy roadmaps, business models, and safety standards for Hydrogen infrastructure in India.
7. **Institutional Capacity-Building and Industry Linkages**
   - Establishment of hydrogen research labs, test facilities, and simulation platforms aligned with DST's HFC programme.
8. **Hydrogen Safety, Standards, and Testing Across the Entire Value Chain**
   - Comprehensive investigation of safety risks, failure modes, and operational vulnerabilities across the full hydrogen value chain from production and storage to transport, dispensing, and end-use under diverse environmental and operating conditions. This necessitates the establishment of advanced testing facilities, the development of safety protocols, the formulation of standards, and the definition of best practices for safe hydrogen deployment at scale.
9. **Socio-economic Impact of the Hydrogen Economy (Next 20 Years)**
   - Assessment of employment generation, workforce transition pathways, and emerging skills requirements.
   - Evaluation of industrial growth prospects, domestic supply-chain development, and hydrogen-enabled manufacturing opportunities.
   - Analysis of regional development potential through hydrogen valleys, industrial clusters, business models, and emerging export hubs.
   - Impact on national energy security, import substitution, and export opportunities for hydrogen and its derivatives.
   - Projections of cost trajectories and long-term competitiveness of hydrogen technologies in Indian markets.
   - Identification of policy, regulatory, and institutional frameworks required for sustained and scalable hydrogen adoption.

**(B) Faculty Fellowship (Assistant/Associate professor level only)**

1. **Skilling / Reskilling Development, Training, and Curriculum Design**
   - Creation of India-specific teaching modules, laboratory courses, and multidisciplinary curricula integrating hydrogen engineering, safety, and techno-economics.
2. **Digital and Simulation Tools for Hydrogen Valley Design**
   - Development and application of digital twins, GIS-based simulation, and system modeling for Hydrogen value chain mapping and optimization in Indian regions.
3. **Hydrogen Safety, Codes, and Standards for India**
   - Contextualization and formulation of safety protocols, certification procedures, and operational standards suited to Indian climatic, industrial, and regulatory frameworks.
4. **Policy, Regulatory, and Institutional Framework Studies**
   - Policy analysis and institutional framework development to support DST HFC initiative and regional hydrogen value chains.
   - Comparative study of investment mechanisms, incentive models, and industry engagement strategies.
   - Development of India-appropriate business models, operational frameworks, and performance benchmarks.
5. **Institutional Capacity-Building and Industry Linkages**
   - Establishment of hydrogen research labs, test facilities, and simulation platforms aligned with DST's HFC programme.
   - Frameworks for academia–industry collaboration, technology standardization, and skill ecosystem development.

**5. Eligibility Criteria**

**General**

- Applicants must be Indian nationals.
- Working in the field of engineering science, basic science, social and humanities, economics and finance, public policy, and safety engineering.
- Experience in hydrogen energy technology will be advantageous.
- Applicant must have a Master's degree / PhD /Postdoctoral (in science, technology) from a recognized University/Institute.

**(A.1) Doctoral Fellows**

- Applicants must be registered as Ph.D. scholars in a recognized Indian university or research institution (parent institute) at the time of application.
- The applicant must provide a recommendation letter from the Ph.D. supervisor, which should comment on the applicant's research, justify the need for the fellowship, and clearly mention the Ph.D. registration date and thesis topic.
- The fellowship is intended for Ph.D. students to conduct research essential to their dissertations/thesis. Therefore, the expected Ph.D. thesis submission date should be at least 8 months after the fellowship end date.
- Applicants currently holding any fellowship or grant providing similar international research or support shall not be eligible to apply.

- Doctoral Fellows shall continue to receive their existing fellowship or stipend in India from CSIR/UGC/institutional/SERB or other sources, as applicable. The DST fellowship provided under this Programme is exclusively for subsistence and research support during the stay in the Netherlands and does not replace or duplicate the fellow's existing fellowship in India. Fellows shall not undertake any paid employment, teaching assignments, consultancy, or receive any salary or honorarium from the host institution abroad.
- Prior to submission of the application against the Call for Proposals (CfP), the applicant must obtain a conditional admission or acceptance letter from the host institution (in the Netherlands) confirming their willingness to host the fellow for the stated duration and research theme.
- The Indian parent institution must provide a No-Objection Certificate (NOC), stating that the applicant is permitted to undertake the fellowship for the approved duration while retaining their registration status in India.
- The fellow shall not accept any other employment abroad during or immediately after the fellowship and must complete the doctoral work at the parent institute.
- The Indian parent institution shall provide, on its official letterhead duly signed by the Head of Institution, an undertaking to furnish all Utilization Certificates (UCs), Statements of Expenditure (SoE), and any other financial or administrative documents required by the Scheme Implementation Agency (SIA) or DST for audit and compliance purposes.
- Department of Science and Technology shall provide 80% of the fellowship on a monthly basis, while the Indian parent institution shall provide the 20% fellowship amount to the applicant, if selected as a fellow. The parent institute must furnish an undertaking on official letterhead, duly signed by the Head of Institution, confirming the same. SIA shall reimburse the amount after submission of the completion report and approval by the DST–National Expert Advisory Committee (NEAC).
- Institutions may also recruit and register new Ph.D. scholars specifically for undertaking research in the research themes identified under this programme. Such recruitment must follow the institution's approved admission procedures, and candidates must possess the necessary basic qualifications and demonstrate aptitude for work in hydrogen science and technology. Once formally registered, these scholars shall be eligible to apply, provided they meet all other eligibility conditions. This provision is included to ensure the availability of suitably prepared scholars, as hydrogen research domains are emerging and may not align with the current topics of already-registered students.

**(A.2) Postdoctoral Fellows**

- The applicant must have a Ph.D. degree within the past four years from a recognized Indian university or research institution.
- The applicant must be registered as a Postdoctoral fellow in a recognized Indian university or research institution at the time of application.
- The applicant must submit a Statement of Purpose describing their completed/ongoing research activities, explaining the importance and expected impact of their work, and providing a clear justification for the fellowship.
- The applicant must have a publication in a reputed journal.
- Postdoctoral Fellows shall continue to receive their existing fellowship or stipend in India from CSIR/UGC/institutional/SERB or other sources, as applicable. The DST fellowship provided under this Programme is exclusively for subsistence and research support during the stay in the Netherlands and does not replace or duplicate the fellow's existing fellowship in India. Fellows

shall not undertake any paid employment, teaching assignments, consultancy, or receive any salary or honorarium from the host institution abroad.

- Applicants currently holding any fellowship or grant providing similar international research or support shall not be eligible to apply.
- Prior to submission of the application against the CfP, the applicant must obtain a conditional admission or acceptance letter from the proposed host institution confirming their willingness to host the fellow for the stated duration and research theme.
- The Indian parent institution must provide an NOC, stating that the applicant is permitted to undertake the fellowship for the approved duration while retaining their registration status in India.
- The fellow shall not accept any other employment abroad during or immediately after the fellowship and must complete the postdoctoral work at the parent institute.
- The Indian parent institution shall provide, on its official letterhead duly signed by the Head of Institution, an undertaking to furnish all UCs, SoE, and any other financial or administrative documents required by the SIA or DST for audit and compliance purposes.
- Department of Science and Technology shall provide 80% of the fellowship on a monthly basis, while the Indian parent institution shall provide the 20% fellowship amount to the applicant, if selected as a fellow. The parent institute must furnish an undertaking on official letterhead, duly signed by the Head of Institution, confirming the same. SIA shall reimburse the amount after submission of the completion report and approval by the DST–National Expert Advisory Committee (NEAC).
- Institutions may also recruit and register new Postdoctoral scholars specifically for undertaking research in the research themes identified under this programme. Such recruitment must follow the institution's approved admission procedures, and candidates must possess the necessary basic qualifications and demonstrated aptitude for work in hydrogen science and technology. Once formally registered, these scholars shall be eligible to apply, provided they meet all other eligibility conditions. This provision is included to ensure the availability of suitably prepared scholars, as hydrogen research domains are emerging and may not align with the current topics of already-registered students.

**(B) Faculty Fellowship (Assistant/Associate professor level only)**

- The applicant must be a full-time, regular faculty member (Assistant Professor or Associate Professor level) at a recognized Indian university or R&D institution.
- The applicant must be actively engaged in teaching and/or research related to hydrogen technologies, energy systems, or allied interdisciplinary fields relevant to the research themes identified under this programme.
- Prior to submission of the application against the CfP, the applicant must obtain a conditional admission or acceptance letter from the host institution confirming their willingness to host the faculty for the stated duration and research theme
- The Indian parent institution must provide an NOC, stating that the applicant is permitted to undertake the fellowship for the approved duration while retaining their employment status in India.
- Faculty Fellows shall continue to draw their regular salary from their parent institution in India. The overseas fellowship is solely for subsistence and research support during the stay abroad. Faculty Fellows shall not receive any salary, honorarium, consultancy fee, or contractual payment from the host institution in the Netherlands

- The faculty shall not accept any other full-time academic or research position abroad during or immediately after the fellowship and must continue their employment work at the parent institute.
- The Indian parent institution shall provide, on its official letterhead duly signed by the Head of Institution, an undertaking to furnish all UCs, SoE, and any other financial or administrative documents required by the SIA or DST for audit and compliance purposes.
- For faculty fellows, DST shall provide at least fifty percent (50%) of the sanctioned fellowship amount. The remaining portion shall be provided by the Indian parent institution or the host institution, which must submit an undertaking on official letterhead confirming its financial commitment. No reimbursement of this portion shall be made by DST.

**Note:** 1. These fellowships are intended for predoctoral-level research. Applicants must be registered Ph.D. scholars in the early or mid-stage of their doctoral programme at the time of application. Applicants who have already been awarded a Ph.D. degree, or who are within eight (8) months of their expected Ph.D. thesis submission date, shall **NOT** be eligible.

2. The above-stated criteria and requirements, DST reserves the right to request additional documents or clarifications at any stage, as deemed necessary.

3. An individual who has already availed the India–Netherlands Hydrogen Fellowship under any category (Doctoral, Postdoctoral, or Faculty) shall not be eligible to apply again under any category in subsequent CfPs, *unless explicitly permitted by DST through a formal notification or amendment to the Scheme Guidelines or CfP*.

## 6. Selection Process

After the applicant must obtain a conditional admission or acceptance letter from the host institution (in the Netherlands) confirming their willingness to host the fellow for the stated duration and research theme.

**Two-Tier Selection System**

### a. Tier I – Preliminary Evaluation

- The NEAC shall conduct an offline evaluation of all submitted applications based on, but not limited to, the following parameters:

  - Submission is as per CfP.
  - Quality and clarity of the research proposal and proposed approach.
  - Relevance of the topic to India's hydrogen ecosystem.
  - Strength and preparedness of the applicant, parent institution, and proposed host institution.
  - Potential for skill development, indigenization, and technology adaptation.
  - Completeness and authenticity of the documents submitted.

**b. Tier II – Presentation and Interaction**

- Shortlisted applicants from Tier I shall be invited to defend their proposed research topic and solution approach before the NEAC. This stage may include a technical interaction round to assess (indicative):

  - Depth of subject knowledge and research methodology
  - Practical feasibility and innovation potential of the proposed work; and
  - Its contribution to indigenization (Atmanirbhar Bharat potential) and applicability within India's Hydrogen framework.

Note: The selected applicants will be recommended for a fellowship to DST by the DST-NEAC. The final decision regarding the award of the fellowship shall rest solely with DST and will be subject to its discretion and the availability of funds.

**7. Funding Mechanism**

- The fellowship shall be governed by the funding norms and administrative procedures prescribed under the Climate, Energy and Sustainable Technology (CEST) Division funding guidelines, issued in accordance with the Department of Science and Technology (DST) rules and policies. It shall be implemented under the thematic area 'Hydrogen and Fuel Cell (HFC) Technologies' and the stream 'Establishment of Centres of Excellence (CoEs) / Hubs', or any restructured, renamed, or successor divisions, thematic areas, or programme streams notified by DST from time to time.
- Fellowship duration for each category will be as per clause 3.
- DST fellowship shall be provided in accordance with the prevailing monthly cost-of-living norms prescribed by the Immigration and Naturalisation Service (IND), Government of the Netherlands.
- DST will serve as the primary funding agency providing a fellowship for all selected fellows, while the host institute may offer an additional top-up to the fellows.
- Bench fees for Ph.D. and Post-Doctoral Fellows may be either levied or waived by the host institution. If levied, such costs shall be managed by the fellow within the fellowship support provided, and no extra amount shall be provided for the same by DST.
- DST will provide a single lump-sum grant to cover visa processing, round-trip economy-class travel, and relocation expenses for selected Ph.D. and Post-Doctoral fellows. This lump-sum support shall NOT be provided to faculty and may instead be borne by the parent institution or host institute or by the faculty themselves.
- The following disbursement structure shall apply:
  - Eighty percent (80%) of the total sanctioned amount shall be released as a monthly fellowship for the duration of the fellowship programme.
  - The remaining twenty percent (20%) shall be placed in reimbursement mode, to be claimed by the fellow's parent institute after submission of the completion report and approval by the DST–NEAC.

- This structure aims to ensure credibility, completion of deliverables, and compliance with reporting requirements.

– The fellowship and lump sum amount provided shall be exclusively earmarked for the fellowship and should not be diverted to any other purpose.
– Any expenses incurred before the sanction order shall not be reimbursed.

**7.1 Host Institution In-Kind Contribution and Publication Support**

– The foreign host institution(s) participating under this Programme may extend in-kind contributions, including but not limited to: access to laboratories, research facilities, instrumentation, computational resources, academic supervision, and institutional support services.
– Open-access publication charges (APCs) or similar fees arising from jointly produced research outputs may be borne by the host institution as part of its in-kind support. DST shall not bear any publication fees or article-processing charges under this Scheme unless explicitly provided for in future amendments.

**8. Governance Structure**

– Scheme Guidelines and Call for Proposals (CfP)
o The approved Scheme Guidelines shall serve as the primary reference document for issuing the CfP by DST. The CfP will outline eligibility criteria, submission formats, research topics, and funding mechanisms, etc, in alignment with these guidelines.
– Scheme Implementing Agency (SIA)
o DST will nominate a SIA responsible for the overall coordination and implementation of the scheme.
o The SIA shall be responsible for the following, but not limited to:
- Manage the CfP process, including receipt, compilation, and preliminary scrutiny of all applications.
- Ensure compliance of all submissions with the scheme guidelines and CfP requirements.
- The SIA shall compile all eligible submissions in a standardized format and submit them to DST - National Expert Advisory Committee for evaluation and recommendation.
- Collation of SoE, UC, and any other relevant documents.
- Maintain all project-related documentation and data repositories.
- Organise selection and review (closing) meeting.

– National Expert Advisory Committee (NEAC)
o The NEAC members will be nominated by Secretary - DST, may include domain experts, representatives from partner academic, research institutes, and other stakeholders, as deemed appropriate.
o The NEAC will be chaired by a Subject Matter Expert nominated by Secretary - DST.
o The NEAC shall evaluate and recommend proposals (fellows) received under the scheme.
o Scientist ‘G’ DST, will serve as Observer of the fellow selection process.
o Scientist ‘F’ DST, will serve as the NEAC Member Secretary.

- Financial Management and Reporting
  - DST will release the total sanctioned funds to the SIA for onward disbursement and scheme implementation.
- SIA shall follow the norms under clause 8 - Scheme Implementing Agency (SIA).
  - The SIA shall be entitled to an administrative fee of up to 1% of the total scheme funding, which shall be provided separately.
  - The SIA shall collect and consolidate all UCs, SoEs, and other financial or administrative documents required for audit and compliance purposes.
  - The SIA shall ensure the timely submission of all requisite reports and financial statements to DST.

**9. Fellowship completion and review**

Upon completion of the fellowship, the Fellow shall submit a Fellowship Completion Report (FCR), duly endorsed by the host institution and the Indian parent institution, to the DST–NEAC through the SIA. The SIA may arrange a presentation or interaction, as required, for review of the fellowship outcomes. Upon satisfactory evaluation and approval of the FCR by the DST–NEAC, the Indian parent institution may submit the claim for reimbursement of the remaining twenty percent (20%) of the fellowship amount, along with the required UC, SoE, and other supporting documents, to the SIA for processing

**10. Expected Outcomes**

- **Advancement of Hydrogen Technologies:**
  Fellows are expected to contribute to the development, optimization, or validation of innovative hydrogen production, storage, distribution, or utilization technologies with potential for scalability and commercial application.
- **Capacity Building and Skill Development:**
  The fellowship should enhance national capacity in hydrogen energy research through the development of technical skills, mentorship of students or junior researchers, and collaboration with academic, industrial, or policy stakeholders.
- **Knowledge Generation and Dissemination:**
  Fellows should produce new scientific or technical knowledge that advances understanding of hydrogen systems, such as materials for hydrogen storage, fuel cell efficiency, or green hydrogen production pathways, and share findings through workshops, technical reports, or open-access repositories.
- **Technology Demonstration and Validation:**
  Where applicable, fellows may develop laboratory-scale or pilot-scale demonstrations that validate research findings or assess the feasibility of hydrogen technologies in real-world conditions.
- **Contribution to DST HFC Goals:**

Outcomes should align with and support the objectives of the DST's HFC programme, contributing to India's transition toward clean and sustainable energy systems.

- **Collaboration and Networking:**
  Fellows are expected to engage in interdisciplinary collaboration across institutions and with international partners to strengthen the national hydrogen research ecosystem and promote technology transfer.
- **Policy and Strategic Inputs:**
  Research findings may inform evidence-based policy recommendations, techno-economic assessments, or strategic roadmaps for accelerating hydrogen deployment in India.
- **Societal and Environmental Impact:**
  The fellowship should generate insights or solutions that contribute to reducing carbon emissions, improving energy security, and supporting sustainable economic development through hydrogen-based technologies.

## 11. Non-Compliance, Termination, and Disciplinary Action

- If the fellow, parent institution, or host institution is found to violate the Scheme Guidelines, CfP conditions, improperly utilizes the fund, fails/refuses to submit the UC/SoE/other requested documents, fails/refuses to submit/present the outcomes report, or any terms and conditions of the award, doesn't complete the duration of fellowship, violates the terms under clause 5, host institute raises concern on the credibility of fellows work; DST reserves the right to:
  - Terminate the fellowship with immediate effect.
  - Withhold or recover any unutilized or inappropriately utilized funds.
  - Confiscate or restrict access to any data, reports, or materials generated under the fellowship; and
  - Debar the concerned fellow/faculty, parent institution, and/or host institution from applying to any future DST CfPs or funding programmes.
- The decision of DST in such matters shall be final and binding, and no claims for reinstatement or reconsideration shall be entertained.

## 12. Early Return / Discontinuation by the Fellow

If a fellow is required to return to India before completion of the fellowship duration due to, but not limited to, health reasons, family emergencies, or substantiated concerns regarding the working environment at the host institution, etc, they must immediately notify the SIA and DST in writing through the parent institution. Early discontinuation shall be permitted only with prior written approval from DST. Financial support shall be settled strictly on a pro-rata basis, and any unspent or excess funds shall be returned to DST through the parent institution. DST shall not bear or reimburse any additional expenses arising from early return, including return travel, relocation, visa changes, accommodation, or any other personal or logistical costs; such expenses shall be the responsibility of the fellow or parent institution. In all cases of early return, the fellow must submit all completed, partially completed, or collated research work, data, reports, and any other outputs generated

under the fellowship to DST through the SIA. DST reserves the right to verify the reasons submitted and to determine the eligibility of the fellow for future DST programmes.

**13. Guidelines for Safeguarding of Intellectual Property**

DST shall issue the necessary guidelines for the safeguard of any Intellectual Property Rights (IPR), such as publications, patents, registered designs, or trademarks, generated through research or activities carried out under the India–Netherlands Hydrogen Fellowship Programme (during the fellowship duration). The guidelines shall clearly define the ownership, acknowledgment, and sharing mechanisms between the fellow, the parent institution, and the host institution.

These IPR guidelines may also form a part of the CfP to be issued by the implementing agency to ensure uniform compliance across all fellowship categories.

**14. Ambiguity**

If there is any ambiguity in the interpretation of any content within this document, the decision made by the DST will be considered final.

**15. Power to Amend Guidelines**

DST may make the necessary amendments in the scheme guidelines, as and when required, with the approval of the Hon'ble Minister, Science and Technology.

**********

**Contacts**: Any inquiries to this call should be directed to: (Include subject: India-Netherlands Fellowship Program DST)

**Dr. Ranjith Krishna Pai**
Scientist 'F'/ Senior Director
Program Officer – Hydrogen and Fuel Cell /Hydrogen Valley Innovation Cluster
The Climate, Energy, and Sustainable Technology (CEST) division
Old S&T Block, Room No: 16B
Department of Science and Technology (DST)
Ministry of Science and Technology, Govt. of India
Technology Bhavan, New Mehrauli Road
New Delhi-110016
Ph: 011-26590475
E-mail: ranjith.krishnapai@gov.in