



# MANIPAL

ACADEMY of HIGHER EDUCATION

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

## MAHE Research Bulletin

Jul-Sept 2018



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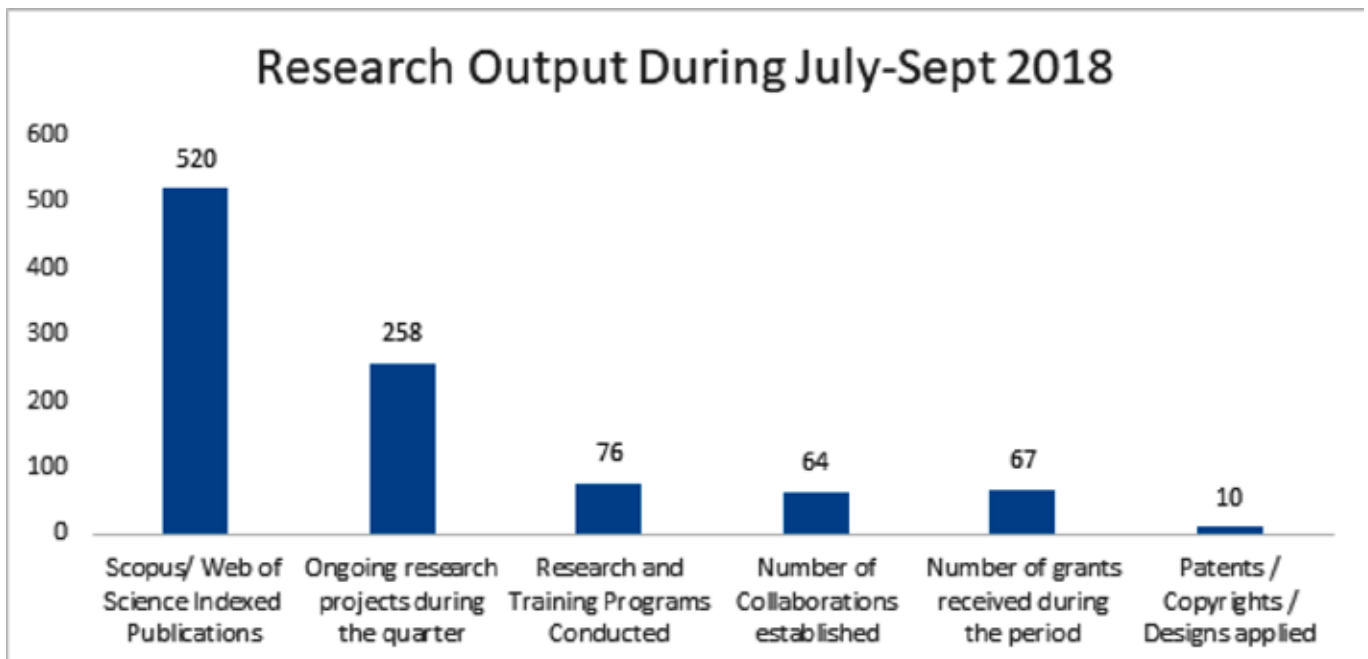
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# Part I

Manipal Academy of Higher Education (MAHE) is one of the premier universities 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 and obtain patents, research grants etc. In this report, we present to you **an overview of the research activities** at MAHE during the period **Jul-Sept 2018**.

## A. Details of research activities of MAHE for the period July- Sept 2018



## B. Faculty and institution achievements

1. Welcomgroup Graduate School of Hotel Administration (WGSHA) received the Culinary Educator of the Year Award 2018 by the Indian Hospitality Award Ceremony in association with Telangana State Tourism, Hyderabad on 19 August 2018. This award pays tribute to Thirugnanasambantham K, Principal, WGSHA, an active culinary educator whose knowledge, skills and expertise have enhanced the image of the professional chef, and who, by example, has given leadership, guidance and direction to students seeking a career in the culinary profession. It is a recognition for the educator's



capacity to demonstrate the ability to help students define and develop their careers by using their skills and abilities to provide a strong foundation for their future success.

2. Dr Veena Rao, Professor, Faculty of Architecture was invited to serve as a member for Editorial Advisory Board for Emerald Emerging Market Case Studies based on her contribution in the previous reviews for the same.
3. Dr V Thivaharan, Associate Professor, Department of Biotechnology, Manipal Institute of Technology (MIT) was in Universiti Putra Malaysia (UPM), Malaysia as Visiting Scientist in July 2018. He collaborated on microalgae biotechnology with the Marine Biotechnology Laboratory (MARSLAB) at the Institute of Bioscience in the University.
4. Ms Nilima, Assistant Professor, Department of Statistics, Prasanna School of Public Health, MAHE, Manipal was conferred with Dr C Chandrasekharan Young Scientist Award for her presentation titled "Determinants of screening of cervix and breast in India: A spatial evaluation of evidence for public health reforms" at the 39th Annual Conference of IASP, held at the Banaras Hindu University, Varanasi, U P, during 18-20 September 2018.



### C. Achievements by research scholars and students

1. Ms Mangala Hegde, Ms Deepika Bhat and Mr Kiran KR, Research Scholars at School of Life Sciences (SOLS), Manipal received CSIR-SRF fellowship for a duration of two years since May 2018.
2. Mr Raghushekhar CR, Research Scholar at SOLS, Manipal received a one-year ICMR- SRF fellowship from July 2018.
3. The students of BSc Biotechnology, SOLS, Manipal, Ms Humaira Shah, Ms Priyal Dhawan, Ms Dharti Vasant Kumar, Mr Bhadra Muralidharan, Ms Sahana D and Ms Pratiksha J Prabhu have secured first place in poster presentation at the National Conference on Youth for Social Change held during 25 - 26 August 2018 at Manipal.
4. Ms Spandana Karladi Umesh, Research Scholar, SOLS, Manipal received the first prize for the Best Polarization Poster Award in Frontier in Optics (FiO) - the 102<sup>nd</sup> OSA Annual Meeting, which was held during 14 – 20 September 2018 at Washington, District of Columbia, USA. Her poster was on "Development of Four Channel Based Linear Stokes-Muller Polarization Microscope for Tissue Characterization".
5. Dr Architha Menon, postgraduate student in the Department of ENT, Kasturba Medical College (KMC) Manipal won second prize for the project titled, "Epidemiological profile of common nasal allergens in south and central Karnataka, Mangalore Allercon on 15 July 2018.
6. Dr Nikhil Mathew and Dr Abhinaya Anand from Department of ENT, KMC Manipal, were awarded second prize in the quiz competition in the 5th Annual Conference of the Indian Academy of Otolaryngology Head



and Neck Surgery (IOAHNS CON 2018) at Dr Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation, Chinna Avutapalli, Vijayawada from 9 to 12 August 2018.

7. Dr Neethu V Krishnan, Department of ENT, KMC, Manipal bagged second prize in the poster presentation for the project titled, Sphenchoanal polyp – two viewed presentation in the 5th Annual conference of Indian Academy of Otolaryngology Head and Neck Surgery at Dr Pinnamaneni Siddhartha Institute of Medical Sciences and Research Foundation, Chinna Avutapalli, Vijayawada during 9 to 12 August 2018.
8. Dr Tulasi Kota Karanth, Department of ENT, KMC, Manipal secured third place in the oral presentation. Her paper was titled “Modified Stennert’s infusion protocol for delayed onset post traumatic facial nerve palsy” during the TRAUMASICON 2018, the 8th National Conference of Indian Association of Traumatology and Critical care (IATCC), a section of Association of Surgeons of India (ASI), held during 24-26 August 2018 at K S Hegde Medical Academy, Mangalore.
9. Dr Anuradha Jindal, Senior Resident Dermatology, KMC, Manipal, was granted AAD 2019 Scholarship for Annual meeting in Washington DC (American Academy of Dermatology) to be held during 28 February – 5 March 2019.

#### **D. Awards and accolades**

1. Dr Mrinal Kaul, Manipal Centre for Humanities, Manipal received a travel and bursary grant to present a paper titled “Reflection’ as Goddess in Abhinavagupta” at the World Sanskrit Conference, held at Vancouver, Canada from 9-13 July 2018. The World Sanskrit Conference is one of the most prestigious conferences and is attended by scholars from various Universities and institutes all over the world. Special panel discussions were held on multiple topics like History and Education of Women in Vedic Literature, *Mimamsa Beyond the Yagasala*, Sanskrit Buddhist Manuscripts, *The Yuktidipika Forging Place for Sankhya*, Research on *Gargiyajyotisa* and Introducing *BhagavataPurana* Commentaries. Over 500 papers on various themes were presented during the conference.
2. Dr Naresh Kumar Mani, Assistant Professor, Department of Biotechnology, Manipal Institute of Technology received the prestigious Indian Academy of Sciences (IAS) fellowship during the period of May-June 2018. During this stint, he worked on frugal paper-based device fabrication at the Indian Institute of Technology, Kharagpur under the guidance of Professor Suman Chakraborty, Department of Mechanical Engineering.
3. Dr Vineetha R, Professor and Head, Department of Oral Medicine and Radiology, Manipal College Of Dental Sciences (MCOADS), Manipal, received the Best Faculty scientific paper award and cash prize instituted by IAOMR Mangalore study group for her presentation titled “Role of Diagnostic adjuncts in Mucormycosis” at the National IAOMR PG convention held at Vijayawada during 24-25 August 2018.





4. A team comprising Dr Komal Smriti (Assistant Professor, Oral Medicine and Radiology, Manipal College of Dental Sciences (MCOADS), Manipal) and Ms Anahat (Final year BDS student, MCOADS, Manipal) Dr Manan Arora (Intern, MCOADS Manipal), Mr Nikhar (MIT, Manipal) and Mr Sumit Shenoy (TAPMI) was selected as one of the six winning teams out of 25 in Wearable Device Hackathon organized by KMC, Manipal and Innovation Centre, Manipal during 20-24 September 2018. The Team "Smart step solutions" presented the concept of a shoe with customized soles incorporated with pressure sensors and air pockets for people with flat foot, which would help in determining the exact pressure points on the foot and redistributing the pressure and provide a comfortable walking experience.



5. Dr Vasudev Ballal, Additional Professor, Department of Conservative Dentistry and Endodontics, MCOADS Manipal, collaborated with Dr Matthias Zehnder, Head, Division of Endodontology, University of Zurich for a study titled "Influence of alkaline biomaterials in dentin on the adhesiveness of resin-based bonding systems" in July 2018 and for a study titled "A randomized trial on the effects of topical NaOCl application prior to direct pulp capping in carious teeth" in August 2018.



6. Dr Jothi Varghese, Associate Professor, Department of Periodontology, MCOADS Manipal, collaborated with Professor Patrick Schmidlin, Head Division of Periodontology and Peri-Implant Diseases, University of Zurich Centre of Dental Medicine for a project titled "Evaluation of the effect of a de novo essential oil and 0.2% chlorhexidine mouth-rinse as an adjunct to mechanical oral care" in July 2018.



7. Dr Murlimanju B V, Associate Professor, Department of Anatomy, KMC, Mangalore received the best scientific paper award for the presentation titled "An anatomical case report of the misnomer- bovine aortic arch" at 20th State level conference of Karnataka chapter of Anatomists organized by the Department of Anatomy, Adichunchangiri Institute of Medical Sciences, BG Nagar, Mandya, Karnataka held during 29-30 September 2018.





8. Dr Ramesh Holla, Associate Professor, Community Medicine, KMC Mangalore was honoured with the Young Scientist Award by Association for the Prevention and Control of Rabies in India (APCRI) at APCRICON 2018, 20th National Conference of Association for Prevention and Control of Rabies in India during 7-8 July 2018 at New Delhi from Shri J P Nadda, Honourable Minister of Health and Family Welfare, Government of India for the rabies vaccine and immunoglobulin trials and rabies epidemiological studies done at KIMS Bangalore and KMC Mangalore.



11. Dr Varsha M Shetty, Assistant Professor, Dermatology, KMC, Manipal, received IADVL Scholarship for MIDDERMACON 2018 held at Nagercoil, Kanyakumari, Tamilnadu during 10-12 August 2018.
12. Dr Aparajita Chatterjee, Assistant Professor, Department of Neurology, KMC Manipal, secured third prize for presenting the E-poster titled "Utility of video-EEG monitoring in a tertiary care epilepsy centre" in the 26th Annual Conference of the Indian Academy of Neurology during 27-30 September 2018 at Raipur.

## A. Featured researcher of MAHE

Dr Asha Kamath, Professor and Head, Department of Statistics, Prasanna School of Public Health (PSPH), Manipal Academy of Higher Education (MAHE), Manipal obtained her Bachelor's degree in Statistics, Mathematics and Physics and Master's degree in Statistics from Mangalore University, Karnataka, India. She completed her Doctoral degree in Bayesian approach to sample size determination from MAHE. She is the recipient of the ITEROH grant, University of Alabama at Birmingham, USA to develop a training manual for time series using R (2009). She is a life member of the Indian Society for Medical Statistics. She is part of several ongoing research activities funded by ICMR, Government



of India and MRC UK at MAHE. Dr Kamath has served as a grant proposal reviewer for Wellcome trust, article editor for Sage open publication. She is a reviewer for the Indian Journal of Medical Research and the International Statistical Review, and her areas of expertise include statistical inference, causal inference, sample size determination, Bayesian methods, time series, design and an analysis of epidemiological studies, application of machine learning techniques in health sciences, management and technical science. She is an expert in Survival analysis, Bayesian methods and time series. She has been involved in teaching, training and guiding medical students, all health sciences students (undergraduate and postgraduate). She has been involved in training over 2,500 students and 100 faculty in research methodology and statistical analysis using softwares like SPSS, STATA and R.

Dr Kamath has an h-index of 16 and 947 citations. She has 198 research articles, ten conference proceedings, three book chapters and a book on R manual for health science researchers to her credit. Her message to young researchers is "Every daily activity can evolve a research problem, there needs to be an urge to catch up those signals suggestive of challenges in the minute details of daily work that is carried out. Interdisciplinarity is the key to research in the emerging era of boom of technology, machine learning and artificial intelligence. Nevertheless, human intelligence can never be beaten by any artificial intelligence since there is scope for research in artificial intelligence too!" Her future plans are to disseminate the methods developed through research to the users and focus on translational research.

## B. Top publications for the period July-Sept 2018

Title of the Publication	Name of the authors	Department/ Institution	Journal	Month and Year of Publication	Impact Factor	5-Year Impact
Genomic and phenotypic delineation of congenital microcephaly	Dr Girisha K M	Medical Genetics, KMC, Manipal	Genetics in Medicine	September 2018	9.937	7.875

<b>Title of the Publication</b>	<b>Name of the authors</b>	<b>Department/ Institution</b>	<b>Journal</b>	<b>Month and Year of Publication</b>	<b>Impact Factor</b>	<b>5-Year Impact</b>
Targeting the intestinal lymphatic system: a versatile path for enhanced oral bioavailability of drugs	Dr Srinivas Mutalik	Pharmaceutics, Manipal College of Pharmaceutical Sciences, Manipal	Expert Opinion on Drug Delivery	August 2018	5.553	5.633
Anti-mycobacterial susceptibility evaluation of rifampicin and isoniazid benz-hydrazone in biodegradable polymeric nanoparticles against Mycobacterium tuberculosis H37Rv strain	Sushruta S Hakkimane et al.	Manipal Institute of Technology, Manipal	International Journal of Nanomedicine	July 2018	4.37	5.154
Prospects of Cannabidiol for Easing Status Epilepticus-Induced Epileptogenesis and Related Comorbidities	Dr Dinesh Upadhya	Anatomy, KMC, Manipal	Molecular Neurobiology	August 2018	5.076	5.136
Automated system for the detection of thoracolumbar fractures using a CNN architecture	Dr Raghavendra U et al.	Instrumentation and Control Engineering, MIT Manipal	Future Generation Computer Systems	August 2018	4.639	4.968
Does the size matter? Evaluation of effect of incorporation of silver nanoparticles of varying particle size on the antimicrobial activity and properties of irreversible hydrocolloid impression material	Dr Kishore Ginjupalli et al.	Dental Materials, MCOADS, Manipal	Dental Materials	July 2018	4.039	4.818





## Part III

### A. Activities of MAHE Students' Research Forum (MAHE-SRF)

As part of MAHE-SRF 2018 activities, summer school 2018 was held at several institutions of MAHE. The summer training camp was conducted during 16-28 June 2018. The summer training camp was inaugurated by the Chief Guest Dr Poornima Baliga Pro Vice Chancellor, Health sciences, MAHE and Guest of Honour Dr Pragna Rao, Dean, Kasturba Medical College, Manipal, MAHE, Manipal. The program was held at the conference room, Innovation centre, Manipal Institute of technology, MAHE. The program was convened by the Directorate of Research under Dr N Udupa, Director Research (Health Sciences), Dr Sathish Shenoy, Director Research, (Technical and Management), MAHE, Deputy Directors Research Dr Santhosh K V (Technical and Management) and Bharati Chogtu Magazine (Health Sciences), and the council of MAHE-SRF.

The program was divided into four modules, viz, Health Sciences (H S), Basic Sciences (B S), Technical Sciences (T S) and Management Sciences (M S). Thirty two participants from various institutes of MAHE registered for the summer training program, which was held for 12 days. The summer training program focused on providing the participants a basic training of different topics, which consisted of both lectures and practical.



The summer training was divided into different modules and the topics were as shown below:

Name of the speaker	Topic
Dr Chandrakala	Block Chain and Crypto Currencies
Dr Srikanth Prabhu	Genetic Algorithm as an optimization tool
Ms Divya S	Body Area Networks
Professor Roshan David Jathanna	Building ReSTful Api
Dr N V Subba Reddy	Machine Learning and Deep Learning with Case Studies

<b>Name of the speaker</b>	<b>Topic</b>
Dr Vijay Arjunan	Super resolution in Imaging Techniques
Ms Vidya Rao	Internet of Things for Smart Life
Dr Santhosh Chidangil	Nanobiophotonics
Dr E Geetha	Basics of Stock Market
Dr Savitha	Quantitative Research Methods and Measurement Scales
Dr Rajasekharan Pillai K	Mixed Methods Research in Management
Kishore L	Software Tools in Management Research
Dr Manjunath K N	Understanding Human Anatomy using Image Processing
Dr Karunakar A Kotegar	Image/video processing and communication
Dr Rohit Verma and Dr Reena Singh	Cloud Deployment
Dr Hareesh K S and Dr Sampath Kumar	Virtual Reality
Dr Venkatesan	Bio Medical Devices
Dr Balaji S	Bioinformatics
Dr Pallavi Upadhyaya	Research issues in Business Analytics
Dr D Sreedhar	Entrepreneurship
Dr Virendra S Ligade	Cosmeceuticals: Regulatory Scenario

<b>Name of the speaker</b>	<b>Topic</b>
Dr Chiranjay Mukhopadhyay	Infectious disease
Dr Vandana	Antimicrobial resistance
Ms Shivapriya	Talk on "Stem cell therapy in Neurodegenerative disorders : from billion to nano"
Dr Judith A Noronha	Evidence based practice-Part I
Dr Baby S Nayak	Evidence based practice-Part II
Mr Subramanian	Neuro motor control evaluation

<b>Name of the speaker</b>	<b>Topic</b>
Mr Parameshwar and Mr Sampath	Diabetic foot assessment
Dr Hari Prakash	Neuroscan- to understand brain functioning
Dr Ramesh SVe	Optometry-Tracking vision from eye to cortex

<b>Name of the speaker</b>	<b>Topic</b>
Dr Sanjay Bharthi	Nuclear medicine - Tissue dielectric spectroscopy
Dr G Gautham Shenoy, Dr Alex Joseph	Overview on Drug discovery process and Drug re-purposing
Dr Raghu Chandrashekhar	Practical session on Enzyme Technology
Dr Jayesh Mudgal, Dr Anoop Kishore	Preclinical Testing
Dr KB Koteshwara, Dr Usha Nayak	From Drug to Dosage form-Conventional to advanced processing technologies
Dr Surulivelrajan Mallayasamy	Pharmaco-metrics in drug development and patient care
Dr Surulivelrajan Mallayasamy	A demonstration of utility of open source R software package in the data analysis
Dr Vasudevan T G	Recombinant DNA technology - Tools and Techniques
Dr Shama Prasada K, Mr Vinay Koshi and Mr Sundara Poojari	Plasmid preparation and characterization
Dr Vidhu Sankar Babu, Mr Ravi Prasad and Mr Sundara Poojari	Transformation of plasmid DNA in <i>E. coli</i> cells
Dr Saadi Abdul Vahab, Mr Manik Vohra and Ms Geetha	Polymerase Chain Reaction
Dr Saadi Abdul Vahab, Mr Manik Vohra and Ms Geetha	Restriction digestion and agarose gel electrophoresis
Dr Vasudevan TG, Ms Supriti Ghosh and Ms Geetha	Description of cloning technology and TA cloning



### **Editorial Team**

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