



# MANIPAL

ACADEMY of HIGHER EDUCATION

(Deemed to be University under Section 3 of the UGC Act, 1956)

## MAHE Research Bulletin

Apr-Jun 2018



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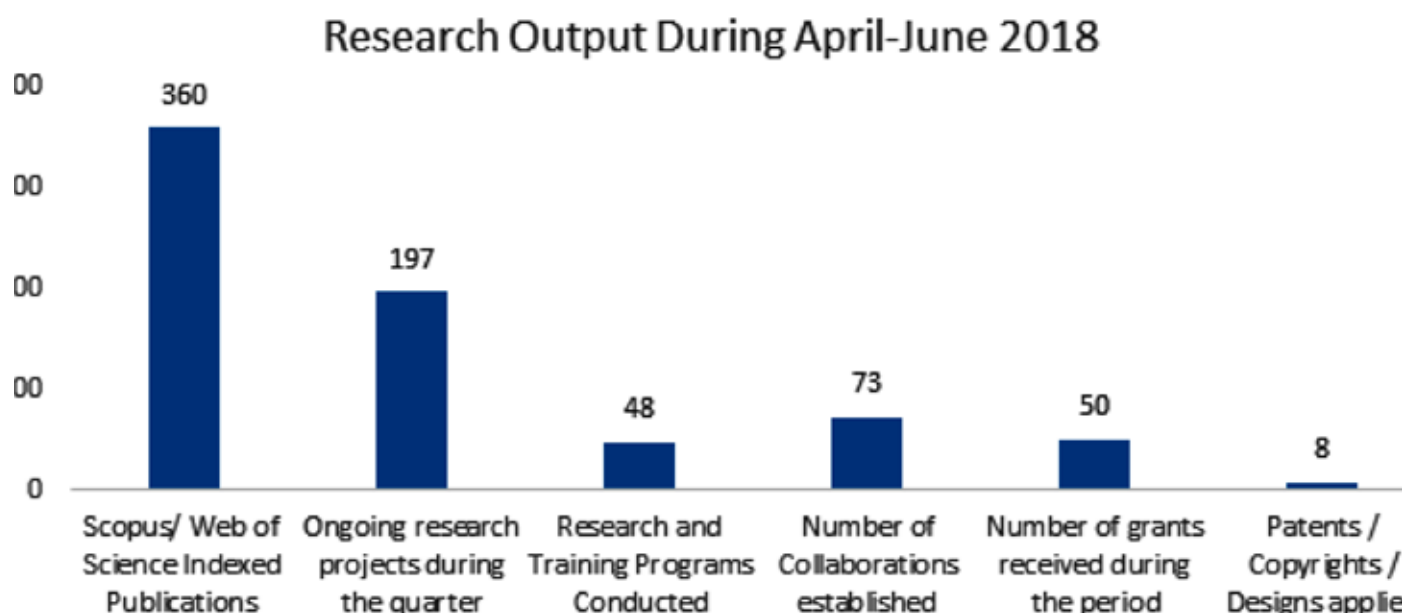
Activities of MAHE Students' Research Forum (MAHE-SRF)

# Part I



Manipal Academy of Higher Education (MAHE) is one of the premier higher education institutions in India. MAHE considers both academics and research, equally important for the betterment of the institution. The faculty members and the research scholars at MAHE have embraced the research culture. They publicize their research work in scientific publications, through presentations in various conferences, by obtaining patents and research grants, etc. In this report, we present to you an overview of the research activities by MAHE, during the period Apr-Jun 2018.

## A. Details of research activities of MAHE for the period April-June 2018



## B. Faculty and institution achievements

1. Dr Monica C Solomon, Professor, Department of Oral Pathology, received the UICC Technical Fellowship to carry out a project "FOXM1 based qMIDS for early detection of oral pre-cancer and cancer" at the Barts and the London School of Medicine and Dentistry, Queen Mary University of London during March 15 to April 15, 2018. The research was carried out at the Blizard Institute along with Dr Muy-Teck Teh. The results of the study showed a significant difference in the qMIDS assay between normal and oral squamous cell carcinoma tissue sample. This method was also able to detect molecular carcinomatous changes in tissue samples that histologically were only dysplastic.
2. Manipal College of Pharmaceutical Sciences (MCOPS) entered into Memorandum of Understanding with Medorganics India Private Limited for various activities including conduct of training on current Good Manufacturing Practices (cGMP), Research and Development activities and student internships. Medorganics India is a part of science-led pharmaceutical manufacturing division of Meditek India, engaged in the



development and manufacturing of herbal and nutraceutical products as per pharmaceutical standards. The main objective of this collaboration is to conduct continuous workshops and training programs under “Advanced Training on cGMP and Data Integrity” a GMP unit under Toxicovigilance and Drug Safety Centre of MCOPS. This GMP unit is established under the aegis of the Centre for Toxicovigilance and Drug Safety, initiated by its member, Dr Girish Pai K, faculty at the Department of Pharmaceutics, MCOPS.



3. Dr Guruprasad Kalthur, Professor, Department of Clinical Embryology, Kasturba Medical College (KMC), Manipal received ICMR international fellowship 2017-18 under the junior scientist category to visit Mayo Clinic, Rochester, M N, USA. Dr Kalthur worked in Stem Cell and Cancer Laboratory, Department of Laboratory Medicine and Pathology, headed by Dr Nagarajan Kannan, learning cutting edge techniques related to spermatogonial stem cell biology. He was appointed as a visiting scientist to Dr Kannan’s laboratory until November 2019 for a period of 18 months. As a visiting scientist, he had an opportunity to utilize the laboratory facilities of Mayo clinic and initiate collaborative research work between Manipal Academy of Higher Education (MAHE) and Mayo Clinic, USA, in terms of student exchange and submission of joint research grants. He will be visiting the Mayo Clinic again for another three months on Yamagiwa-Yoshida Memorial International study grants given by the International Union against Cancer (UICC).
4. One-day CME on Recent Advances in Epilepsy was conducted on 26 May 2018 at the Centre for Basic sciences, KMC, Manipal. Over 70 participants attended the program.
5. One-day CME on Recent Advances in Stroke was held on 24 June 2018 at Dr TMA Pai Hall-2, KMC, Manipal.



6. The Centre for Sexual Medicine (CSM): CSM was established in May 2018 as a Centre of Excellence in Sexual Medicine. Dr Shrutakirithi D Shenoj, Professor of Dermatology, KMC, Manipal is the coordinator and Dr Sudhir Nayak, Associate Professor, Department of Dermatology, KMC, Manipal is the co-coordinator for the centre. The aims of CSM are to deliver comprehensive care to patients suffering from sexual diseases and sexual dysfunction, to gain vital insights into the sexual behaviour of patients, to improve the sexual health status of the community and to conduct research in the field of sexual medicine. The CSM activities include investigating and treating patients with sexually transmitted infections, educating patients about preventive measures and following them up. HIV screening is also performed for high-risk cases. A multidisciplinary

sexual dysfunction clinic has been functioning regularly from March 2017 on a weekly basis along with the departments of urology and psychiatry. Up until now, nearly 400 patients have benefitted from this.

### C. Achievements by research scholars and students

1. Professor JV Bhat Memorial Gold Medal was awarded to Ms Prachi Garg for the best outgoing student in MSc Medical Biotechnology for the year 2017. This gold medal is sponsored by Dr K Satish Shetty, former Director, Blood Bank, Kasturba Hospital, Manipal.
2. Dr TMA Pai Gold Medal for the Best Research Publication – 2017 was awarded to Dr Suma Prabhu, Structured PhD student for the publication titled –“A Polymeric temozolomide nanocomposite against orthotopic glioblastoma xenograft: tumour-specific homing directed by nestin”.



### D. Awards and accolades

1. Dr Vasudev Ballal, Professor, Department of Conservative Dentistry and Endodontics, Manipal College of Dental Sciences (MCOADS), Manipal, was nominated as one of the top 10 reviewers in the world in the year 2018 by the Journal of Dentistry and Elsevier Publishers. He was an outstanding reviewer according to the American Association of Endodontists for the reviews performed for the Journal of Endodontics.
2. Dr Abhay T Kamath, Professor and Head, Department of Oral and Maxillofacial Surgery, MCOADS, Manipal was on a Fellowship program for Temporomandibular joint surgery including TMJ Arthroscopy during 15 March to 13 April 2018 at St Vincent’s Hospital and Epworth Hospitals, Melbourne, Australia.
3. Dr Pradeep M Muragundi, Faculty, Department of Pharmacy Management, Manipal College of Pharmaceutical Sciences (MCOPS), Manipal received the ISPOR meeting travel grant award to attend the ISPOR Asia Pacific 2018 conference in Tokyo during 8-11 September 2018. The travel grant included complimentary registration and travel reimbursement for the ISPOR Asia Pacific 2018 conference.
4. Ms Vidya, Lecturer, Department of Community Medicine, MMMC, Manipal was awarded the best presentation award, titled “Perception, attitudes and beliefs towards adolescent mental health among high school teachers in Karnataka: A preliminary study” in MHECON2018, the first National Conference on Mental Health Education conducted by the Department of Mental Health Education, NIMHANS during 6 and 7 April 2018 at Bengaluru.



5. Dr Arvind Kumar Pandey, Assistant Professor, Department of Anatomy received a "Letter of Commendation" from the Medical Council of India's Nodal Centre for Faculty Development, for his paper titled "Is Lecture Capturing System a Blessing in Disguise for Teaching and Learning Anatomy?" held on 7 April 2018 at Bengaluru.
6. Dr Chythra R Rao, Department of Community Medicine, KMC, Manipal received a scholarship to attend McGill summer course at Montreal, Canada during 11-20 June 2018, by Manipal McGill Centre for Infectious Diseases, KMC, Manipal. The first-week course was on Qualitative Methods in Infectious disease research and the following week was on Clinical Tropical Medicine. The McGill Summer Institute in Infectious Diseases and Global Health at Montreal, Canada conducted the courses. Dr Rashmi K S, Department of Physiology, KMC, Mangalore has been sanctioned a travel grant by IBRO.
7. Dr Shankar M Bakkannavar, Associate Professor, Department of Forensic Medicine, KMC, Manipal received the Best Poster Award for the poster titled "Clinico-epidemiological profile of snakebite patients in a Tertiary Care Centre in South India" at the 12th Annual National Conference of Indian Society of Toxicology TOXOCON - 12, at Sikkim Manipal Institute of Medical Sciences, Gangtok during 6 to 7 April 2018. Dr Vandana KE, Professor, Department of Microbiology, KMC, Manipal attended ESCMID observership program in Vall d' Hebron University, Barcelona, Spain during 25 April to 30 May 2018 on Infections in ICU's.



8. Dr Vandana KE, Professor, Department of Microbiology, KMC, Manipal attended ESCMID observership program in Vall d' Hebron University, Barcelona, Spain during 25 April to 30 May 2018 on Infections in ICU's.
9. Dr Prasanna Mithra, Associate Professor, Department of Community Medicine, KMC Mangalore, was awarded a scholarship by WHO/Cochrane to attend the Cornell Summer Institute 2018 being held at the Cornell University, Ithaca, New York, USA during 16-27 July 2018. Dr Mithra learnt advanced methods in Cochrane Systematic Reviews. The scholarship included travel, accommodation and course fees.

## Part II



### A. Featured researcher of MAHE

Dr Ramesh S Ve began his career in 2001 as an optometrist and has academic, clinical and research experience in the field of vision science and eye care. He is currently the Head and Associate Professor, Department of Optometry, School of Allied Health Sciences, Manipal Academy of Higher Education. He completed his PhD in 2014 from the Birla Institute of Technology and Science, Pilani, India. His thesis was aimed at estimating the five-year progression of glaucoma, a leading cause of blindness if left untreated as a part of the Chennai Glaucoma Study, Sankara Nethralaya, Chennai. Dr Ramesh clinched the Indo-US Public Health Research Post-Doctoral Research fellowship-2014 at Wilmer Eye Institute, Johns Hopkins University, Baltimore, USA. He has received over 2.5 crores research grants from national funding agencies and industries. To his credit, he has 53 research articles in peer reviewed indexed journals with H Index of 18 with 1147 citations and has filed 3 patents. He is one of the Indian Coordinators for ERASMUS Project-optometry curriculum for lifelong learning through Erasmus (OCULUS). He is a member of Optometric Glaucoma Society, USA.



Dr Ramesh's work at MAHE is focuses mainly on interdisciplinary research towards developing novel technology for providing quality eye care to all. Collaboration with researchers from the Manipal Institute of Technology (MIT), Manipal, industry partners and innovators is helping his team to develop tele eye and health care. The work on cost effective portable imaging device Ocular Digital Adaptor (OcuDA), won the Gold Medal for best innovation at the DST-Lockheed Martin India Innovation Growth Programme-2013. This work also led to a techno-entrepreneurship venture, VISINT Healthcare Pvt Ltd, incubated at Manipal Universal Technology and Business Incubator, with grant support from Biotechnology Ignition Grant, BIRAC. The interdisciplinary research at MAHE in collaboration with industry partners is focused towards creating new technology solutions such as determining friction as we blink, virtual reality based tele eye and health care and innovative eye health assessing devices.

### B. Top publications for the period April-June 2018

Title of the publication	Name of the authors	Department/ Institution	Name of the Journal	Month and Year of Publication	1-Yr Impact	5-Yr Impact
Optical and electrical characterization of vacuum deposited n-CdS/n-ZnS bilayers	Rashmitha Keshav, MGMahesha	Physics, MIT Manipal	Solar Energy	June 2018	4.018	4.739

<b>Title of the publication</b>	<b>Name of the authors</b>	<b>Department/ Institution</b>	<b>Name of the Journal</b>	<b>Month and Year of Publication</b>	<b>1-Yr Impact</b>	<b>5-Yr Impact</b>
Laser-induced breakdown spectroscopy-Raman: An effective complementary approach to analyze renal-calculi	Muhammed Shameem KM; Dr Arun Kumar Chawla; Dr Madhukar Mallya; Mr Bijay Kumar Barik; Dr Unnikrishnan V K; Dr Santhosh Chidangil	DAMP; Urology; Biochemistry, KMC Manipal, MAHE - University Office; Melaka Manipal Medical College; KMC, Manipal	Journal of Biophotonics	June 2018	4.328	3.609
Omega-3 polyunsaturated fatty acids promote angiogenesis in placenta derived mesenchymal stromal cells	Ms Suja Ann Mathew	School of Regenerative Medicine	Pharmacological Research	June 2018	4.897	5.048

## Part III

### A. Top publications for the period April-June 2018

The fifth edition of research poster competition (RPC-2018) was organized through MAHE-SRF, under the aegis of the Directorate of Research (DoR), Manipal Academy of Higher Education, Manipal on 5 April 2018 during the Manipal Research Colloquium (MRC-2018). The DoR and Deputy Registrar (Academics), MAHE, Manipal, jointly organized the event. Two hundred and sixty students from Manipal and Mangalore campuses, its constituent institutions, university teaching departments and research centres participated in the RPC 2018. Research abstracts for the presentation amounted to 133 from the Health Sciences, 91 from the Technical Sciences, 28 from the Basic Sciences, and 10 from the Management Sciences. The competition included 260 posters and 39 oral presentations in total. During the valedictory of the MRC-2018, the best oral and poster presentations of RPC-2018 (first, second and consolation prizes) were awarded to the awardees by Dr Poornima Baliga, Pro Vice Chancellor (Health Sciences), MAHE, Manipal, and Dr G K Prabhu, Pro Vice Chancellor (Technical Sciences), MAHE, Manipal. The list of winners for both oral and poster presentation sessions of RPC-2018 is listed below:

### B. Faculty/PhD Oral Presentation Awards

Category – Technical Sciences				
Presenting author	Co-authors	Institution	Title	Position
Mr Santosh N Vasist	Dr Parvati V Bhat, Dr Shruti A Ulman, Dr Harishchandra Hebbar	School of Information Sciences, Manipal	Uterine Electromyography (EHG) during labour: A comparative study between 2, 4 and 8 electrode configurations	First
Mr Rajashekhar V Choudhari	Manjunatha Gudekote	Manipal Institute of Technology (MIT), Manipal	Slip effects on peristaltic transport of Casson fluid in an inclined elastic tube with permeable walls	Second
Dr Deepika Shetty		Faculty of Architecture	Sustainable Integrated Development of Urban Infrastructure for Udupi District	Consolation

Category Health Sciences				
Presenting author	Co-authors	Institution	Title	Position
Ms Sandhya Kumari M V	Dr Jagadeesh Prasad Dasappa, Dr Srinivas Mutalik, Mr Sinoy Sugunan, Dr Rajanikant GK, Dr Guruprasad Kalthur, Dr Satish Kumar Adiga	Clinical Embryology, KMC, Manipal	Structural modification of Pentoxifylline to improve the sperm function and reduce embryo toxicity	First



Category Health Sciences				
Presenting author	Co-authors	Institution	Title	Position
Ms Aishwarya Raj	Dr Shrikala B, Dr Suchitra S, Dr Dhanashree B, Dr Prassanamitra B	KMC Mangalore	Rapid Diagnosis of Tuberculosis using Xpert MTB/RIF assay: A cross-sectional study	Second
Ms Elizabeth Mary Mathew	Violet D'mello, Harshal R Nanaware, Leslie Lewis, Pragna Rao, Nalini K Bhat, Sudheer Moorkoth	MCOPS, Manipal	Development and validation of a biomarker profile for methyl malonic acidemia and maple syrup urine disease in neonatal urine samples by HILLIC-ESI-MS2	Consolation

Category – Basic Sciences				
Presenting author	Co-authors	Institution	Title	Position
Dr Suresh D Kulkarni	Deepak Hebbar N, K S Choudhari, S A Shivashankar, Santhosh C and Suresh D Kulkarni	Department of Atomic and Molecular Physics (DAMP), Manipal	Highly Luminescent Red Emitting Eu:ZnGa <sub>2</sub> O <sub>4</sub> Nanocrystals by a Facile, 10 minute Microwave Method and Rapid Annealing Technique	First
Ms Anu Radha Sharma	Manik Vohra, Vaibhav Shukla, Shashikiran Umakanth, Abdul Razak UK, Ranjan Shetty, Kapaettu Satyamoorthy, Padmalatha S Rai	School of Life Sciences, Manipal	MicroRNAs as Diagnostic Biomarkers of Clopidogrel Drug Response in Individuals with Cardiovascular Disease	Second
Dr Abdul Ajees Abdul Salam	T Shilpa, S Madan Kumar S, Lalitha Simon, Aseefhali Bankapur, Santhosh Chidangil, K K Srinivasan, and K Byrappa	DAMP, Manipal	Structural and computational studies of 3-benzylchroman-4-one derivatives	Second
Dr Rajeev K Sinha		DAMP, Manipal	Structure and tautomerism in allopurinol and mercaptopurine: Ab initio study	Second
Mr Shivanand H Nannuri	Amiya R. Samal, Suresh D Kulkarni, Santhosh C, Sajjan D George,	DAMP, Manipal	Hexagonal shape controllable synthesis and up-conversion properties of NaYF <sub>4</sub> : Yb, Er microcrystals by hydrothermal method	Consolation

Category – Management Sciences				
Presenting author	Co-authors	Institution	Title	Position
Mr N Subrahmanya Kumar		Department Of Commerce (DOC), Manipal	Trends, implications and way forward in the Payment and Settlement System in India	First
Dr Chitra Madhukar Kotian	Dr Shubha H S, Dr Kumar Sumit	School of Ccommunication (SOC), Manipal	Newspaper coverage of health issues: A study of Times of India and Udayavani	Second
Mr Jose Mamman	Mukesh H V , Dr Rajasekharan Pillai K	DOC, Manipal	Action-Embedded Pedagogy in Entrepreneurship Education: An Experimental Enquiry	Consolation

### Student Poster Presentation Awards

Category Health Sciences				
Presenting author	Co-authors	Institution	Title	Position
Ms Neetha Shenoy		MCOADS, Mangalore	Push out Bond Strength of Four Root canal sealers: An <i>Invitro</i> Evaluation	First
Ms Aishwarya Nair	Gopala Krishna Alaparathi	KMC, Mangalore	Comparison Of Diaphragmatic Stretching And Manual Diaphragm Release Technique On Diaphragmatic Excursion In Chronic Obstructive Pulmonary Disease: A Randomized Crossover Trial	Second
Mr Gururaj C Aithal		MCOPS, Manipal	Development of novel localized in situ nano-emulgel drug delivery system for periodontitis	Second
Mr Aravind Minache	Shashikala K Bhat, Shashikiran Umakanth	Dr TMA Pai Hospital, Udupi	Posterior reversible encephalopathy syndrome (PRES) – a case series	Second
Ms Aarsi Shah	John Solomon, N Manikandan, Girish Menon	School Of Allied Health Sciences, Manipal	Effect of Meaningful Multimodal Sensory Stimulation in patients with Coma following Traumatic Brain Injury	Consolation

Category – Basic Sciences				
Presenting author	Co-authors	Institution	Title	Position
Ms Kusum Jain Nishtha	Chaitra Venugopal, Christopher Shamir, Sivapriya Senthilkumar, Janitri Venkatachala Babu, Peedikayil Kurien Sonu, Kusum Jain Nishtha, Kiranmai S Rai, Shobha K and Anandh Dhanushkodi	School of Regenerative Medicine (SORM), Bangalore	Dosage and Passage Dependent Neuroprotective Effects of Exosomes Derived from Rat Bone Marrow Mesenchymal Stem Cells: An <i>In-Vitro</i> Analysis	First
Mr Sivapriya Senthilkumar	Chaitra Venugopal, Shobha K, Bindu M Kutty and Anandh Dhanushkodi	SORM, Bangalore	A remarkable Migration Propensity of Dental Pulp Stem Cells towards Neurodegenerative Vicinity: An in vitro analysis	Second

Category – Technical Sciences				
Presenting author	Co-authors	Institution	Title	Position
Mr Mayank Khanna	Sampath Kumar, Kishan M.M, Hareesha KS, Poornima Panduranga Kundapur,	MIT, Manipal	Auditory Processing Assessment	First
Mr Rakshith Shetty	Sampath Kumar, Dr Gopee Krishnan, Hareesha KS, Poornima Panduranga Kundapur	MIT, Manipal	Manipal Aphasia Therapy App	Second
Ms Surabhi R		MIT, Manipal	Synthesis, Characterization and Antimicrobial Activity of Silver Nanoparticle Functionalized Heterocycles	Second
Mr Sharan Seshadri	Akshatha K R and Karunakar A K	MIT, Manipal	Original Research on Source Camera Identification using Transfer Learning	Consolation



Category – Management Sciences				
Presenting author	Co-authors	Institution	Title	Position
Ms Skyla Pereira	Unnikrishnan K	SOC, Manipal	A research on the Semiotic Analysis on Portrayal of Women Equality in Indian Television Advertisements.	First

### PhD Poster Presentation Awards

SI No	Name	Institution
1	Mr Syed Khaja Mohieddin	RGCB, Trivandrum
2	Ms K M Rohini	CDFD, Hyderabad
3	Ms Malavika H	KMC, Manipal
4	Mr Subhankar Biswas	MCOPS, Manipal
5	Mr Sohan Rodney Bangera	KMC, Manipal
6	Ms Archana K M	PPISR, Bengaluru
7	Mr Badrinarayan S Ramaprasad	SOM, Manipal
8	Mr Adesh N D	MIT, Manipal

### Certificate of Appreciation

SI No	Name	Institution
1	Ms Nitya Shree	SORM, Bengaluru
2	Ms Leesha Sharon	KMC, Mangaluru
3	Ms Smrithi	KMC, Manipal
4	Ms Shubhra Ganguli	CDFD, Hyderabad
5	Ms Ashwini P A	SORM, Bengaluru
6	Mr Anjaneyulu Konuri	KMC, Manipal



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