

Shalini Sharma Senior Consultant & Head - Education



#### Confederation of Indian Industry

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Prime Minister's Fellowship Scheme for Doctoral Research Prof. Talat Ahmad Jointly Promoted by Science & Engineering Research Board (SERB) &

Vice-Chancellor

Confederation of Indian Industry (CII)

Jamia Millia Islamia

Jamia Millia Islamia, Encourage PhD fellows to apply for a unique scholarship scheme

Dear Prof Ahmad.

I am writing to draw your attention to an attractive scholarship scheme of Science and Engineering Research Board (SERB) and CII which you could guide your PhD students to apply for. The scheme is called the "Prime Minister's Fellowship Scheme for Doctoral Research" and it provides a scholarship of between Rs 55,000 and Rs 72,800 per month for four years, which is the highest in the country. The idea is to attract those scholars who have a genuine interest in doing research but are unable to take it up due to socio-economic reasons.

A key feature of this scheme is that it provides industry connect to research taking place in academia and encourages young scholars to take up PhD projects which have a component of industrial R&D. The recipients of this scholarship get a Government scholarship, as per Government norms (JRF / SRF + HRA), and partner companies give an equivalent and matching amount for doing research on the problems defined by them.

Several top-notch institutions of the country already host Prime Minister's Fellows and are doing cutting-edge research with industry. These include IIT Bombay, IIT Bombay Monash Academy, IIT Delhi, IIIT Delhi, IIT Hyderabad, IIT Madras, IIT Guwahati, IIT Roorkee, IISER Pune, Punjab Agricultural University, PSG College of Arts and Science, Manipal University, Thiagarajar College of Engineering and several laboratories of CSIR. Partner companies include Forbes Marshall, Thermax, Google India, Microsoft Research, Intel Corporation US, Infosys, Godrej & Boyce and many more. You may refer to the enclosed brochure for more details.

I request you to facilitate an industry connect for your PhD students by tapping the other new Industry-Relevant R&D Scheme of SERB. Under this scheme, SERB will give funds to industry to set up R&D projects with academic partners who can be from institutions. While industry will have to part-fund the cost of the project, up to Rs 50 lakh of funding will also come from SERB for the same project. You may encourage companies to collaborate with you / your institution for such projects and the research fellows could avail Prime Minister's Fellowship.

PM SK Bhosh



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The details of the Prime Minister's Fellowship Scheme are available on the website www.primeministerfellowshipscheme.in.

Should you require more information on this or seek answers to any questions, please feel free to write or call me.

I do hope that you will make use of this excellent opportunity for yourself as well as your students.

Regards

Shalini S. Sharma

**Prof Talat Ahmad** Vice-Chancellor Jamia Millia Islamia New Delhi - 110025

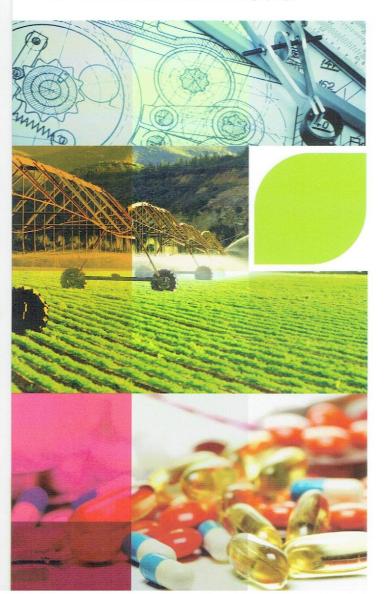




Join India's Most Prestigious PPP R&D Initiative

# PRIME MINISTER'S FELLOWSHIP SCHEME FOR DOCTORAL RESEARCH

A PPP Initiative of Science & Engineering Research Board (SERB) Department of Science & Technology, Government of India and Confederation of Indian Industry (CII)





# 100 FELLOWSHIPS IN THE AREAS OF

SCIENCE | TECHNOLOGY | ENGINEERING AGRICULTURE | MEDICINE

AN OPEN-ENDED SCHEME

#### **ABOUT THE SCHEME**

The scheme supports full-time PhD scholars with a scholarship of up to Rs 8.7 lakh per annum per candidate. The scheme has the provision to award up to 100 new scholarships every year. As per the provisions of the scheme, as approved by the Department of Science and Technology, the scholarship will be given for a maximum period of four years, 50 per cent of which will come from the government and 50 per cent from the partner company.

#### **ELIGIBILITY**

- The applicant should be a full-time PhD scholar in any recognized Indian university / institute / research laboratory. The scholar's PhD registration date should not be more than 14 months from the date of submission of application.
- The applicant should have a valid industry partner who should be ready to support the research project financially as well as provide guidance and mentorship.

#### **BROAD CRITERIA FOR SELECTION**

- The projects should be innovative and of high scientific merit; with discrete R&D as opposed to exploratory investigation.
- The proposed research project should have a high commercialisation potential.
- The applicant, the academic guide and the industry mentor should have strong track record.

# **RESEARCH PROJECTS AWARDED IN 2013 - 2016**

| KI         | RESEARCH PROJECTS AWARDED IN 2013 - 2016   |  |   |  |  |  |  |  |
|------------|--|--|---|--|--|--|--|--|
| S. No      | o. PM Fellow                               | Partner Company  | Partner Institute   | Research Topic   |  |  |  |  |
| 1.         | Abhijnan Chakraborty                       | Google India Pvt. Ltd.                                   | IIT Kharagpur   | Designing Information Retrieval Systems Optimized to Users' Sampling   |  |  |  |  |
| 2.         | Adinarayana Ganjigunta                     | Nuziveedu Seeds Ltd.                                     | A <mark>charya Nagarjuna University</mark>                            | Strategies Improvement of Tropical Maize By Introgression Superior Alleles Responsible   |  |  |  |  |
| 3.         | Ajay Krishnan                              | Godrej & Boyce Mfg Co.<br>Ltd.                           | IIT Bombay  | For Increase Of Lysine, Tryptophan & B - Carotene Influence of Temper Conditions on the Environmentally Assisted Cracking of AA 7085 Alloy   |  |  |  |  |
| 4.         | Akash Dilipkumar Patel                     | Abellon Clean Energy<br>Ltd.                             | Hemchandracharya North Gujarat<br>University                          | Economic and Environmental Potential of Industrially Useful Microalgae cultivation   |  |  |  |  |
| 5.         | Akula Durga Vara<br>Prasad                 | Tata Steel Limited                                       | IIT Bombay  | Microstructural Engineering in Wire Rod: Possibilities?  |  |  |  |  |
| 6.         | Andugulpati Sai Balaji                     | Strand Life Sciences                                     | Karnataka College of Pharmaceutical<br>Sciences, Karnataka University | To Study the Role of ABCC Family of Drug Transporters in Breast Cancer Chemoresistance   |  |  |  |  |
| 7.         | Ankit Kumar Agarwal                        | Sahajanand Medical<br>Technologies Pvt, Ltd.             | ICT Mumbai  | Development of Smart Drug Eluting Stents   |  |  |  |  |
| 8.         | Anup Kundu                                 | Forbes Marshall Pvt.                                     | IIT Bombay  | Numerical and Experimental Investigation of Heat Transfer Enhancement in   |  |  |  |  |
| 9.         | Archana Rajendran                          | Hoganas AB   | CSIR-CERI, Karaikudi  | Heat Exchanger Fabrication of porous Ti and Ti alloys with multi element substituted nano- structured titania layer having bioactivity, antibacterial activity and bone cell   |  |  |  |  |
| 10.        | Ashok Babadev Jagtap                       | Maxim Crop Sciences<br>Pvt. Ltd.                         | Punjab Agricultural University  | responses for biomedical application Identification And Characterization Of High Temperature Stress Responsive Genes In Maize (Zea Mays L.)  |  |  |  |  |
| 11.        | Avick Sinha                                | GE India Technology<br>Center Pvt. Ltd.                  | IIT Bombay  | Numerical and Experimental Study of Superheated Liquid Jet   |  |  |  |  |
| 12.        | Babita Mukhija                             | Sampurn Agri Ventures<br>Pvt. Ltd.                       | Punjab Agricultural University  | Characterization of native Bacillus thuringiensis isolates against Mylabris pustulata Thunberg in Pigeonpea and optimization of Bioprocess parameters  |  |  |  |  |
| 13.        | Barnali Banerjee                           | Shell India Markets Private Limited                      | NIT Rourkela  | Fundamental Investigations of Cationic Surfactants with Bitumen Product Components   |  |  |  |  |
| 14.        | Bhaskar Bethi                              | K-Pack Systems Private<br>Limited                        | NIT Warangal  | Development of pilot scale cavitation assisted catalytic membrane reactor for  |  |  |  |  |
| 15.        | Boyapati<br>Subrahmanyam                   | Intel Corporation, USA                                   | IIT Bombay  | wastewater treatment Low-Noise Nano Scale Signal Conditioning Integrated Circuits for Portable   |  |  |  |  |
| 16.        | Chandresh Kumar<br>Maurya                  | Robert Bosch Engineering and Business Solutions          | IIT Roorkee   | Electro-Medical and Electro-Sensor Applications Anomaly Detection in Big Data  |  |  |  |  |
| 17.        | Chiranjeevi Yarra                          | Limited Xerox India Limited                              | IISc Bangalore  | Analysis of Temporal Contours of Spoken Language Learning  |  |  |  |  |
| 18.        | Darshak Bhatt                              | Intel Corporation, USA                                   | IIT Bombay  | Study and Design of Integrated Mixer and Local Oscillator Topologies for WiFi  |  |  |  |  |
| 19.        | Darsheen Jitendrabhai<br>Kotak             | Zim Laboratories Ltd.                                    | ICT Mumbai  | Design and Development of Non-Invasive Drug Delivery Systems For Large   |  |  |  |  |
| 20.        | Deepak C Akiwate                           | Eaton Technologies Pvt.                                  | IIT Hyderabad   | Molecules<br>Acoustic Analysis of Periodic Structures  |  |  |  |  |
| 21.<br>22. | Deepika Pandey<br>Dhivyaraja Kumaran       | Tata Chemicals Ltd.                                      | Karnataka University  | Study on Production of Gamma-Polyglutamic Acid by Bacillus Sp.   |  |  |  |  |
|            | Diivyaraja Kumaran                         | Corporate Research &<br>Technology, Eaton<br>Corporation | IIT Madras  | Advanced Micro Spray Cooling Technologies For High Power Density Hydraulics  |  |  |  |  |
| 23.        | Dinesh Bapurao Balgude                     | Nova-Surface Care<br>Centre Pvt. Ltd.                    | ICT Mumbai  | Modification of Renewable Resources for Coating Applications   |  |  |  |  |
| 24.        | Ejaz Ahmad                                 | Hindustan Petroleum<br>Corporation Limited               | IIT Delhi   | Catalytic Conversion of Biomass Derived Residual Lignin into Aromatics and   |  |  |  |  |
| 25.        | Govardhan Rao Talluri                      | Maxim Integrated,<br>California                          | IIT Bombay  | Value Added Chemicals High Speed I/Os for Chip to Chip Interconnects   |  |  |  |  |
| 26         | Gundappa Saha                              | Cadila Pharmaceuticals Limited                           | IIT Guwahati  | Immunosuppression during Leishmania infection and immuno-therapeutics  |  |  |  |  |
| 27.        | Gunjan Gurunath Naik                       | Persistent Systems<br>Limited                            | Savitribai Phule Pune University                                      | against the parasite.  Adaptive kernel framework for Active mechanism for effective segmentation   |  |  |  |  |
| 28.        | Gunjan kumar<br>Jagdishbhai Mehta          | Skymax Research &<br>Regulations                         | Saurashtra University, Rajkot,<br>Gujarat, India                      | Isolation, Identification and Evaluation of Quorum Sensing Inhibitors (QSIs)   |  |  |  |  |
| 29.        | Hament Thakur                              | Verdenta Hybrid Seeds Pvt. Ltd.                          | Punjab Agricultural University  | From Medicinal Phytoextracts Genetics and Molecular Phytoextracts Genetics and Molecular Opening Of Leaf Curl Virus Disease Resistance Genetics Children Committee Com |  |  |  |  |
| 30.        | Harshal Agarwal                            | Thermax Ltd.   | AcSIR Chennai   | Gene(S) in Chilli Pepper (Capsicum Annuum L.) Thermal Management of High Temperature Proton Exchange Membrane Fuel Cell (HT-PEMFC) Integrated with Fuel Reformer and Vapor Absorption Machine  |  |  |  |  |
| 31.        | Hiren Kumar<br>Mansukhbhai                 | Solar Agrotech Pvt. Ltd.                                 | Saurashtra University   | Isolation and Evaluation of Anti-Pathogenic Bacteria from Cotton Rhizosphere   |  |  |  |  |
| 32.        | Inayathullah Ghori                         | Kamineni Hospital Ltd.                                   | IIT Hyderabad   | Development of a low-cost screening system devised to identify cardiac   |  |  |  |  |
| 33.        | Indu Elizabeth                             | EON Electric Ltd.  | Academy of Scientific and Innovative Research (AcSIR)                 | diseases in a rural health care setup.  Novel Electrode Materials For Lithium Ion Batteries  |  |  |  |  |
| 34.        | Ishita Das                                 | Krish Biotech Research<br>Pvt. Ltd.                      | NIT Durgapur  | Microbial production of a surfactant and study of its agricultural application   |  |  |  |  |
| 35.        | Jagreeti Gupta                             | Beauscape Farms  | Punjab Agricultural University  | Morphological And Physiological Parameters of Subtropical Ornamental Trees<br>Under Salt Stress  |  |  |  |  |
| 36.        | Jailakshmi Menon                           | Autosys Engineering (P)<br>Ltd.                          | Anna University   | Development of Control Algorithm for Canal Automation  |  |  |  |  |
| 37.        | Jaydeep Bipin<br>Deshpande                 | NanoXpert Technologies                                   | National Chemical Laboratory  | Process Design for the synthesis of Nanomaterials and Scale-up   |  |  |  |  |
| 38.<br>39. | Jyoti Shankar Jha<br>Karanveer Singh Aneja | Bharat Forge Limited Talga Resources Ltd.                | IIT Bombay<br>IIT Bombay  | Microstructure based fatigue modeling of Titanium Alloy (Ti-6AI-4V) Graphene based anticorrosive coatings  |  |  |  |  |
|            |  |  |   |  |  |  |  |  |

#### **SELECTION PROCESS**

A high level Apex Council consisting of members from academia, industry and government will review the applications and select the candidates for award of PM Fellowship.

# **FUNDING SUPPORT**

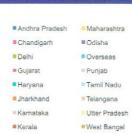
- Fellowships for up to 100 research projects will be supported in every financial year.
- Fellowship amount of up to Rs. 8,70,000/- per annum per candidate

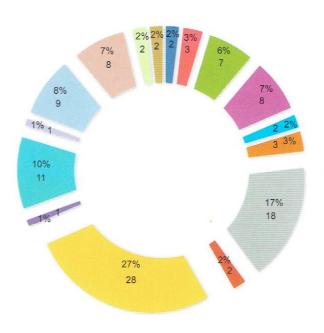
50% contribution is by SERB [being equivalent to the prevailing Government norms for JRF /SRI (inclusive of HRA)]. This amount is subject to revision as per the JRF/SRF norms from time to time Rest 50% (matching equivalent of SERB component) will come from the partner company.

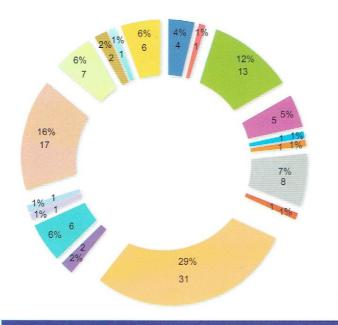
| S. N       | lo. PM Fellow  | Partner Company   | Partner Institute  | Research Topic  |
|------------|--|---|--|---|
| 40         | Palaniswamy  | Joegeetha Plastic Pipes   | Tam <mark>il Nadu A</mark> gricultural <mark>Universit</mark> y                  | Techno - Economic Prospects and Environmental Respective of Reserving   |
| 41         | Rameshchandra Parmar   | Hindustan Petroleum Corporation Limited                                       | IIT Delhi  | Agricultural Plastic Waste towards Sustainable Productivity Catalytic decomposition of methane in fluidized bed reactor.  |
| 42         |  | Sree Akzya Dyeing   | Alagappa University  | Nanoparticles Based Biodegradation & Power Generation by Waste Water  |
| 43         | The state of the s | Morphing Machines Pvt.<br>Ltd.  | Indian Institu <mark>te</mark> of Science, Karnataka                             | Architecture and Compiler Support for Concurrent Program Execution and  |
| 44.        | Manoj Kumar Puniya   | United Phosphorus Ltd. Prathista Industries Limited                           | IIT Bombay<br>Indian Agricultural Research Institute                             | Optimum Design and Scale-up of Air Jet Mills: Experimental and Computation Anthocyanins as ingredients for food industry. Strategy for output                                     |
| 46.<br>47. | Mrityunjay   | Infosys Ltd.<br>Aarti Industries Ltd.   | IIIT Delhi<br>CSIR- NCL Pune   | Mining Peer Code Review Process   |
| 48.        | Kehsavp <mark>rasad Sharma</mark><br>Murugan Ezhumalai   | Arche Biologics   | PSG College of Arts & Science  | Selectivity Engineering of Exothermic Multi-step Reactions using Flow Reactors  |
| 49.        |  | P&G, Beijing  | IIT Bombay   | Designing and Prototyping of Computer Interfaced Embedded Design for<br>Psychological Patients & Future Warrior Hand Wear System  |
| 50.<br>51. |  | Applied Materials, Inc. Tata Chemicals Limited                                | IIT Bombay<br>IIT Bombay - Monash University                                     | Granule Breakage in a Controlled Shear Field - Modelling and Experiments Germanium as Channel Material for Future CMOS Applications   |
| 52.        |  | Petrotech Society   | Research Academy   | Agent based modeling for sustainability assessment  |
| 53.        | Nidhina M Bhaskaran  | Jai Bharath Gum & Chemical Ltd.   | CSIR-CFTRI, Mysore   | Oil-slick Control and Development of an Intelligent Oil-recovery System<br>Biotechnological Approaches for Value Addition of Industrial Guar Meal                                 |
| 54.        | Padma Ishwarya<br>Shankaran  | General Mills India Pvt.<br>Ltd.  | CFTRI Mysore   | A combined computational modeling and experimental approach to investigate the influence of non-wheat particulate ingredients on volume and structure                             |
| 55.        | Piyali Dhar  | Thermax India Limited   | IIT Madras   | Pre-Treatment of Lignin By Non-Conventional Methods and Catalytic   |
| 56.        | Poonam Mishra  | Tata Chemicals Ltd.   | Karnataka University   | Isolation, Purification, characterization and optimization of formatical  |
| 57.        | Porselvam Subramanian  | Envian Engineers Pvt.<br>Limited  | CSIR-CLRI, Chennai   | Study on Influence of Pre-Treatment and Co-Digastion on Biograp Breakers  |
| 58.<br>59. | Pratichi Singh<br>Rahul Dubey  | IBIDEN Co. Ltd. Robert Bosch Engineering and                                  | Banaras Hindu Un <mark>iv</mark> ersity<br>IIT Delhi                             | Quaternary Catalyst for Control of Diesel Engine Exhausts Emissions Adaptive and Intelligent Protection Scheme for Transmission Network Industrial                                |
| 60.        | Rahul Jain   | Business Solutions Ltd.<br>Intel Technology India                             | IIT Delhi  | Facts and Off-Shore Wind-Farms  Runtime System Adaptation for Optimal Energy-Performance Trade-off  |
| 61.        | Rajpreet Kaur Goraya   | Pvt. Ltd. The Punjab State Cooperative Milk Producers Fed Limited             | Punjab Agricultural University   | Development of Low Sugar/Sugar Free Ice Cream and Whey Beverages with Improved Physico-Chemical And Sensory Attributes  |
| 62.<br>63. | Ravi Bhandari<br>Rohit Kumar   | (Milkfed Punjab)<br>Microsoft Research India<br>Petrotech Society             | IIT Bombay<br>IIT Delhi  | Improving Road Safety using Smart Sensing Catalytic Tri-reforming of Methane for Syn-gas Generation over Multi-functional   |
| 64.        | Sajal Saha   | Tata Steel Limited  | Bidhan Chandra Krishi  | Catalysts From Wastes to Assets - Use of Iron Slime in Agriculture  |
| 65.        | Sameena Naaz Malik   | Ozone Research and Application India Pvt. Ltd.                                | Viswavidyalaya<br>IIT Bombay   | Development, Optimization, Modelling and Scale-Up of a High Performance   |
| 66.        | Sameer Kumar Sarma<br>Pachalla   | Preca Solutions India<br>Pvt. Ltd.  | IIT Hyderabad  | Biodegradability Enhancement, Colour and Toxicity Reduction Along With Concomitant Biofuel Production  Effect of Openings in Prestressed Precast Hollow Core Slabs                |
| 67.<br>68. | Sammit Ekanath Karekar<br>Sandeep Kumar  | Suyog Nirmiti<br>Cymk Inks LLP  | ICT Mumbai   | Development of Nanocontainers for Performance Applications  |
| 00         |  |   | University Institute of Engineering<br>and Technology, Kurukshetra<br>University | Synthesis & Characterization of Graphene Based Conductive Ink for Flexible & Printable Electronics  |
| 69.        | Sankaran K   | Trichy Distilleries & Chemicals Ltd.  | NIT Trichy   | Microalgae Treatment of Distillery Wastewater   |
| 70.        | Sankepally Samara<br>Shekar Reddy  | Varsha Bioscience and<br>Technology   | Amity University, Jaipur   | Abiotic stress tolerance in Oryza sativa.L (paddy) mainly drought and salinity  |
| 71.        |  | Piramal Healthcare Ltd.   | IIT Bombay   | Structural Characterization of Regulatory Proteins Useful in Developing   |
| 72.        | Shibin Krishnan Tc   | Simco Global Technology & Systems Ltd.  | National Physical Laboratory (CSIR-NPL)  | Growth of In,Ga(AI), N Based Heterostructures and Characterization for High   |
| 73.        | Narendrakumar Shahani  | Persistent Systems Ltd.   | Savitribai Phule Pune University   | Techniques of Privacy Preserving Data Aggregation in an Untrusted Distributed   |
| 74.<br>75. | Srinivasa Sudharsan<br>Govindan  | Thermax Ltd.<br>Vaata Infra Limited   | IIT Bombay<br>Thiagarajar College of Engineering                                 | Environment Graphene-Based Composite for Capacitive Deionization and Water Purification Advanced Controllers For Optimizing Wind Energy   |
| 76.<br>77. | Subhrakanti Nanda  | Piramal Enterprises Ltd.<br>G.E. Motors Pvt. Ltd.                             | IIT Bombay<br>Bengal Engineering and Science<br>University, Shibpur              | Engineering Amyloids for Nanotechnology and Neuronal Cell Regeneration Investigations on Permanent Magnet Synchronous Concestor (NASO) for  |
| 78.        | Sushrut Sandeep<br>Bhanushali  | Thermax Ltd.  | IIT Bombay   | Different Renewable Energy Sources Investigation of Thermo-Physical Properties of Nanofluids  |
| 79.<br>80. | Vaishakhi Trivedi<br>Veera Asha Kumari Aketi   | Natco Pharma Limited<br>National Mineral<br>Development<br>Corporation (NMDC) | Tata Memorial Hospital<br>IIT Hyderabad  | Characterization of therapeutically relevant alterations in human cancer<br>Improving the Efficiency of Dense Medium Cyclone Treating High NGM Coal<br>Using CFD and PEPT Methods |
| 81.        | Venkatesh Vinayakarao  | Limited<br>Microsoft Research,<br>India                                       | IIIT Delhi   | Semantic Analysis & Synthesis of Source Code  |

### **Geographical Spread of Industry Partners**

A total of 91 companies spread all across the world are partners in the Prime Minister's Fellowship Scheme. These include 80 Indian companies and 11 international companies.







## **Geographical Spread of Institutes**

Andhra Pradesh Odisha Odisha ■ Assam Punjab Delhi Rajasthan ■ Guiarat Sikkim Haryana Tamil Nadu Jharkhand Telangana ■ Karnataka Uttar Pradesh ■ Kerala # Ulttarakhand Maharashtra West Bengal

The 108 candidates receiving the Prime Minister's Fellowship are spread over 50 institutes across 18 states. Maximum number of institutes with PM Fellows are in Tamil Nadu.

# Stream-wise Spread of Research Subjects

Maximum candidates are working an research projects which are in Engineering domain.



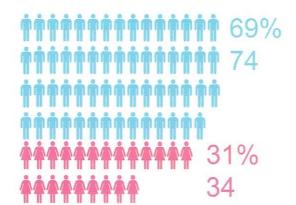














Male
Female

While there are 34 female candidates, there are 74 male candidates.

#### Confederation of Indian Industry (CII)

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