# RESEARCH HORIZONS

The Official Newsletter of the University Grants Office



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Ahmedabad University

### FOREWORD

Dear Colleagues,

Greetings.

I am glad to inform you that Ahmedabad University has decided to publish a research newsletter every quarter. The purpose of the newsletter is inform our colleagues, as well those outside, about the on-going research activities in the various Schools, the research grants awarded to the faculty, the honours and awards received by our faculty , student or staff and the publications resulting from the research efforts of our faculty and students. This newsletter will also inform the faculty about the research funding opportunities available. This publication will be managed by the University Grants Office under the able guidance of Dr. Savita Ayyar, Consultant to Ahmedabad University.

I hope you will find the newsletter interesting and informative.

D. Kunzru Dean, Graduate School & Research



### FUNDING **OPPORTUNITIES**

#### **ABOUT THIS COMPENDIUM**

A funding database has now been created for research at Ahmedabad University, with information on funding schemes, institutional and applicant eligibility criteria, research focus areas, budget provisions, application processes and submission deadlines.

Data in the funding database currently includes the results of a first sweep of the following agencies: Department of Biotechnology (DBT), Department of Science and Technology (DST), Science and Engineering Research Board (SERB), Indian Space Research Organization (ISRO), Board of Research in Nuclear Sciences (BRNS), Indian Council of Medical Research (ICMR), Defence Research and Development Organization (DRDO), Indo-French Centre for Promotion of Advanced Research (IFCPAR/CEFIPRA), UK India Education and Research Initiative (UKIERI), the G2LM/LIC calls from the Institute of Labour Economics and Department of International Development, International Development Research Centre (IDRC), Abdul Latif Jameel Poverty Action Lab (J-PAL), Shastri Indo-Canadian Institute, University Grants Commission (UGC), Indian Council for Social Sciences Research (ICSSR), International Growth Centre (IGC), Ford Foundation, MacArthur Foundation, Biotechnology Industry Research Assistance Council (BIRAC), Technology Development Board (TDB) and Technology Development Fund (DRDO). Information on funding instruments supporting research, international exchange and collaborations and academia-industry collaborations and innovation has been curated for this version of the database.

The grant compendium presented in this edition of the newsletter represents grant opportunities with submission deadlines in the period December 2019- March 2020 or schemes for which there is no specific deadline (rolling schemes).

Several funding agencies now broadcast news, events and details of funding opportunities via social media.

Twitter handles for some funding agencies of interest:



DBT: @DBTIndia DST: @IndiaDST SERB: @serbonline Wellcome Trust/DBT India Alliance: @India\_Alliance ISRO: @isro DRDO: @DRDO\_India IFCPAR/CEFIPRA: @IFCPAR World Wide Fund for Nature India: @WWFINDIA IZA/DFID calls: @GLMLIC IDRC: @IDRC\_CRDI J-PAL: @JPAL SICI: @OfficialSICI UGC: @ugc\_india ICSSR: @icssr IGC partner team in India: @Ideas4India Ford Foundation: @FordFoundation Macarthur Foundation: @macfound BIRAC: @BIRAC\_2012 TDB: @tdbgoi



### **RESEARCH GRANTS**

#### Resources IndiaBiostreams

Webinars by IndiaBioscience



IndiaBiostreams: DBT's Competitive Grant System

Dr. Mohammad Aslam and Dr. Onkar Nath Tiwari join us in the fourth instalment of the interactive webinar series from the Department of Biotechnology, Ministry of Science & Technology, Government of India. In this webinar, the speakers elaborate on the DBT's competitive grant system.

IndiaBioscience brings to the Life Sciences research community IndiaBiostreams, a compilation of webinars and podcasts on a range of interesting matters including science policy, research funding and science careers. A series of webinars by staff from the Department of Biotechnology, including an edition on DBT's competitive grants can be accessed via IndiaBiostreams.

Follow Indiabiostreams at https://indiabioscience.org/indiabiostr eams/indiabiostreams-dbts-competitivegrant-system and @IndiaBioscience

#### Abbreviations:

SAS: School of Arts and Sciences SEAS: School of Engineering and Applied Science AMSOM: Amrut Mody School of Management BLS: Biological and Life Sciences HL: Humanities and Languages MPS: Mathematical and Physical Sciences SS: Social Sciences



#### Agency: Department of Biotechnology (DBT) Scheme: Competitive Research Grant

Agency Remit: Biotechnology

Scheme Remit: Support for research in specific area of Life Sciences Research areas supported: Please see http://dbtindia.gov.in/fundingmechanism/committees-flowchart, Medical Biotechnology; Agriculture, Animal and Allied Sciences; Energy and Environment, Knowledge generation Budget provisions: Equipment, manpower, consumables, travel,

contingency and overheads Deadline: Rolling scheme Weblink: http://dbtindia.gov.in Application process: Submissions via e\_PROMIS: https://www.dbtepromis.nic.in/Login.aspx, forms can be downloaded

via https://www.dbtepromis.nic.in/sample\_forms.aspx

Of particular relevance to: SAS-BLS faculty

#### Agency: Department of Biotechnology (DBT) Scheme: Nanotechnology interventions in Dentistry and Bone diseases

Agency Remit: Biotechnology

Research areas supported: Any area pertaining to (i) oral health and dentistry, including dental diagnostics, prosthodontics, endodontics, conservative and aesthetic dentistry, periodontis and (ii) infective, metabolic and neoplastic involvement of bone, bone tissue engineering Deadline: 10 December 2019

Weblink: http://dbtindia.gov.in

Application process: Submissions via e\_PROMIS:

https://www.dbtepromis.nic.in/Login.aspx, forms can be downloaded via https://www.dbtepromis.nic.in/sample\_forms.aspx Of particular relevance to: SAS-BLS faculty

#### Agency: Indian Council of Medical Research (ICMR) Scheme: Ad-hoc Research Grants (and other modes available as well)

Scheme Remit: To promote research in the country in the field of biomedical research Budget provisions: Rs 1.5 crores Duration: 3– 5 years Deadline: Rolling scheme Weblink: https://www.icmr.nic.in/sites/default/files/extramural/Extra mural\_Projects\_Guidelines.pdf Of particular relevance to: SAS-BLS faculty

### **RESEARCH GRANTS**

#### Agency: Indian Space Research Organization (ISRO) Scheme: RESPOND

Scheme Remit: To establish strong links with academic institutions in the country to carry out research and developmental projects which are of relevance to Space and support ISRO programmes Research areas supported: Space Science, Space Technology and Space Applications, others (for full details see https://www.isro.gov.in/research-and-academia-interface/submission-of-research-proposal ) Budget provisions: Financial grants to support fellowship, materials, consumables, internal travel, testing charges, data and up to 20% overheads

Duration: 3 years

Deadline: Rolling scheme

Weblink: https://www.isro.gov.in/research-and-academia-interface/respond-projects

Application process: Forms available at https://www.isro.gov.in/sponsored-research-respond/proposal-format-0

Of particular relevance to: SAS and SEAS Faculty

#### Agency: Board of Research in Nuclear Sciences (BRNS)

#### Scheme: Research Grants

Agency Remit: To encourage and promote scientific research in areas of relevance to the mandate of DAE in research groups outside DAE to derive benefits from their expertise Scheme Remit: The scheme supports high quality research & development on advanced concepts of relevance to DAE Research areas supported: Physics, material sciences, radiation, food technology, life sciences, lasers and photonics, engineering sciences (for details please see https://brns.res.in/interest.php ) Budget provisions: Funding for equipment, staff salaries, travel, contingency and 15% overheads Duration: 3 years Deadline: Rolling scheme Weblink: https://brns.res.in/brns\_rp.php Application process: Accepted online through the year Of particular relevance to: SAS-BLS, SAS-MPS and SEAS faculty

#### **Agency: Ford Foundation**

#### Agency Remit: Challenging inequality, with a focus on building institutions and networks

Regional focus: The India Office of Ford Foundation supports work in India, Nepal and Sri Lanka Research areas supported: Revised strategic priorities will shortly be available on the Ford Foundation website. There is a focus on (i) Gender, racial and ethnic justice (ii) Civic engagement and Government. Institutional eligibility: FCRA compliant Indian institutions are eligible. Applicants wishing to apply to the Ford Foundation should contact the University Grants Office.

Application process: Idea submission via https://www.fordfoundation.org/work/our-grants/ideasubmission/. The grant making process at Ford Foundation is via co-development and is based on longterm relationships with grantees.

Of particular relevance to: SAS-SS, AMSOM



### YOUNG ACHIEVERS



**Dhana Lakshmi Manyala Mentor: Dr. Dharmesh Varade** School of Engineering and Applied Sciences

Awarded the Science and Technology of Advanced Materials (STAM) Young Scientist Award 2019 at the Asian Conference on Colloids & Interface Science (ACCIS 2019) held in Kathmandu, Nepal on 24-27 September 2019.



#### Brinky Desai Mentor: Dr. Ratna Ghoshal

School of Arts and Sciences Awarded a fellowship from the International Union for Conservation of Nature (IUCN), a global authority monitoring the status of the natural world. The fellowship will partically support her Phd work on "Monitoring reproductive and stress physiology of Marsh crocodiles in Central Gujarat".



## **RESEARCH GRANTS**

#### Agency: Science and Engineering Research Board (SERB) Scheme: Ramanujan Fellowship

Agency Remit: Science and Engineering Scheme Remit: Flexible research funding and personal support, awardee can also apply for project grants Research areas supported: All areas supported by SERB- for more details please see http://serb.gov.in/comm\_structure.php Applicant eligibility: PhD/MD with excellent proven track-record. Age less than 45 years, needs to be nominated by the institution Budget provisions: Rs 1,00,000 for salary + 18,500 HRA and Rs 7 lakh per annum for conferences and other expenses, 60,000 overheads Duration: 5 years Deadline: Rolling scheme Weblink: http://serb.gov.in/rnf.php Of particular relevance to: SAS-BLS, SAS-MPS and SEAS faculty

#### Agency: Science and Engineering Research Board (SERB) Scheme: JC Bose National Fellowships

Research areas supported: All areas supported by SERB Applicant eligibility: PhD, less than 68 years, Needs to be nominated by the institution

Budget provisions: Rs. 25,000 per month in addition to salary drawn from parent institution+ 15 lakh per annum for conferences and other expenses and 1 lakh Overheads

Duration: 5 years

Deadline: Rolling scheme

Weblink: http://serb.gov.in/jcbn.php

Of particular relevance to: SAS-BLS, SAS-MPS and SEAS faculty

#### Agency: Science and Engineering Research Board (SERB) Scheme: SERB Science and Technology Award for Research (SERB-STAR)

Scheme Remit: To assist researchers to initiate their research career in a new institution, one-time career grant.

Applicant eligibility: The nominee should have completed individualcentric SERB project in previous three financial years with "Excellent" grading. Only the PI of such projects and not the Co-PIs shall be eligible; age of the nominee should be within 40 to 50 years as on December 31 Budget provisions: Fellowship of Rs 15,000/- per month, research grant of Rs. 10 lakh per annum and Rs 1 lakh per annum as overhead charges for a period of three years

Duration: 3 years

Deadline: 2 December 2019

Weblink: https://www.serbonline.in/SERB/StarApplication process: Via SERB online portal https://serbonline.in/SERB/Registration.do Of particular relevance to: SAS-BLS, SAS-MPS and SEAS faculty

# **RESEARCH GRANTS**

#### Agency: International Growth Centre (IGC)

#### Scheme: Small and Growing Business (SGB) Evidence Fund

Scheme Remit: Pairing rigorous research with practical needs, the SGB Evidence Fund will accelerate learning in the sector and inform and influence the thinking and practice of practitioners, researchers, policymakers, and funders on the most effective ways to support SGB growth. Focus areas are Africa, South and Southeast Asia and Latin America. Applicant eligibility: Grant can be in either institutional or individual mode Budget provisions: Services, travel costs, 15% overheads for institutions, no maximum or minimum amounts for budget IGC partner country team contact: kumar.das@theigc.org

Weblink: https://www.theigc.org/country/india/

Application process: Applicants should first discuss their proposal with the relevant IGC partner country team

Of particular relevance to: AMSOM

#### **Agency: Macarthur Foundation**

### Agency Remit: Supports creative people, effective institutions, and influential networks building a more just, verdant, and peaceful world

Research areas supported: Climate solutions with a focus on India, Impact investments – financial instruments deployed to generate economic, social, or environmental benefits Institutional eligibility: Applicants wishing to apply to the MacArthur Foundation should contact the University Grants Office.

Weblink: https://www.macfound.org/info-grantseekers/grantmaking-guidelines/climate-solutions/ Application process: Via online portal at https://macfound.fluxx.io/user\_sessions/new Of particular relevance to: AMSOM

#### Agency: World Wide Fund for Nature India (WWF India) Scheme: Small Grants Innovation Program

Agency Remit: To stop the degradation of the planet's natural environment and build a future in which humans live in harmony with nature Scheme Remit: To fund conservation research and initiatives which especially demonstrate innovation that

is replicable, scalable and sustainable

Research areas supported: For details please see website

Applicant eligibility: Applicants must demonstrate sound knowledge of environmental conservation and of the particular geographical area or issue that they wish to contribute to through their project. Budget provisions: Rs 4,00,000

Duration: Up to 2 years

Deadline: 30th November 2019 and 30th April 2020

Weblink: https://www.wwfindia.org/about\_wwf/small\_grants\_innovation\_program/

Of particular relevance to: SAS-BLS Faculty



### **RESEARCH GRANTS**

#### Agency: University Grants Commission (UGC)

#### Scheme: STRIDE Component 2

Scheme Remit: Trans-Disciplinary Research and Inclusive Innovation in Humanities and Human Sciences Applicant eligibility: Young/ mid-career faculty Research areas supported: Inclusive, innovations and national missions related to poverty, gender, health, nutrition, hygiene, agriculture, animal husbandry, environment, disaster management, safety, energy, water, rural development, transport, urbanization, housing, digital knowledge, skill development, entrepreneurship, etc. related to local, regional and national development Budget provisions: Up to Rs 50 lakhs Duration: 3 years Deadline: 30 September 2019- scheme now closed Weblink: https://www.ugc.ac.in/pdfnews/2089255\_STRIDE\_FINAL\_BOOK.pdf

Of particular relevance to: SAS-SS, AMSOM

### Agency: University Grants Commission (UGC)

#### Scheme: STRIDE Component 3

Scheme Remit: High Impact Trans-disciplinary Research in Humanities and Human Sciences Applicant eligibility: Individuals with proven track record to undertake trans- disciplinary research in the fields of Humanities and Human Sciences

Research areas supported: Philosophy, anthropology, archaeology, psychology, behavioural and cognitive sciences, literature and linguistics, digital humanities, liberal arts, Indian languages, culture and Indian Knowledge Systems, law, education, journalism and mass communication, commerce, management and environment and sustainable development

Budget provisions: Up to Rs 5 crores for multi-institutional projects

Duration: Up to 5 years

Deadline: 30 September 2019- scheme now closed

Weblink: https://www.ugc.ac.in/pdfnews/2089255\_STRIDE\_FINAL\_BOOK.pdf

Of particular relevance to: SAS-SS, AMSOM

Private universities supporting grant applications to the UGC, ICSSR and MHRD need to have valid UGC 12(b) registration in place. Ahmedabad University is in the process of acquiring this registration.





### FUNDING FOR INTERNATIONAL EXCHANGE AND COLLABORATIONS

#### Agency: Department of Science and Technology (DST) Scheme: Indian-Israeli Joint Research Cooperation

Scheme Remit: Support for joint research activities carried out by Indian and Israeli researchers Research areas supported: Advanced materials for next gen solar energy utilization and energy storage, Quantum devices And Quantum Technologies for sensing imaging and communication

Applicant eligibility: Projects must be conducted by collaborating Indian and Israeli scientific research teams

Budget provisions: Rs 4 crore for Indian side, covering personnel, exchange visits, joint workshops, minor equipment and overheads

Duration: 2 years

Deadline: 5th December 2019

Weblink: http://dst.gov.in/sites/default/files/For%20website%20-CFP%20India-Israel%202020-2022.pdf Application process: Proposals must be submitted on the Indian side to DST through the e-application system provided at www.onlinedst.gov.in

Of particular relevance to: SEAS Faculty

#### Agency: Indo-French Centre for Promotion of Advanced Research (IFCPAR/CEFIPRA) Scheme: Collaborative Research Programme

Agency Remit: Support for Indo-French Science, Technology & Innovation (ST&I)

Scheme Remit: Support for research groups through high quality collaborative research projects in advanced areas of basic and applied science to nurture scientific competency in India and France Research areas supported: Any discipline of science and technology, identified themes include Pure and Applied Mathematics, Computational sciences, Life & health sciences, Pure and Applied Physics, Pure and Applied Chemistry, Earth & Planetary Science, Materials Science, Environmental Sciences, Biotechnology, Water

Applicant eligibility: Proposal to be jointly submitted by one Principal Collaborator from India and one Principal Collaborator from France, Indian PI to have permanent position in University

Budget provisions: Maximum of 200,000 Euros for both sides together, covering Manpower

(JRF/SRF/RA/Master students for Indian Partners), Recurring Expenses including consumables, domestic travel & miscellaneous expenses/contingencies, International Travel and Equipment : Minor equipment and accessories which are essential for the project with a limit of max. of 10% of total approved budget of the project

Duration: 3 years

Deadline: 15th January 2020

Weblink: http://www.cefipra.org/Collaborative\_Research.aspx

Application process: Submissions via CEFIPRA online portal

Of particular relevance to: SAS-BLS, SAS-MPS and SEAS Faculty



### FUNDING FOR INTERNATIONAL EXCHANGE AND COLLABORATIONS

#### Agency: Department of Science and Technology (DST) Scheme: India-EU Call on Smart and Integrated Local Energy Systems

Agency Remit: Support for Science and Engineering research

Scheme Remit: Aimed at smartly integrating large amounts of renewable energy in local energy systems and in this way make energy supply cleaner, more efficient and affordable.Research areas supported: Develop and demonstrate novel solutions, integrating all energy vectors (electricity, heating, cooling, water, wastes, etc.), including possibilities offered by batteries and electric vehicles, interconnect them and optimize joint operation with increased share of renewables and a higher energy efficiency Applicant eligibility: Minimum THREE applicants from India and minimum THREE entities from Europe Budget provisions: 5-6 million Euros Duration: Not more than 42 months Deadline: 29th January 2020 Weblink: https://dst.gov.in/sites/default/files/Indo-EU%20-Webnotice-SmartGrids-25092019.pdf

Application process: All proposals should be submitted to the Horizon 2020 Funding & Tenders Portal, including the budget requested from DST, as well as to the DST online portal (e-PMS)

Of particular relevance to: SEAS Faculty

#### Agency: Department of Biotechnology (DBT)

#### Scheme: Indo-German Fundamental Research Projects

Agency Remit: Support for Biotechnology research

Scheme Remit: Support for synchronized funding for integrated Indo- German cutting-edge fundamental research projects proposing innovative approaches

Research areas supported: Fundamental research in all fields of Life Sciences

Applicant eligibility: Proposal to be jointly submitted by one Principal Collaborator from India and one Principal Collaborator from Germany, Indian PI to have permanent position in University

Budget provisions: Equipment, personnel, exchange, Consumables, Contingency, Outsourcing, overheads Duration: 5 years

Deadline: 31st December 2019

Weblink: http://dbtindia.gov.in/sites/default/files/DBT\_Proposal-Submission-Proforma.pdf Application process: Identical application packages to be submitted to DBT and DFG, independent review at both ends, award to proposals recommended for funding on both sides Of particular relevance to: SAS-BLS, SEAS Faculty



### FUNDING FOR ACADEMIA-INDUSTRY COLLABORATIONS

Agency: Biotechnology Industry Research Assistance Council (BIRAC) Scheme: Promoting Academic Research Conversion to Enterprise- Academic Innovation Research (PACE-AIR)

Agency Remit: To strengthen and empower the emerging Biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs Scheme Remit: To promote development of Proof-of-concept (PoC) for a process/product by academia with or without the involvement of industry Applicant eligibility: Primary applicant should be from academia Budget provisions: Rs 50 lakhs Duration: 18 months Deadline: 30 November 2019 Weblink: https://www.birac.nic.in/desc\_new.php?id=286 Application process: Online via BIRAC website Of particular relevance to: SAS-BLS and SEAS Faculty

#### Agency: Biotechnology Industry Research Assistance Council (BIRAC) Scheme: Promoting Academic Research Conversion to Enterprise- Contract Research Scheme (PACE-CRS)

Scheme Remit: Aims at validation of a process or prototype (developed by the academia) by the industrial partner

Applicant eligibility: Academia has to be the Primary Applicant with one or more partners of which at least one is a company

Budget provisions: While funding is provided to the academia for In-House research which forms a part of validation of the Proof of Concept, funds are provided to the industrial partner for validation. Deadline: 30 November 2019

Weblink: https://www.birac.nic.in/desc\_new.php?id=286

Application process: Online via BIRAC website

Of particular relevance to: SAS-BLS and SEAS Faculty



### FUNDING FOR ACADEMIA-INDUSTRY COLLABORATIONS

#### Agency: Technology Development Board (TDB) Scheme: TDB-CEFIPRA-Bpifrance

Agency Remit: To promote development and commercialization of indigenous technology and adaptation of imported technology for wider application.

Scheme Remit: To support exchanging of best practices and the setting up of coordinated measures to foster technological exchanges and innovation, collaborations between companies, organizations and institutions of France and India, implemented by CEFIPRA

Research areas supported: Aeronautics, Automotive, Biotechnology with a special emphasis on health biotechnology

Applicant eligibility: at least one industrial partner each from India & France (1+1 Model) but can also include academic partners on a 2+2 model

Budget provisions: Funding from TDB is as a repayable loan for specific budget categories as detailed in scheme guidelines

Duration: 3 years

Deadline: 31st December 2019, and on a quarterly basis

Weblink: http://www.cefipra.org/Collaborative\_Research.aspxApplication process: Soft copy and paper-based submission

Of particular relevance to: SAS-BLS and SEAS Faculty





For the period January - May 2019

#### Seed grants

Pratishtha Pandya **"Writing a book on "Under Erasure: Privatization and Humanities Education in 21st Century Gujarat"** 2 lakhs INR, 7 months

Shashi Prakash **"CO2 laser cutting of thin glass sheets for microfluidic applications"** 2 lakhs INR, 1 year

#### Startup grants

Krishna Swamy **"Experimental co-evolution of yeast and bacteria to unravel the impetus for the evolution of fermentation as a quantitative trait in yeast"** 21.72 lakhs INR, 3 years

#### **International Travel grants**

Manomohini Dutta 229th Annual Meeting of the American Oriental Society to be held in Chicago, USA 1.5 lakhs INR

Supratim DasGupta 83rd Annual Meetings in St. Louis, Missouri, USA 1.5 lakhs INR

Pallavi Vyas 24th Society of Labor Economists (SOLE), Arlington, VA, USA 1.5 lakhs INR

Samuel Wright 11th International Conference of Asian Scholars (ICAS), Leiden 1.32 lakhs INR

Dharamashi Rabari COIL (International Congress on Ionic Liquids -8), Beijing, China 1.5 lakhs INR

Keyur Joshi INNS 20th EANN 2019 (International Conference on Engineering Applications of Neural Networks) 1.5 lakhs INR



For the period January - May 2019

Chirag Trivedi Recalibrating Diasporas: Asia Pacific and the Spaces Beyond, Murdoch University in Perth, Western Australia 1.3 lakhs INR

Amol Agrawal 2nd Annual Economic History of South Asia Workshop organized by London School of Economics 1.4 lakhs INR

#### **External grants**

Vivek Tanavde and Shanaya Patel **"Identification of Salivary Exosomes derived miRNAs as potential early diagnostic biomarkers in oral cancer patients: a liquid biopsy approach"**29.12 lakhs INR, 2 years
Gujarat State Biotechnology Mission

Ratna Ghosal and Jitendra Sundaray, ICAR, Bhubhaneswar **"Ecological assessment of the exotic sailfin catfishes in the Indian freshwater systems and developing a species-specific molecular tool to measure their detection in the wild"** 58.18 lakhs INR, 3 years Science and Engineering Research Board

Mary Ann Chacko, Leya Mathew, Karishma Desai, R Maithreyi and Vidya Subramanian **"Addressing Dissonances Between Education Research and Post-Market Reform Society in India"** USD 49,868.22, 2 years Spencer Foundation, United States of America

Subhash Rajpurohit **"Cuticle soft or hard: how do insects balance water?"** 22.12 lakhs INR, 3 years Science and Engineering Research Board

Aditya Vaishya INSPIRE Faculty Award Department of Science and Technology, Government of India (Transferred from Vikram Sarabhai Space Centre, Thiruvananthapuram)

Leya Mathew **"Shifting Science Identities and Appropriate Femininities at a Pharmacy College in India"** USD 70,000, 2 years US National Academy of Education/Spencer Foundation



Ahmedabad University

For the period June-October 2019

#### Seed grants

Pallavi Vyas **"Does information dissemination on the XY chromosome lead to a change in son seeking behavior?"** 1.54 lakhs INR, 1 year

Arijit Ganguli **"CFD studies for extraction of oleuropein from olive oil in micro-channels"** 2 lakhs INR, 1 year

#### **International Travel grants**

Jeemol Unni 28th IAFFE Annual conference at Glasgow Caledonian University, Scotland, UK 1.2 lakhs INR

Abrar Ali Sayed Annual meeting, Copenhagen and at 9th Atlas AFMI conference, French Association of International Management, Fribourg, Switzerland 1.47 lakhs INR

Keita Omi International Studies Association (ISA) Asia-Pacific Conference 2019, Nanyang Technological University (NTU One-North campus), Singapore 0.49 lakhs INR

Swati Ghulyani AOM 2019 Annual Conference at Boston, USA 1.33 lakhs INR

Sridhar Dalai 22nd Conference on Process Integration, Modelling, and Optimisation for Energy Saving and Pollution Reduction (PRES19), Agios Nikolaos (Crete, Greece) 1.5 lakhs INR

Aparajith Ramnath 2019 Annual Meeting of the Society for the History of Technology (SHOT) at Milan, Italy 0.64 lakhs INR

#### **External grants**

Mitaxi Mehta **"An Iterated Symplectic Map for Understanding Hamiltonian Chaos"** 6.6 lakhs INR, 3 years Science and Engineering Research Board



For the period June-October 2019

Sanjay Singh, Dharmesh Varade and Shashi Prakash **"High Throughput Synthesis of Nanoliposomes in Microfluidic Reactors for Efficient Delivery of Anticancer Drugs"** 30,80 lakhs INR, 3 years Board of Research in Nuclear Sciences

Raghavan Rangarajan, Gaurav Goswami and Alexander Dolgov, Novosibirsk State University "Cosmological dark matter, primordial black holes, Bose-Einstein condensates, and charge asymmetry of the Universe"

40.91 lakhs INR, 3 years Department of Science and Technology (DST), Government of India under Indo-Russian call for Joint Proposals

Darshini Mahadevia & Minal Pathak "Opportunities for Climate Mitigation and Sustainable Development (OPTIMISM)"

85.57 Lakhs INR, 2 years

Funded by the Natural Environment Research Council (NERC), UK, The Rockefeller Foundation and the Economic & Social Research Council (ESRC) UK, via the Department of Biotechnology, Government of India

Sanjay Singh

**"Development of catalytic nanomaterials for non-invasive imaging and phenotyping of cancer cells"** 30 lakhs INR, 3 years Indian Council of Medical Research





For the period January - May 2019

#### Books and Book Chapters

Patel M., Chaudhary S., Garg S., (2019). vMeasure: Performance Modeling for Live VM Migration Measuring, Lecture Notes in Networks and Systems, 39, 185-195.

Vaz C., Tanavde V., (2019). Proteomics, Omics Approaches, Technologies And Applications: Integrative Approaches For Understanding OMICS Data, 57-73.

#### **Publications**

Al-Tahmeesschi A., Lopez-Benitez M., Patel D.K., Lehtomaki J., Umebayashi K., (2019). On the sample size for the estimation of primary activity statistics based on spectrum sensing. IEEE Transactions on Cognitive Communications and Networking, 5(1) ,59-72.

Bajer P.G., Ghosal R., Maselko M., Smanski M.J., Lechelt J.D., Hansen G., Kornis M.S., (2019). Biological control of invasive fish and aquatic invertebrates: A brief review with case studies. Management of Biological Invasions, 10(2) ,227-254.

Baxi H., (2019). Social expenditure and human development in Gujarat. Economic and Political Weekly, 54(14) ,58-64.

Berenschot W., Bagchi S., (2019). Comparing Brokers in India: Informal Networks and Access to Public Services in Bihar and Gujarat. Journal of Contemporary Asia.

Bhat S.D., (2019). Ambulocetus versus Trishanku: 'Nowhere' space, diaspora and genealogical tourism through Paleontology and Hindu Mythology. Journal of Tourism and Cultural Change.

Bhat S.D., (2019). e-Diaspora, the Great War and Sikh military migration to Canada: Commemorating Buckam Singh. Sikh Formations: Religion, Culture, Theory.

Bhat S.D., (2019). Hackneying hybridity? Fending off 'foreignness', Khoja Community and hybridisation in The Magic of Saida. Culture and Religion, 20(1) ,21-38.

Chacko, M.A. (2019). Freedoms in the khaki: gendering a 'gender-neutral' uniform, Gender and Education, 1-17.

Durmaz E., Rajpurohit S., Betancourt N., Fabian D.K., Kapun M., Schmidt P., Flatt T., (2019). A clinal polymorphism in the insulin signaling transcription factor foxo contributes to life-history adaptation in Drosophila\*. Evolution, 73(9) ,1774-1792.

Dutta M., (2019). Dāya: The Conceptual Understanding of Inheritance and Gift in the Dāyabhāga. Journal of Indian Philosophy, 47(1) ,111-131.

Jhala D., Rather H., Kedaria D., Shah J., Singh S., Vasita R., (2019). Biomimetic polycaprolactone-chitosan nanofibrous substrate influenced cell cycle and ECM secretion affect cellular uptake of nanoclusters. Bioactive Materials, 4(1) ,79-86.



For the period January - May 2019

Kanth A.P., Singh M.R., (2019). Vibrational spectroscopy and SEM-EDX analysis of wall painted surfaces, Orchha Fort, India. Journal of Archaeological Science: Reports, 24,434-444.

Kavaiya S., Patel D.K., Guan Y.L., Sun S., Chang Y.C., Lim J.M.-Y., (2019). On the Energy Detection Performance of Arbitrarily Correlated Dual Antenna Receiver for Vehicular Communication. IEEE Communications Letters, 23(7) ,1186-1189.

Kuchibhatla S.V.N.T., Karakoti A.S., Vasdekis A.E., Windisch C.F., Seal S., Thevuthasan S., Baer D.R., (2019). An unexpected phase transformation of ceria nanoparticles in aqueous media. Journal of Materials Research.

Kureshi S., Thomas S., (2019). Online grocery retailing – exploring local grocers beliefs. International Journal of Retail and Distribution Management, 47(2) ,157-185.

Lopez-Benitez M., Al-Tahmeesschi A., Patel D.K., Lehtomaki J., Umebayashi K., (2019). Estimation of Primary Channel Activity Statistics in Cognitive Radio Based on Periodic Spectrum Sensing Observations. IEEE Transactions on Wireless Communications, 18(2),983-996.

Mahadevia D., Bhatia N., Sebastian R., (2019). Gender Responsive Budgeting for Indian Cities: The Case of Bhopal and Pune. Environment and Urbanization ASIA, 10(1) ,44-62.

Mittal S., Ahlgren E.O., Shukla P.R., (2019). Future biogas resource potential in India: A bottom-up analysis. Renewable Energy, 141,379-389.

Modi P., Patel S., Chhabria M.T., (2019). Identification of some novel pyrazolo[1,5-a]pyrimidine derivatives as InhA inhibitors through pharmacophore-based virtual screening and molecular docking. Journal of Biomolecular Structure and Dynamics, 37(7) ,1736-1749.

Nguyen M.N., Sen N., Lin M., Joseph T.L., Vaz C., Tanavde V., Way L., Hupp T., Verma C.S., Madhusudhan M.S., (2019). Discovering Putative Protein Targets of Small Molecules: A Study of the p53 Activator Nutlin. Journal of Chemical Information and Modeling, 59(4) ,1529–1546.

Patel P., Meghani N., Kansara K., Kumar A., (2019). Nanotherapeutics for the treatment of cancer and arthritis. Current Drug Metabolism, 20(6) ,430-445.

Punjabi S.B., Barve D.N., Joshi N.K., Das A.K., Kothari D.C., Ganguli A.A., Sahasrabhude S.N., Joshi J.B., (2019). Computational fluid dynamics (CFD) simulations and experimental measurements in an inductivelycoupled plasma generator operating at atmospheric pressure: Performance analysis and parametric study. Processes, 7(3).

Rajpurohit S., Schmidt P.S., (2019). Latitudinal pigmentation variation contradicts ultraviolet radiation exposure: A Case Study in Tropical Indian Drosophila melanogaster. Frontiers in Physiology, 10.



For the period January - May 2019

Saini B., Khuntia S., Sinha M.K., (2019). Incorporation of cross-linked poly(AA-co-ACMO) copolymer with pH responsive and hydrophilic properties to polysulfone ultrafiltration membrane for the mitigation of fouling behavior. Journal of Membrane Science, 572,184-197.

Shah A., Gupta S.S., (2019). Anti-leishmanial nanotherapeutics: A current perspective. Current Drug Metabolism, 20(6) ,473-482.

Shaikh M.M., Patel A.P., Patel S.P., Chikhalia K.H., (2019). Synthesis, in vitro COX-1/COX-2 inhibition testing and molecular docking study of novel 1,4-benzoxazine derivatives. New Journal of Chemistry, 43(26), 10305-10317.

Singh R., Bhullar N., Sankaran K., (2019). Leader-versus-member and fair-versus-biased categorisations as safeguards against negative effects of demographic diversity on group attraction. IIMB Management Review, 31(1) ,7-19.

Singh R., Singh S., (2019). Redox-dependent catalase mimetic cerium oxide-based nanozyme protect human hepatic cells from 3-AT induced acatalasemia. Colloids and Surfaces B: Bio interfaces, 175,625-635.

Singh S., (2019). Emerging trends in nanotechnology: Nanozymes, imaging probes and biosensors and nanocarriers, 20(6), 414-415.

Thomas S., Kureshi S., Vatavwala S., (2019). Cause-Related Marketing Research (1988–2016): An Academic Review and Classification. Journal of Nonprofit and Public Sector Marketing.

Vallabani N.V.S., Singh S., Karakoti A.S., (2019). Magnetic nanoparticles: Current trends and future aspects in diagnostics and nanomedicine. Current Drug Metabolism, 20(6) ,457-472.

Varade D., Iki S., Aramaki K., (2019). Tuning the viscoelastic properties of wormlike surfactant micelles by oil solubilization. Journal of Nanofluids, 8(2),379-385.

Varghese G., Madhavan V., (2019). Nonlinear dynamics in crude oil benchmarks: an AMH perspective. Applied Economics Letters, 26(21), 1798-1801.

Waisman H., Bataille C., Winkler H., Jotzo F., Shukla P., Colombier M., Buira D., Criqui P., Fischedick M., Kainuma M., La Rovere E., Pye S., Safonov G., Siagian U., Teng F., Virdis M.-R., Williams J., Young S., Anandarajah G., Boer R., Cho Y., Denis-Ryan A., Dhar S., Gaeta M., Gesteira C., Haley B., Hourcade J.-C., Liu Q., Lugovoy O., Masui T., Mathy S., Oshiro K., Parrado R., Pathak M., Potashnikov V., Samadi S., Sawyer D., Spencer T., Tovilla J., Trollip H., (2019). A pathway design framework for national low greenhouse gas emission development strategies. Nature Climate Change, 9(4) ,261-268.



For the period January - May 2019

#### **Conference Proceedings**

Chauhan V., Joshi K.D., Surgenor B., (2019). Image classification using deep neural networks: transfer learning and the handling of unknown images, Communications in Computer and Information Science, 1000, 274-285.

Galiyawala H., Shah K., Gajjar V., Raval M.S., (2019). Person Retrieval in Surveillance Video using Height, Color and Gender, Proceedings of AVSS 2018 - 2018 15th IEEE International Conference on Advanced Video and Signal-Based Surveillance.

Gurnani A., Shah K., Gajjar V., Mavani V., Khandhediya Y., (2019). SAF- BAGE: Salient approach for facial soft-biometric classification – Age, gender, and facial expression, Proceedings – 2019 IEEE Winter Conference on Applications of Computer Vision, WACV 2019, 839–847.

Jambudi T., Gandhi S., (2019). A new k-means-based algorithm for automatic clustering and outlier discovery, Smart Innovation, Systems and Technologies, 107, 457-467.

Panara A.M., (2019). Uncovering the Super-Plant: Improving Domestic Water Reuse, GHTC 2018 - IEEE Global Humanitarian Technology Conference, Proceedings.

Singh R., Singh S., (2019). Catalytically active cerium oxide nanoparticles protect mammalian cells from endogenous reactive oxygen species, Materials Today: Proceedings,10, 25-31.

Vegda H., Modi N., (2019). Secure and Efficient Approach to Prevent Ad Hoc Network Attacks Using Intrusion Detection System, Proceedings of the 2nd International Conference on Intelligent Computing and Control Systems, ICICCS 2018, 129-133.

#### Books and Book Chapters

#### For the period June - October 2019

Acri A., Ghani K., Jha MK., Mukherjee S. 2019. "Introduction", in Imagining Asia(s): Networks, Actors, Sites. Edited by Andrea Acri, Kashshaf Ghani, Murari K. Jha, Sraman Mukherjee (Singapore: ISEAS – Yusof Ishak Institute): 1-13.

Bajpayee M., Kumar A., Dhawan A., (2019). The Comet Assay: Assessment of In Vitro and In Vivo DNA Damage, Methods in Molecular Biology, 2019-January, 237-257.

Jha, MK. 2019. "In Pursuit of Knowledge from Asia: Francois Valentijn on the Hindu Social Divisions in the Coromandel Region, c. Seventeenth – Eighteenth Century". In Imagining Asia(s): Networks, Actors, Sites. Edited by Andrea Acri, Kashshaf Ghani, Murari K. Jha, Sraman Mukherjee (Singapore: ISEAS – Yusof Ishak Institute): 93 – 124

Panchal D., Patel R., Siddheshwari M., Rahaman E., Patel V., Karakoti A.S., (2019). CHAPTER 4: NP-Protein Corona Interaction: Characterization Methods and Analysis, Issues in Toxicology, 2019-January (40), 80-131.



For the period June - October 2019

Patel P., Kumar A., (2019). CHAPTER 3: Factors Affecting a Nanoparticle's Protein Corona Formation, Issues in Toxicology, 2019-January (40), 61-79.

Raijiwala P., Pandya A., Shukla R.K., (2019). CHAPTER 5: An Analytical Approach to Investigate Nanoparticle-Protein Corona Complexes, Issues in Toxicology, 2019-January (40), 132-162.

Shah J., Singh S., (2019). CHAPTER 1: Nanoparticle-Protein Corona Complex: Composition, Kinetics, Physico-Chemical Characterization, and Impact on Biomedical Applications, Issues in Toxicology, 2019-January (40), 1-30.

#### **Publications**

Bhagat S., Parikh Y., Singh S., Sengupta S., (2019). A novel nanoliposomal formulation of the FDA approved drug Halofantrine causes cell death of Leishmania donovani promastigotes in vitro. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 582.

Das S., Rangarajan R., (2019). A plausible solution to the problem of initial conditions for inflation. International Journal of Modern Physics D.

Goswami G., (2019). Enhancement of axion decay constants in type IIA theory?. Physical Review D, 100, 066009.

Gupta G.S., Kansara K., Shah H., Rathod R., Valecha D., Gogisetty S., Joshi P., Kumar A., (2019). Impact of humic acid on the fate and toxicity of titanium dioxide nanoparticles in Tetrahymena pyriformis and zebrafish embryos. Nanoscale Advances, 1(1) ,219-227.

Jain N., Chapman M.R., (2019). Bacterial functional amyloids: Order from disorder. Biochimica et Biophysica Acta - Proteins and Proteomics, 1867(10) ,954-960.

Jain V., Bhagat S., Singh M., Bansal V., Singh S., (2019). Unveiling the effect of 11-MUA coating on biocompatibility and catalytic activity of a gold-core cerium oxide-shell-based nanozyme. RSC Advances, 9(57) ,33195-33206.

Kalam A., Al-Sehemi A.G., Mahapatra A., Verma D., Trivedi S., Pandey M.K., (2019). Identification of defects and defect energy distribution in the perovskite layer of MAPbI3-xClx perovskite solar cell. Materials Research Express, 6(10).

Kansara K., Paruthi A., Misra S.K., Karakoti A.S., Kumar A., (2019). Montmorillonite clay and humic acid modulate the behavior of copper oxide nanoparticles in aqueous environment and induces developmental defects in zebrafish embryo. Environmental Pollution ,255.



For the period June - October 2019

Kanth A.P., Singh M.R., (2019). Spectroscopic and chromatographic investigation of the wall painted surfaces of an 18th century Indian temple, New Delhi. Vibrational Spectroscopy, 104.Kapoor N., Ahmed S., Shukla R.K., Badiye A., (2019). Development of submerged and successive latent fingerprints: a comparative study. Egyptian Journal of Forensic Sciences, 9(1).

Kapoor N., Ahmed S., Shukla R.K., Badiye A., (2019). Development of submerged and successive latent fingerprints: a comparative study. Egyptian Journal of Forensic Sciences, 9(1).

Madhavan V., Ray P., (2019). Price and Volatility Linkages Between Indian Stocks and Their European GDRs. Journal of Emerging Market Finance, 18, S213-S237.

Mahadevia D., Lathia S., (2019). Women's safety and public spaces: Lessons from the sabarmati riverfront, india. Urban Planning, 4,154-168.

Modi K.J., Garg S., Chaudhary S., (2019). An integrated framework for ReStful web services using linked open data. International Journal of Grid and High Performance Computing, 11(2),24-49.

Modi P., Patel S., Chhabria M., (2019). Structure-based design, synthesis and biological evaluation of a newer series of pyrazolo[1,5-a]pyrimidine analogues as potential anti-tubercular agents. Bioorganic Chemistry, 87,240-251.

Patel D.K., Soni B., López-Benítez M., (2019). On the estimation of primary user activity statistics for long and short time scale models in cognitive radio. Wireless Networks.

Prakash S., (2019). Experimental investigation of surface defects in low-power CO2 laser engraving of glass fiber-reinforced polymer composite. Polymer Composites.

Shah M., Shah J., Arya H., Vyas A., Vijapura A., Gajipara A., Shamal A., Bakshi M., Thakore P., Shah R., Saxena V., Varade D., Singh S., (2019). Biological Oxidase Enzyme Mimetic Cu-Pt Nanoalloys: A Multifunctional Nanozyme for Colorimetric Detection of Ascorbic Acid and Identification of Mammalian Cells. ChemistrySelect, 4(21),6537-6546.

Singhai R., Sinhmar H., Banker N.D., (2019). Effect of Aspect Ratio of Heliostat on Cost of Energy from Solar Power Tower Plants. Arabian Journal for Science and Engineering.

Vachharajani V., Pareek J., (2019). Framework to approximate label matching for automatic assessment of use-case diagram. International Journal of Distance Education Technologies, 17(3) ,75-95.

Vallabani N.V.S., Sengupta S., Shukla R.K., Kumar A., (2019). ZnO nanoparticles-associated mitochondrial stress-induced apoptosis and G2/M arrest in HaCaT cells: a mechanistic approach. Mutagenesis, 34(3) ,265-277.



For the period June - October 2019

Vallabani N.V.S., Singh S., Karakoti A.S., (2019). Investigating the role of ATP towards amplified peroxidase activity of Iron oxide nanoparticles in different biologically relevant buffers. Applied Surface Science, 492, 337-348.

Vashi D., Bhadka H.B., Patel K., Garg S., (2019). Implementation of attribute based symmetric encryption through vertically partitioned data in PPDM. International Journal of Engineering and Advanced Technology, 8(6) ,5384-5390.

#### **Conference Proceedings**

Asal R., Bhagat S., Singh S., (2019). Development of liposome-based antioxidant nanoconstruct for efficient delivery of PTEN plasmid, Materials Today: Proceedings, 10, 6-65.

Gaiera B., Patel D.K., Soni B., López-Benítez M., (2019). Performance Evaluation of Improved Energy Detection under Signal and Noise Uncertainties in Cognitive Radio Networks, Proceedings – 2019 IEEE International Conference on Signals and Systems, ICSigSys 2019, 131-137.

Hemnani K., Hamernik D., Brozek J., Sotek K., (2019). Comparison of different self-developed simulation driver seats with two, four and six servos, Lecture Notes in Electrical Engineering, 574, 210–221.

Mehta M., Derasari R., Patel S., Kakadiya A., Gandhi R., Chaudhary S., Goswami R., (2019). A service-oriented human capital management recommendation platform, SysCon 2019 – 13th Annual IEEE International Systems Conference, Proceedings.

Modi U., Prakash S., (2019). Wettability of 3D printed polylactic acid (PLA) parts, AIP Conference Proceedings, 2148.

Shah P., (2019). Developing big data analytics architecture for spatial data, CEUR Workshop Proceedings, 2399.

Thakkar O., Patel D.K., Guan Y.L., Sun S., Chang Y.C., Lim J.M.-Y., (2019). On the joint impact of su mobility and pu activity in cognitive vehicular networks with improved energy detection, IEEE Vehicular Technology Conference, 2019-April.

Trivedi P., Shah S., (2019). Reduced-hardware Hybrid Branch Predictor Design, Simulation Analysis, 2019 7th International Conference on Smart Computing and Communications, ICSCC 2019.





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