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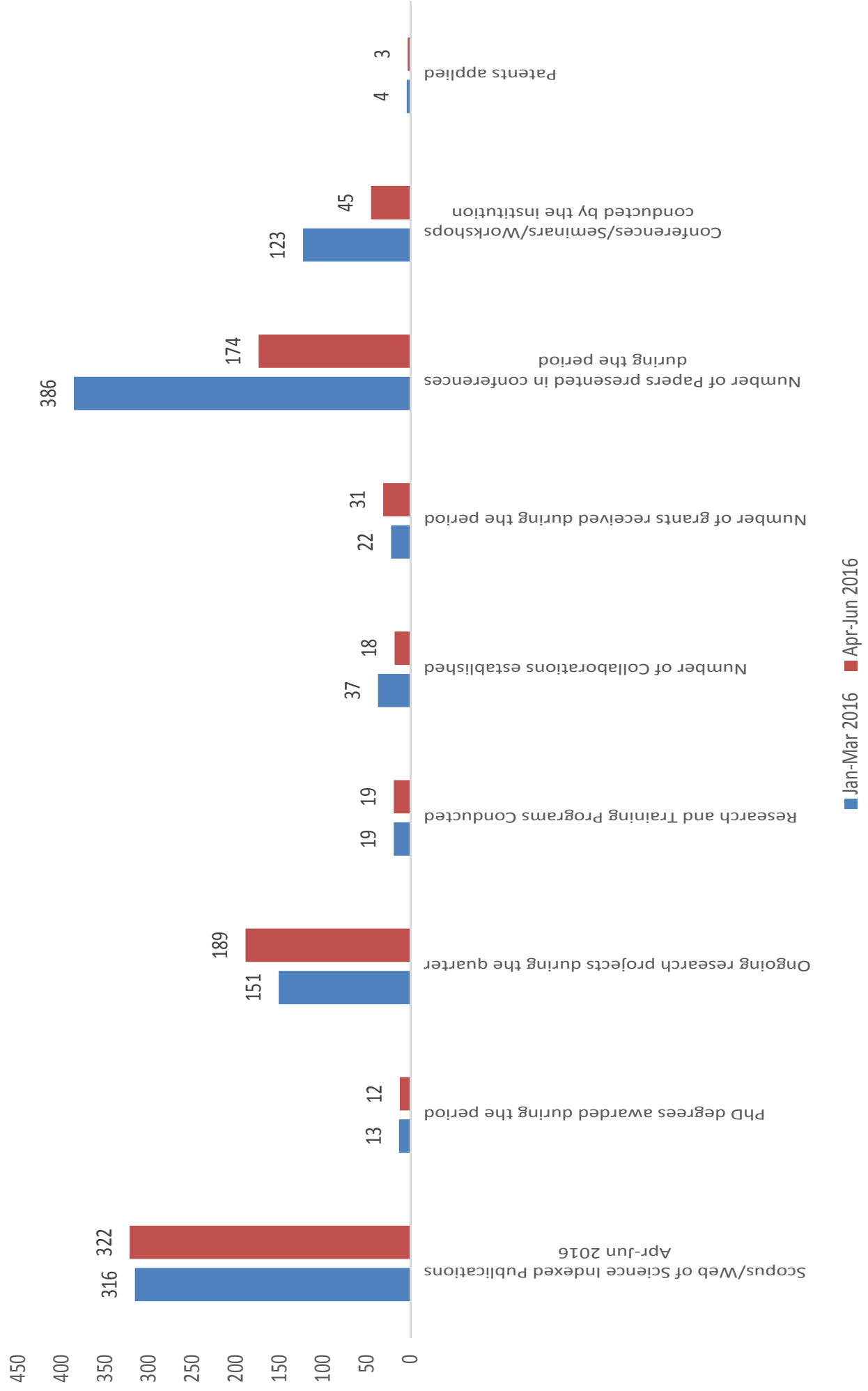
Activities of Manipal University Students' Research Forum (MUSRF)

# Part I

Manipal University (MU) is one of the premier universities in India. MU considers both academics and research equally important for the betterment of an institution. The faculty members and the research scholars at MU have embraced the research culture. They publicize their research work in scientific publications, through presentations in various conferences and obtaining patents, research grants etc. In this report, we present to you ***an overview of the research activities*** at Manipal University during the period from **Apr to Jun 2016**.

## A. Details of Research Activities of Manipal University from Apr to Jun 2016

### Research Activities During Apr-Jun 2016





## B. Faculty Achievements

1. Dr Raghu A R, Professor, Department of Oral Pathology, Manipal College of Dental Sciences, Manipal University was invited speaker at the "42nd CONGRESSO BRASILEIRO DE ESTOMATOLOGIA E PATHOLOGIA ORAL" at Manaus, Brazil and presented on the topic "Oral Sub mucous Fibrosis –A global problem, India Not alone". He also visited the Piracicaba Dental school, University of Campinas Brazil and delivered a talk titled "Retinoid Chemoprevention in Oral Leukoplakias" to the students of the Graduate Program. "
2. Dr Monica Charlotte Solomon, Professor and Head, Department of Oral Pathology, Manipal College of Dental Sciences, Manipal University, Manipal, visited the Department of Oral Pathology and Diagnostic Sciences at the Louisiana State University, School of Dentistry and Baylor School of Dentistry, Dallas –Texas and delivered a talk on "Molecular profile of Oral Squamous cell carcinoma – an Institutional Experience".
3. Dr Sheetal Raj, Senior Resident, Department of General Medicine, Kasturba Medical College, Mangalore, received the best paper award at Dr V Parameshwara Award session held at 34th Annual Conference of API –Karnataka chapter KAPICON 2016 held at Kalaburagi from Jun 17 to 19, 2016.
4. Dr Vinod Kumar, Department of Neurosurgery, Kasturba Medical College, Manipal, was selected for a visiting fellowship to attend the 7th India-Japan Neurosurgical conference at Osaka and Fukushima Medical University, Japan.
5. Professor S Sivasankaran, Associate Professor, Department of Chemistry, Manipal Institute of Technology, Manipal, was awarded a Japanese Patent for his invention on "Synthesis of Palladium Based Metal Oxides by Sonication".
6. Dr Shanmuga Priya, Manipal Institute of Technology received a Best Paper Award, which was presented at International Conference on Power, Energy and Mechanical Engineering held in Bangkok, Thailand from Jun 18 to 20, 2016.
7. Dr Harshini Dasari received a research grant from Korea Institute of Science and Technology, Seoul, South Korea for Development of Novel Nano-Materials for External/Internal Reforming Reactions for Fuel Cells Applications.
8. Dr Ashwatha Narayana Prabhu, Manipal Institute of Technology received Best Session Paper in International Conference on Mechanical, Metallurgy and Materials Engineering (ICMMME-16), held at Pattaya, Thailand from Jun 21 to 22, 2016 for his paper titled "Synthesis and Growth of Superior Characteristic Nonlinear Optical Organic Material: 1-(5-Chlorothiophen-2-YL)-3-(2, 3-Dichlorophenyl)prop-2-en-1-one".



9. Dr Reem Rachel Abraham, Professor of Physiology, Melaka Manipal Medical College (MMMC), Manipal University, Karnataka, India, received the Educator Development Group Award 2016 from the Association for the Study of Medical Education (ASME), a UK based organization. She is the first ASME member from a developing country to receive an ASME Award.



## **10. VGST grant to setup Centre for Excellence for Biophotonics Research**

Department of Atomic and Molecular Physics, Manipal Institute of Technology, Manipal University has received the prestigious research grant for three years from the Vision Group on Science and Technology (VGST) and the Department of Information Technology, Biotechnology & Science Technology, Govt. of Karnataka, under the Centre of Excellence in Science, Engineering and Medicine (CESEM) scheme of VGST. The funding is for setting up a Biophotonics research facility for the development and demonstration of screening for the early detection of cervical cancer using laser spectroscopy techniques. The coordinator of the programme is Dr Santhosh Chidangil, Professor and Head, Department of Atomic and Molecular Physics and recipient of Dr T M A Pai Endowment Chair for Biophotonics. Prof Lavanya Rai, Professor and Head, Unit-3, Department of Obstetrics and Gynaecology, Kasturba Medical College, Manipal University is the collaborator of the programme

### **C. Achievement by Research Scholars**

1. The K D Abhyankar Best Thesis Presentation for the year 2016 has been awarded to Dr P S Athiray - Post Doctoral Research Fellow, Manipal Centre for Natural Sciences (MCNS), Manipal University, Manipal, during the 34th Annual Meeting of the Astronomical Society of India, May 10-13 2016, at Kashmir University, Srinagar

## Part II

### a. Featured Scientist of Manipal University

#### **Dr Satish Kumar Adiga**

Professor and Head, Clinical Embryology; Coordinator, Fertility Preservation Centre, Kasturba Medical College, Manipal University, Manipal-576 104



Dr Satish Adiga, a Clinical Embryologist, joined Kasturba Medical College, Manipal in 1996. He was deputed to National University of Singapore (NUS) to pursue specialization in *In Vitro* Fertilization (IVF) techniques. After his successful completion of Masters in Clinical Embryology from the School of Postgraduate Medical Science, NUS in 1998, he took on the responsibility to establish IVF program along with other members at Manipal Assisted Reproduction Centre (MARC). He played a key role in achieving first IVF conception in coastal Karnataka within two months of his career as an Embryologist. This was relatively a new endeavour and since then he has brought reputation and many resources to the Institute. So far, the centre has provided fertility care to more than 12,000 aspiring couples.

The primary focus of Dr Adiga's research has been the deep understanding of the impact of sperm genetic abnormalities on the embryonic response, and utilizing this understanding to develop non-invasive markers for identifying genetically and functionally competent IVF derived embryos to improve the reproductive outcome. In a groundbreaking study, his team along with scientists from Indian Institute of Science (IISc), Bangalore, developed a non-invasive marker to predict implantation potential of IVF derived embryos. The work has significant implications in the area of reproductive medicine and opens up the possibility of an easy and non-invasive way of identifying healthy embryos, thus improving IVF success and lowering the complications associated with multiple pregnancies.

Dr Adiga has introduced a new area of research and clinical service in the country to cater cancer affected prepubertal boys and young women. In collaboration with Oncofertility Consortium, Chicago and University of Muenster, Germany, the Fertility Preservation Centre (FPC) in Manipal is actively involved in developing new techniques to derive mature gametes from immature germ cells. FPC is the only place in the country to offer fertility preservation to cancer affected prepubertal boys as sperm production process is incomplete in the body before puberty.

To his acclaim, he is the coordinator for Clinical Embryology research and teaching programs as Manipal University is the only place to offer such specialty in this country. Dr Adiga is an active researcher. He has received several prestigious national and international research awards such as Alexander von Humboldt (AvH) foundation fellowship and the Germany and Japanese Society for Promotion of Science (JSPS) fellowship. He is serving as Research Ambassador for German Academic Exchange Service (DAAD), Germany.

He is Head, Centre of Excellence in Clinical Embryology, which has emerged as the hub for specialized research and training in the area of fertility. The centre is closely collaborating with institutional and industry partnerships to provide a significant impulse in the growth of clinical embryology subspecialty in the Indian subcontinent.

Dr Adiga is a recipient of Dr T M A Pai Endowment Chair in Human Fertility and Clinical Embryology awarded to him by Manipal University in the year 2012 for his outstanding contribution to reproductive science and fertility. He received prestigious Sir C V Raman award from the government of Karnataka in 2012 for his research contribution to the field of reproductive medicine.



He has established research collaboration with world-class universities and institutions such as Kyoto University, Japan; Max Delbrück Centre for Molecular Medicine, Berlin, Germany; University of Muenster, Germany and University of Naples, Italy. In addition to these international collaborations, research collaborations have been established with premier institutes of India like Indian Institute of Science (IISc), Bangalore, National Centre for Biological Sciences (NCBS), Bangalore and National Institute of Immunology (NII), New Delhi.

In India, research in human fertility and embryology is still in its infancy and awaits more focus. Dr Adiga is of the opinion that there is need to build up resources to further strengthen the research and academic output in this speciality.

#### **b. Top publications from Apr to Jun 2016**

<b>Title of The Publication</b>	<b>Author Name</b>	<b>Institution</b>	<b>Department</b>	<b>Name of the Journal</b>	<b>Month &amp; Year of Publication</b>	<b>1-Yr Impact Factor</b>
Cortical-Bone Fragility — Insights from sFRP4 Deficiency in Pyle’s Disease	Simsek Kiper PO, Saito H, Gori F, Girisha K M et al	Kasturba Medical College	Paediatrics	New England Journal of Medicine	June 2016	59.55
A Randomized Trial of Factor VIII and Neutralizing Antibodies in Haemophilia A	Flora Peyvandi, Pier M Mannucci, Isabella Garagiola, Dinesh M Nayak et al.	Melaka Manipal Medical College	Paediatrics	New England Journal of Medicine	May 2016	55.87
Recent advances in co-amorphous drug formulations	Swapnil Jayant Dengale, Holger Grohgan, Thomas Rades, Korbinian Löbmann	Manipal College of Pharmaceutical Sciences	Pharma Quality Assurance	Advanced Drug Delivery Reviews	May 2016	15.03
Chondroitinase: A promising therapeutic enzyme	Kasinathan N, Volety S M, Josyula V R.	Manipal College of Pharmaceutical Sciences	Pharmaceutical Biotechnology	Critical Reviews in Microbiology	May 2016	6.02
Development of fast dissolving oral films containing lercanidipine HCl nanoparticles in semicrystalline polymeric matrix for enhanced dissolution and ex vivo permeation	Chonkar A D, Rao J V, Managuli R S, Mutalik S, Dengale S, Jain P, Udupa N.	Manipal College of Pharmaceutical Sciences	Pharmaceutics	European Journal of Pharmaceutical Sciences	June 2016	3.97

#### **LAB TALK by the authors from DAMP in the Journal of Optics home page**

Institute of Physics, the publisher of the prestigious Journal of Optics, has invited Dr Santhosh Chidangil and the authors to submit a lab talk on their recently published journal article in the Journal of Optics. The article is available on the journal home page and can be accessed at following link:

<http://iopscience.iop.org/journal/2040-8986/labtalk/article/65779>

## Part III

### **Manipal University Students' Research Forum (MUSRF)**

The third edition of Manipal Research Colloquium (MRC) was organized by the Directorate of Research, Manipal University and the Office of the Deputy Registrar (Academics) from Apr 4 to 6, 2016. Researchers and academicians from all the four off campuses, three off shore campuses, 23 constituent institutions, 15 University teaching departments, 45 Research Centres and about 350 delegates participated in this three-day meet. Dr Satyajit Mayor, Director, National Centre for Biological Sciences (NCBS), Bengaluru, delivered the inaugural address, Dr H Vinod Bhat, Vice Chancellor, MU, presented the research overview of MU, Dr V Surendra Shetty, Pro Vice-Chancellor, MU and Dr Narayana Sabhahit, Registrar, MU were also present during the inauguration.

While, acknowledging the contribution of various researchers, Dr Bhat underlined the role of the office of the Directorate of Research to reinforce and promote the research practices at Manipal University. During the event the honourable members of the Research Advisory Council of Manipal University, Dr Bhushan Patwardhan, Professor, Interdisciplinary School of Health Sciences, Pune, Dr George D'Souza, St John's Research Institute, Bengaluru, Prof Simona Sawhney, Department of Humanities and Social Sciences, Indian Institute of Technology, New Delhi, Dr Vishwa Mohan Katoch, Former Secretary Health Research and Director General ICMR, Dr M Prithviraj, Scientist G/Advisor, autonomous institutions division, Department of Science and Technology, New Delhi, were present. The dignitaries contributed with their insightful inputs. The success of MRC was largely due to the coordinated efforts of the various committee heads and their teams. The scientific deliberations at MRC included 64 papers



from the Technical Sciences, 43 from the Health Sciences and 12 from Management and Humanities. In addition, 79 PhD scholars from the Health Sciences and 52 from the Technical Sciences took part at the PhD Poster Presentation Competition.

During MRC, best papers and poster presentations were awarded prize and certificates.

The list of winners for oral and poster presentation sessions is given here:

## **Oral Presentation Sessions**

### **Health Sciences**

1. First Prize: Dr Prashanti Eachempati, Melaka Manipal Medical College, Melaka

Title: Development of an innovative soft palatal gauge and testing its clinical accuracy - A new dimension to clinical Prosthodontics.

Authors: Dr Prashanti Eachempati and Dr Kiran Kumar K S

2. Second Prize: Mr Manik Vohra, School of Life Sciences, Manipal

Title: Unvoiced BHMT G742A polymorphism and CNV in acute lymphoblastic leukaemia and in-silico characterization of BHMT gene variations

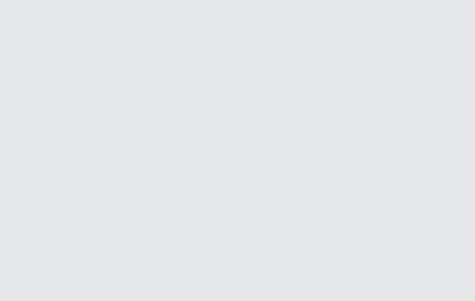
Authors: Manik Vohra, Ravishankara Bellampalli, Kashish Sharma, Kapettu Satyamoorthy, Padmalatha S Rai

### **Technical Sciences**

1. First Prize: Dr Suresh D Kulkarni, Department of Atomic and Molecular Physics, Manipal Institute of Technology, Manipal

Title: Magnetically Separable core-shell ZnFe<sub>2</sub>O<sub>4</sub>@ZnO Nanoparticles for Visible Light photo degradation of methyl orange

Authors: Suresh D Kulkarni, Sagar Kumbar , Samvit G Menon, K S Choudhari and Santhosh C



2. Second Prize: Unnikrishnan V K, Department of Atomic and Molecular Physics, Manipal Institute of Technology, Manipal

Title: Plasma spectroscopy: A potential solution for environmental concerns

Authors: Unnikrishnan V K\*, Kartha V B and Santhosh C

### **Management and Humanities:**

1. First Prize: Dr K R Pillai, School of Management, Manipal University, Manipal

Title: Is Depreciation an Antecedent to Economic Growth? Indian Experience

Authors: Dr K R Pillai, School of Management, Manipal University, Manipal

### **Poster Presentation Session**

#### **Health Sciences**

##### **Medicine**

First Prize: Dr Karishma Doshi for the topic "Clinical significance of anti-m; case series and review of literature"

Second Prize: Mr Akshay Vinod for the topic "A case report of viperine envenomation and subsequent intraparenchymal bleed"

##### **Dentistry**

First Prize: Eshwari for the topic "Evaluation of properties of fibre reinforced glass ionomer cements (FRGICS)"

Second Prize: Mr Ridyumna for the topic "Evaluation of properties of glass ionomer cements containing ZrO<sub>2</sub> and TiO<sub>2</sub> particles"

## **Engineering**

First Prize: Ms Chaitra Pai for the topic "Embedded system design approach to examination conduction"

Second Prize:

- a. Mr Sai Bharath Reddy for the topic "Fabrication and characterisation of flexible devices using solvent treatment method"
- b. Mr. M K Sai Gopal Krishna for the topic "Identification of causal relationships among clinical variables for cancer diagnosis by using multi-tenancy"

## **Pharmaceutical Sciences**

First Prize: Mr Karthik Subramanian K for the topic "Artificial intelligence- A brave new world for pharma"

Second Prize: Mr Yogesh Singh for the topic "Metabolic reprogramming in cancer cells"

## **Allied Health Sciences**

First Prize: Ms Shilpa for the topic "Comparison of frame measurements with ophthalmic anthropometric values in school going children"

## **Management and Humanities**

First Prize: Mr Abhishek Thirukonda for the topic "Social media-induced disorders (SMID): A priori confession"



## Editorial Team

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