3.5.2: List of Activities conducted through MoU during last Five Academic Years

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
1	Binghamton University, New York	2019-20	Workshop on "Electronic Systems: Heterogeneous Integration, Thermal and Power Management, Related Machine Learning" on 6th to 8th October 2020.	1-7
		2018-19	Talk on "Higher Education in US" on6th October 2018.	8
			Technical talk on " Data Mining and Data Analytics" on 4th October 2018.	9-11
		2017-18	International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER 2018) on 13th& 14th August 2018.	12-22
			Lean Six Sigma Green Belt Certification on 16th to 21st April 2018.	23-30
			Talk on "Higher Education opportunities at Binghamton University, USA" on 1st March 2018.	31

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
			Mr. Narendra U P, Dean (T&P) visited Binghamton University for one week to interact with the different Schools and Heads on December 2017.	32-34
			Talk on "Higher Education opportunities at Binghamton University, USA" on 6th November 2017.	35
			Talk on "Recent Trends in Global Financial Markets" for MBA Students. Talk on "Finance for Engineers" for engineering students on 6th November 2017.	36
			Lean Six Sigma Yellow Belt Certification on 7th to 9th October 2017.	37-40
		2016-17	Dr. Raghavendra Sagar, Research Scientist & Faculty, Department of Physics visited Binghamton University for collaborative Research work from 5th to 23rd June 2017.	41-43
			Workshop on "Introduction to Data Mining & Data Analytics" on 10th to 12th April 2017.	44-51
			Lean Six Sigma Yellow Belt Certification on 20th & 21st September 2016.	52-53

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
			Talk on "Higher Education in US" on 21st September 2016.	54
2	Kumamoto University, Japan	2019-20	A session on "Remote Sensing and Drone Application in Civil Engineering" on 31st August 2019.	55
		2018-19	Sessions on "Advanced Satellite/Drone Image Processing And Remote Sensing Techniques With Sustainable Approaches" and "Higher Education Opportunities at Kumamoto University, Japan" on 1st& 2nd April 2019.	56-57
			Dr. G. L. Easwara Prasad, Principal, Dr. Ganesh Mogaveer, Head of Civil Engineering Department visited Kumamoto University Japan on 13th to 15th March 2019.	58
		2017-18	Two days International Conference on "Advances in Manufacturing, Materials and Energy Engineering" (ICon MMEE 2018) on 2nd& 3rd March 2018.	59

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
			Talk on "Renewable Energy and its importance in the present sustainable development to preserve natural resources and environment sustainability" on 2nd March 2018.	60
		2016-17	Two days International conference on "Global Civil Engineering Challenges in Sustainable Development and Climate Change" on 17th& 18th March 2017.	61-63
			Technical talk on "Clean Energy & Renewable Energy and related Technology to prevent climate change" on 16th March 2017.	64
3	Institute of Technical Education (ITE) - CollegeWest,Singapore	2017-18	Overseas Student Exchange Programme	65-78
		2016-17		79-84
4	Management Development Institute of Singapore	2019-20	Course on Management and Organization Behavior	85

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
		2018-19	Course on Business Statistics and Analytics	85
		2017-18	Course on Quantitative Methods	85
		2016-17	Course on Quantitative Methods	85
		2015-16	Course on Business Analytics	85
5	BOSCH Rexroth India Ltd, Gujarat	2019-20	Certification Course on PLC Certification Course on Hydraulics & Pneumatics	86-89
		2018-19	Certification Course on PLC Certification Course on Hydraulics & Pneumatics	90-91
		2017-18	Certification Course on PLC Certification Course on Hydraulics & Pneumatics	92-93
		2016-17	Certification Course on PLC Certification Course on Hydraulics & Pneumatics	94-95
		2015-16	Certification Course on PLC Certification Course on Hydraulics & Pneumatics	96-97
6	Siemens Industry Software India Private Limited, Gurgaon	2019-20	Certification Course on NXCAD Certification Course on ROBCAD	98-101

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
		2018-19	Certification Course on NXCAD Certification Course on ROBCAD	102-103
		2017-18	Certification Course on NXCAD Certification Course on ROBCAD	104-105
		2016-17	Certification Course on NXCAD Certification Course on NXCAM Certification Course on ROBCAD	106-109

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No
7	Karnataka Innovation &Technology Society	2019-20	IDEATHON: Think, Create, Re-imagine on 10th August 2019.	110-111
			EVRY India IDEATHON on 20th August 2019.	112-114
			Startup Karnataka's E-Step Bootcamp on 23rd August 2019.	115-119
			UNLOCKED: Coding challenge on 14th September 2019	120-121
			CHANGEATHON 2.0 24-Hours Hackathon on 15th& 16th November 2019.	122-125
			Workshop on National Startups Award 2020: Eligibility, Process and Benefits on 23rd December 2019.	126-127
		2018-19	Short Term Course on Data Analytics on 4th to 6th October 2018.	128-129
			Short Term Course on IOT –Applied to Sustainable Technologies on 8th& 9th October 2018.	130-131
			Women Entrepreneurship Summit on 2nd& 3rd November 2018	132-136

Sl. No.	Name of the institution /industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No
		2017-18	Changeathon 2018: A 24-hour Hackathon on 09th& 10th November 2018.	137-138
			Talk on Entrepreneurship on 9th February 2018	139-140
			Two days workshop on Salesforce9th& 10th February 2018.	141
			Talk on Looking beyond Engineering on 12th February 2018.	142-143
			SMARTATHON – A 24 Hour Hackathon on Smart Technologies on 23rd& 24th February 2018.	144
			Talk on Artificial Intelligence – Chat Bots on 24th February 2018.	145-146
			STARTUP SUMMIT 2018 – IDEATHON on 24th February 2018.	147-149
			Let's Talk: Igniting the Entrepreneur in you on 27th February 2018.	150-151
			One day Workshop on Startups: All that you wanted to know about Startups on 20th June 2018.	152-156
8	Infosys Campus Connect, Infosys Ltd, Bangalore	2019-20	Campus Connect Program	157-163
		2018-19	Campus Connect Program	164-170
		2017-18	Campus Connect Program	171-176
		2016-17	Campus Connect Program	177-184
		2015-19	Campus Connect Program	185-192

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
9	UiPath, Bangalore	2019-20	Virtual Educator Readiness - RPA Design and Development on 20th to 29th July 2020	193-194
			Virtual Educator Boot Camp - UiPath Certified RPA Associate (UiRPA) on 29th June to 1st July 2020.	195
			RPA Educator Diploma Course 2020.	196-203
			UiPath RPA SKILL-A-THON from May to June 2020.	204-206
			UiPath Academic #RPA Champ-2019 on 6th & 7th November 2019.	207
			Educator Workshop on 3rd June 2019 to 7th June 2019.	208-211
			Talk on RPA on 3rd May 2019	212-213
		2019-20	JobOffer	214-219
			JobOffer	220-223

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
10	KPIT Technologies Ltd.	2018-19	Training	224-227
			Participated in Project competition -KPIT Sparkle	228-229
11	Silver peak Centre of Excellence on Japanese Langauge and Culture	2019-20	Japanese Language Proficiency Training Program	230-231
		2017-18	Job Offer	232-234
12	CAFET-INNOVA Technical Society, Hyderabad	2017-18	International workshop on Development of Sustainable Smart Cites: Perspectives on Engineering Challenges on 3rd& 4th January 2018.	235-241
			International Conference on Global Civil Engineering Challenges in Sustainable Development and Climate Change on 17th& 18th March 2018.	242-257
		2015-16	National conference on Advanced Trends in Civil Engineering & Sustainable Development on 26th & 27th February 2016	258-263

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No
13	Dakshina Kannada Nirmithi Kendra	2019-20	Students project	264-265
			Internship	266
		2018-19	Research Collaboration	267
			Industrial visit to Nirmithi Kendra	268-274
			Finishing School Program	275-278
			Internship	279-280
		2017-18	Industrial visit to Nirmithi Kendra	281
			Finishing School Program	282-284
14	Carl Zeiss India Pvt. Ltd., Bangalore	2017-18	FDP on Advances in Industrial Metrology and GD&T on 27th& 28th July 2018.	285-289
			Internship on 09th July to 08th August 2018	290-291
15	Master Plannery, Puttur, D.K	2018-19	Industrial Visit	292-293
		2016-17	Industrial Visit	294
			Internship	295
16	SAICADD, Bangalore	2019-20	AUTO CADD Training Program	296-297
		2018-19	AUTO CADD Training Program	298-302
		2017-18	AUTO CADD Training Program	303

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No
		2016-17	AUTO CADD Training Program	304
17	Dlithe, Bengaluru	2019-20	Internship	305-307
		2018-19	Internship	308-310
18	Heraizen Technologies, Bangalore	2019-20	Internship	311
		2018-19	Internship	312-314
19	Servify,Mumbai	2017-18	Internship	315
20	Mobizey, Bengaluru	2019-20	Internship	316-317
21	Numentrix Consulting Llp, Bengaluru.	2019 -20	Internship	318-321
22	Diagnostic Engineers, Bangalore	2019-20	Webinar on Balancing & Fault Diagnosis in Industrial Machines Using FFT Analyzer on 10th October 2020	322-324
			Internship	325-329

Sl. No.	Name of the institution/industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No
23	Paradigm Environmental Strategies (P) Ltd, Bangalore	2019-20	Submitted research proposal to DST	330-331
24	Pace Wisdom Solutions, Bangalore	2019-20	Internship	332
		2018-19		333
		2017-18		334-335
25	Juego Studio Pvt. Ltd, Mangalore	2016-17	Internship	336
		2015-16		337

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
26	Sri Bhuvanendra College, Karkala	2019-2020	Skill Development Training	338-343
27	Government First Grade College, Punjalkatte, Belthangady			
28	Sri Mahaveera College, Moodbidri			
29	Government First Grade College, Kavoor, Mangalore	2018-19		344-349
30	Government First Grade College, Hebri, Udupi			
31	Mulki Sundar Ram Shetty College, Shirva, Udupi			
32	ST. Mary's College, Shirva, Udupi			
33	Sri Dhavala College, Moodbidri			

MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING

(An ISO 9001: 2015 Certified Institution)

(Affiliated to Visvesvaraya Technological University Belagavi)

Badaga Mijar, Moodabidri-574225, Karnataka

Sl. No.	Name of the institution/ industry/ Corporate house with whom MoU is signed	Academic Year	Activity	Page No.
34	Shri Durgaparameshwari First Grade College, Kateel, Mangalore	2017-2018	Skill Development Training	350-356
35	Manjunath Pai Memorial Goverment First Grade College, Karkala, Udupi			

Principal
Mangalore Institute of Technology & Engineering
Badaga Mijar, MOODBIDRI - 574 225

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

An ISO 9001:2015 Certified Institution, Accredited by NAAC
(A unit of Rajalaxmi Education Trust)
Affiliated to VTU, Belagavi, Approved by AICTE, New Delhi

Department of Electronics and Communication Engineering

REPORT ON THE WORKSHOP-"ELECTRONIC SYSTEMS: HETEROGENEOUS INTEGRATION, THERMAL AND POWER MANAGEMENT, RELATED MACHINE LEARNING"

A 3-day workshop was organized by BINGHAMTON UNIVERSITY as a joint collaboration of three eminent institutes namely BINGHAMTON UNIVERSITY (BU), IIT MADRAS & IIT ROPAR based on the theme - "ELECTRONIC SYSTEMS: HETEROGENEOUS INTEGRATION, THERMAL AND POWER MANAGEMENT, RELATED MACHINE LEARNING". The workshop was held in online mode from October 6th -8th 2020 in Google Meet Platform. Eminent personalities from various institutes with the likes of IITs, BU and Industry experts addressed the sessions. Notable speaker was the Nobel laureate from BU, M. Stanley Whittingham. The workshop attracted large audience and around 60 participants across the world attended the session. Mangalore Institute of Technology and Engineering was also the part of the event.

The session commenced on 6th October at 7.00 PM. The session began with the welcome address from 3 personalities Bahgat Sammakia, Vice President Research, Binghamton University, Hari Srihari, Dean, Watson College of Engineering, Binghamton University and Ragunath Rengaswamy, Dean, Global Engagement, IIT Madras. They briefed about the workshop theme and gave introduction to the speakers of the Workshop. M. Stanley Whittingham Nobel Laureate Binghamton University was the first speaker of the workshop. He gave a detail and in-depth insight into Introduction to power usage in India/World. In his presentation he explained the Soft lattice of TiS_2. Later he shifted his focus onto the stability challenge of High Ni NMC. He also mentioned about Li-ion batteries and its hazardous nature. Later on, he gave analytical explanation on Li_2VOPO_4- reversible intercalated cathode. The talk ended with a conclusion on the future for intercalation batteries. The second speaker of the workshop was Sarit Das, Professor and Director, IIT Ropar. His talk was on Nano-fluids. He gave experimental and computational details and flow maldistribution of Nano-fluids. He also discussed about thermal performance, concept and domain for

cooling of non-uniform heat flux in Nano-Fluids. The talk ended with suggestions for cooling single and twin hotspots. After Sarit Das talk, the session was continued by Rangan Banerjee, Professor, Energy Engineering, IIT Bombay. Ranjan Banerjee stressed on Energy and Carbon Management for next generation electronic systems. His talk was focused on Sustainable energy systems, carbon dioxide emissions of product/system and strategies for energy and carbon management. The talk ended with Life cycle analysis and Sustainability analysis. After the conclusion of Ranjan Banerjee's talk, the session resumed with the talk of SB Park, Professor and Director, IEEC, Binghamton University. Mr. Park, in his talk, brought forth the concept of implementing smarter electronics manufacturing schemes. He analyzed the various challenges and opportunities in Electronic Industry, AI and Industry 4.0 in smart electronics manufacturing. He explained about the importance of Smart electronics manufacturing lab. He also discussed process analytics and dynamic controls in electronic manufacturing. He emphasized about Intelligent manufacturing factory. The talk concluded with a note on key functions of surface mount technology. Pritam Das, Assistant Professor, Binghamton University took over from Mr. Park. Pritam Das's talk was based on Wide band gap SiC based novel single stage power converter topologies for solid state transformers. The talk began with the introduction to power electronics. He brought about the concept of existing power architecture and the available 3-phase ac-dc converters. Later he shifted his focus onto the role of power electronics and two loop control schemes. He ended his talk with a brief end-note on LEDs in modern lighting market. The last speaker of the day was Bhyrav Mutnuru, Senior Distinguished Engineer, Dell. His talk was based on Thermal and Electric Co-simulation of high-speed signals. His talk focused on the concept of SI modeling and CFD modeling. The day ended with thanksgiving for the eminent speakers.

The second day of the workshop began from 7.00PM on 7th Oct 2020. Sanjay Wandhekar, Senior Director, CDAC was the first speaker to address the audience. The main theme of the talk was Recent trends in thermal management of HPC/Supercomputing systems. In his talk, he introduced about Data cooling centers and HPC systems. Next, in his talk, he explained about cold Aisle/ Hot Aisle containment along with RHDX cooling. Later he explained about three types of cooling namely Server cooling with direct contact, liquid cooling and Immersion liquid cooling. After conclusion of his talk, William Chen, ASE Fellow, ASE took over the session. Mr. Chen's talk was focused on Heterogeneous Integration roadmap-driving force for system of the future. The talk began with Heterogeneous integration through SiP. Then he gave an insight into the number of companies involved in Heterogeneous Integration in 2006-

2020. Later he talked about Moore's law economics and then enticed the audience with technology road mapping history. He gave a clear definition of heterogeneous integration and Heterogeneous Integration (HI) through SiP and then brought forth market and Applications in digital transformation as well as Innovations in HI through SiP. Sameer Khandekar, Professor, Mechanical Engineering, IIT Kanpur took over from Chen. Mr. Khandekar in his presentation brought out the concept of heat pipes. He stressed on going beyond conventional heat pipes: Pulsating and Loop Heat Pipes as a passive thermal management option for Electronics cooling. Then he explained about Phase change technology with different aspects of conventional heat pipe, its applications and limitations. Then he explained on Loop heat pipes and its applications. Final few minutes of his talk was on LHP for LED cooling, Research issues, Pulsating heat pipes and Genealogy of passive systems. He ended his talk with a closing note on PHPs-constructional heat transfer mechanisms and discussed about few industrial prototypes. The session was then continued by Bahgat Sammakia, Vice President for Research. He talked on Liquid cooling of HI systems with an emphasis on cold plate optimization. He focused on Optimization opportunities, approach, Neural Network perspective, Data, and data reduction. Later Scott Schiffres, Associate Professor, Binghamton University took over from him. Mr. Scott's talk was on 3D printing for enhanced electronics cooling. He discussed balanced electronic cooling, thermal aspects, motivation, IBM embedded cooling concept, Selective laser sintering/ melting, Native method of printing onto Silicon and Frequency domain thermo reflectance, optimization of 3D printed copper plated. After Scott completed his talk Arun Chandrashekar, Sr. Principal Engineer, Intel Bangalore continued the session. The topic of discussion in Arun's talk was the design and technology challenges with on package heterogenous integration. In his talk, he gave a lot of emphasis on Moore's law, disaggregation method, die defect density and yield, Monolithic integration, 2D MCP, 2.5D silicon integration, EMIB design choices, 3D stacking, Bump sharing challenges, beyond 3D Foveros and real world solutions. The last speaker of the day was Mark Poliks, Professor, Binghamton University. His talk related to Advanced manufacturing of Flexible Electronics. In his presentation he gave a lot of emphasis on Flexible Hybrid Electronics (FHE), Wearables 2020 and beyond, Typical HFE cross-section, Aerosol Jet printing on complex surface, Additive manufacturing and FHE for RF, work flow diagram, printed RF antennas and antenna arrays and disposable wireless devices. The day ended with thanksgiving for the eminent speakers.

On the last day of the workshop Rajendra Joshi, Senior Director, CDAC discussed about Accelerating Biology in relation to Computing, Analytics,

Visualization and Beyond. He gave importance to Future of Biology, Oceans of genomic data, Extreme computing, Gigantic analytic engines, High speed network, Global genomic clouds, National repository of genomic data, Visualization walls and Virtual reality and Big data to knowledge. His talk was immediately followed by the talk of Kanad Ghose, Distinguished Professor, Binghamton University. Mr. Ghose in his talk laid the foundation for Dynamic Management of IT, Cooling, Power and Renewables for Data Centers. In his talk he emphasized on several points like Data centers architecture in simplified form, interesting data center facts, poor energy usage-causes, Dynamically right sizing server capacity, Dynamic Capacity Provisioner (DCP), Challenges and mitigation, ES2 prototype of DCP, Server state transitions, Energy savings, Service latency impact, addressing power phase imbalances, power phase aware DCP, Role of clean energy sources and storage in Data centers. Next speaker to speak was Ravi Mahajan, Intel Fellow, Intel. He pressed the need for advanced packaging architectures for heterogeneous Integrations. He gave details about sustainability of interest in packaging architectures, Intel's packaging Vision, Interconnects in advanced packaging, High density interconnects, State of advanced packaging, 2D MCP landscape, Intel Foveros Technology, 3D MCP, CO-EMIB. Next speaker to speak was Aravind Kumar, Manager, IBM. He stressed on Advanced AI through system and packaging innovations. He brought to the light some important facts like AI revolution, Deep learning, diversity of components, Compute Requirements, Memory-Bandwidth requirement, connectivity requirements, Heterogenous Integration (HI), Interconnect Hierarchy, AI training hardware, adoption of chiplets, HI platform for AI and Cloud computing future. Another speaker Sourajeet Roy, Assistant Professor, IIT Roorkee soon followed up with discussion on recent advances in statistical machine learning for uncertainty quantification of high-speed circuits. In his speech he cut out some facts regarding Spectral Metamodel, Spectral methods, Training of metamodel, curse of dimensionality, Basic premise of Multi fidelity, Low fidelity Model identification, High fidelity model identification, Training and Corrector Metamodel. Later in the day Balaraman Ravindran, Professor, IIT Madras spoke on the aspect of looking under the Hood of Deep Neural Networks. He clarified on pruning in Neural Networks, Filter Pruning, Deep learning on CPU and GPU, Randomly Pruning Filters, General Algorithm, Results of image classification, training from a smaller network, Dynamic optimizations, and other opportunities. The last to speak was Dipanjan Gope, Associate Professor, IISc Bangalore. He explained about the Role of Machine Learning in Physics based simulations. He threw light on some important aspects like Antenna and RCS, Microelectronics applications, Biological systems, Role of machine learning, Forward versus inverse problem, commercial standard, Benign-Malignant

contrast analysis, Advantages of RF imaging, Research setup, ML classification, Hybrid Machine Learning optimization approach.

The workshop concluded on the last day (8th Oct 2020) with thanksgiving for different speakers who made themselves available despite their busy schedule and for participants for actively participating in the workshop and asking queries with the speakers.

Attendees!

Ranjith H D

Dr. Vishwanath HS

Dept. of E & C Engg
Mangalore Institute of Technology & Engineering
Badaga Mijar, MOODBIDRI - 574 225

Certificate of Participation

AWARDED TO

Dr VISHWANATH MADHAVA SHERVEGAR

FOR PARTICIPATION IN

Next Generation Electronic Systems:

Heterogeneous Integration, Thermal and Power Management, Related Machine Learning

Binghamton University, IIT Madras and IIT Ropar • October 6, 7 & 8, 2020

Krishnaswami "Hari" Srihari
Dean, Thomas J. Watson College of Engineering and Applied Science, Binghamton University

Arvind Pattamatta
Associate Professor, IIT Madras

Rohit Sharma
Associate Professor, IIT Ropar

Next Generation Electronic Systems:
Heterogeneous Integration, Thermal and Power Management, Related Machine Learning

BINGHAMTON UNIVERSITY

Certificate of Participation

AWARDED TO

Ranjith H D

FOR PARTICIPATION IN

Next Generation Electronic Systems:

Heterogeneous Integration, Thermal and Power Management, Related Machine Learning

Binghamton University, IIT Madras and IIT Ropar • October 6, 7 & 8, 2020

Krishnaswami "Hari" Srihari
Dean, Thomas J. Watson College of Engineering and Applied Science, Binghamton University

Arvind Pattamatta
Associate Professor, IIT Madras

Rohit Sharma
Associate Professor, IIT Ropar

Next Generation Electronic Systems:

Heterogeneous Integration, Thermal and Power Management, Related Machine Learning

BINGHAMTON UNIVERSITY

Talk on 'Higher Education in US'

by Dr. Sang Won Yoon, Binghamton University
6th October 2018

Dr. Sang Won Yoon, Professor of Systems Science and Industrial Engineering Dept from Binghamton University presented a Talk on 'Higher Education opportunities at Binghamton University' on 6th October 2018. Dr. Sang Won brefed about the University Courses, eligibility exams, opportunities of Research and Projects and Job opportunites after completing Masters at Binghamton University. A snapshot of Indian alumni from Binghamton University was also presented. Total of 100 students attended the talk and were also had a one-to-one interaction with the Professor after the Talk.

Presently Binghamton University is ranked 8th Public University in US by Forbes Magazine. Dr. Sang Won Yoon is Professor of Systems Science and Industrial Engineering Dept, of Thomas J Watson School of Engineering and Applied Science from Binghamton University, State University of New York, USA.

Narendra U P
Dean (Placement & Training)
Mangalore Institute of Technology and Engineering
Badagamijar PO, Moodabidri DK Dist - 574225
Tel : 08258 262695 - 99 EXT: 165

MITE

MITE
MANGALORE
Invent Solutions

IEEE
Bangalore Section

ISTE
INDIAN SOCIETY FOR TECHNICAL EDUCATION

IEEE
Mangalore Sub Section
R0011901

INTERNATIONAL CONFERENCE
IEEE
DISCOVER

2018 IEEE International Conference on

Distributed Computing, VLSI, Electrical Circuits and Robotics

(DISCOVER)

Conference Id - 43909

13th & 14th August 2018 | Venue: MITE Campus

Hosted by

Mangalore Institute of Technology & Engineering
(An ISO 9001:2008 Certified Institution)
(A Unit of Rajalaxmi Education Trust (R.), Mangaluru)
Affiliated to VTU, Belagavi and approved by AICTE, New Delhi
Badaga Mijar, Moodbidri - 574 225, D.K., India

BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK

About Mangalore Institute of Technology & Engineering (MITE)

Mangalore Institute of Technology & Engineering (MITE) was established in the year 2007 by Rajalaxmi Education Trust® to fulfill the growing needs of the industry and aspirations of young students of Dakshina Kannada District and other parts of the country. In the world of opportunities for success, education plays a paramount role in moulding, shaping and preparing the youngsters to face the challenges that the future has in store for them. At MITE, we believe that education is the manifestation of perfection in a human being and we insist on the development of the most needed human values and ethics in our students.

The institution has received an in-kind software grant from SIEMENS PLM software, a Center of Excellence (COE) for Digital Design, Digital validation & Digital Manufacturing. The value of software granted to the institute is around US $79 million. BOSCH-REXORTH has instituted a regional center for competence for automation technologies which has been functioning for the past five years. The preparations to setup the Nano Science & Technology Research Center (NTRC) at MITE is going on at the moment.

MITE is located amidst lush greenery and a serene ambience in Moodbidri. The MITE campus spreads over an area of 74 acres in the sylvan surroundings near Mijar en route to Karkala. Integrating modern design, construction technology and eco-friendly techniques, the campus provides the right setting to the students for effective learning. The institute has a world class infrastructures and state-of-the-art lab facilities. It offers 7 UG and 7 PG courses, viz:

UG Programmes - Bachelor of Engineering

- Aeronautical Engineering
- Civil Engineering
- Computer Science & Engineering
- Electronics & Communication Engineering
- Information Science & Engineering
- Mechanical Engineering
- Mechatronics Engineering

PG Programmes - Master of Technology

- Computer Science & Engineering
- Computer Network Engineering
- Digital Electronics & Communication
- Mechatronics
- Machine Design
- Nanotechnology
- VLSI & Embedded System Design

MBA Programmes

- Banking & Finance
- Finance
- Human Resources Management
- Marketing

Research Centers

- Civil Engineering
- Computer Science & Engineering
- Electronics & Communication Engineering
- Mechanical Engineering
- Chemistry
- Mathematics
- Physics

About Binghamton University

Binghamton University, is a public research university with campuses in Binghamton, Vestal, and Johnson City, New York, United States. Since its establishment as Triple Cities College in 1946, the school has evolved from a small liberal arts college to a large doctoral-granting institution. Presently consisting of seven colleges and schools, it is now home to more than 17,250 undergraduate and graduate students. Binghamton is one of the four university centers in the State University of New York (SUNY) system.

Binghamton University is ranked 8th Best Public University and 15th overall amongst '25 Best Value Colleges 2016' by Forbes Magazine. Binghamton has been ranked by U.S. News & World Report 2017 as one of the top 50 Public Universities for18 consecutive years. Currently, the University is executing and planning several projects to accommodate growth in the student body, research capacity and quality of education. The university is designated as an advanced research institution, with a division of research, an independent research foundation, several research centers including a New York State Centre of Excellence and partnerships with other institutions. In the fiscal year 2016, the university had research expenditures of US $ 39.8 million.

Binghamton University students, both undergraduate and graduate, work one-on-one with exceptional faculty and ground-breaking scholars. They take advantage of special academic opportunities like combined degrees, foreign language study groups and an unparalleled international education program.

About IEEE Mangalore Sub Section

IEEE Mangalore Sub-Section approved by MGA Board on 23rd Nov. 2013 is dream of Engineers in general and IEEE Members of Coastal Region of Karnataka in particular. The efforts of more than 90 members in this region covering 30 odd Engineering colleges and Many Industries in the geographical area of S. Kanara, Udupi, North Kanara, Chikmagalur, Shimogga and Coorg Districts of Karnataka.

Objectives of the Conference

2018 IEEE International Conference on Distributed Computing, VLSI, Electrical circuits and Robotics (DISCOVER) is being conducted by the IEEE Mangalore Sub-Section (R0011901) at Mangalore Institute of Technology & Engineering (MITE), Moodbidri, Mangalore, India. A series of Keynote Talks, followed by paper presentations and poster presentations have been planned to foster strong networking among the delegates. Accepted and presented papers will be published in IEEE Xplore® Digital Library (Conference ID: 43909) through the IEEE Conference Publications Program (CPP). DISCOVER solicits paper submissions across five tracks as listed below. Kindly note that the submissions are not limited to the topics mentioned in each track. Technical Program Committee of DISCOVER will select One Best Paper in each of the tracks mentioned below. Best Paper Awards will be announced and distributed during the Conference.

Call for Papers

DISCOVER solicits Paper submission in five tracks as listed below. Kindly note that the submissions are not limited to the topics mentioned in each track.

1. Distributed Computing

Multi-core Architecture, Parallel & Distributed Systems, Agent-Based Systems, Autonomic Computing, Mobile & Ubiquitous Computing, Service-Oriented Computing, Scalable Servers and Systems, GPU Programming, Parallel & Distributed Algorithms

2. Communications

Network algorithms, Network Control & Management, Disaster Recovery of Networks, Cognitive Communications, Wireless Sensor Networks, Software Defined Networks, Future Internet Architecture, Optical Networks, Internet of Things, Network Performance Analysis.

3. VLSI

VLSI Circuits and Systems, RF Circuit Design and Testing, Emerging Trends in VLSI, Reconfigurable Systems, System on Chip, Heat Dissipation Analysis, Design of MEMS Devices, Optical MEMS Devices, Analog / Mixed Signals, RF Circuit Analysis.

4. Electrical/Electronic Circuits

Electrical AC/DC Circuits, Analog and Digital Circuits, High-speed/low-power circuits, Near and sub-threshold circuits, Nonlinear Circuits & Systems, Neural/fuzzy-logic circuits, Energy efficient circuits, FPGA based systems.

5. Robotics

Robotic Technologies, Robots for Industrial Applications, Robots for Domestic Premises, Robots for Education, Robots for Health Care, Robots for Transportation, Robots for Commercial Usage, Humanoids.

Committee

General Chair

G L Easwara Prasad, MITE Moodabidri, India
Niranjan N Chiplunkar, NMAMIT Nitte, India

Steering Committee

Rajesh Chowta, Chairman, Rajalaxmi Educational Trust, India
Debabrata Das, Chairman, IEEE Bangalore Section, India
N R Shetty, Former Vice-Chancellor, Bangalore University, India

Advisory Committee

G R Rai, MITE Moodabidri, India
Douglas H Summerville, Binghamton University, USA
Alok Rastogi, Binghamton University, USA
G K Prabhu, MIT Manipal, India
K Uma Maheshwar Rao, NITK Surathkal, India
Narasimha Bhat, Manipal Dot Net Pvt. Ltd., India
Nagaraj, VTU, India
Prashanth Bhat, Manipal Dot Net Pvt. Ltd., India
Rohit Bhat, Robosoft Technologies, India

Organizing Chairs

Srikrishna Shastri C, MITE Moodabidri, India
Nagesh Prabhu, NMAMIT Nitte, India

Program Chairs

Manohar Pai M M, MIT Manipal, India
Niranjan U C, Manipal Dot Net Pvt. Ltd., India
Venkatramana Bhat P, MITE Moodabidri, India

Technical Programme Committee Chairs

Annappa B, NITK Surathkal, India
Ganesh Aithal, MITE Moodabidri, India
Manjunath K N, MIT Manipal, India
Mohit P Tahiliani, NITK Surathkal India
Radhika Pai, MIT Manipal, India
Satisha, MITE Moodabidri, India
Vasudeva Acharya, SMVITM Bantakal, India

Finance Chairs

Pushparaj Shetty, NITK Surathkal, India
Swapna Srinivasan, MITE Moodabidri, India

Website Chairs

Mohit P Tahiliani, NITK Surathkal India
Ujjwal Verma, MIT Manipal, India

Sponsorship Chairs

Narendra U P, MITE Moodabidri, India
Praveen Kalbhavi, Novigo Solutions, Mangalore, India

Publicity Chairs

Ashwini Holla, CEC Mangalore, India
Ganesh V N, MITE Moodabidri, India
Keith Fernandes, SJEC Mangalore, India
Neelima B, NMAMIT Nitte, India
Ramalingam H M, MITE Moodabidri, India
Ujjwal Verma, MIT Manipal, India

Registration Chairs

Annappa Swamy D R, MITE Moodabidri, India
KVSSSS Sairam, NMAMIT Nitte, India
Ravinarayana B, MITE Moodabidri, India
Rekha Bhandarkar, NMAMIT Nitte, India

Local Arrangements

Balaji B, SoIS, Manipal, India
Manjunath H, MITE Moodabidri, India
Pallavi Mane, MIT Manipal, India
Shree Kumar T , MITE Moodabidri, India

Important Dates

Paper submission deadline	:	Sunday, March 18, 2018
Acceptance notification	:	Monday, April 30, 2018
CRC submission deadline	:	Sunday, May 20, 2018
Last date for registration	:	Sunday, May 20, 2018
Conference dates	:	August 13-14, 2018 (Monday & Tuesday)

Registration Fees

Author	Regular Author	IEEE Author	Student Author	IEEE Student Author	Regular Attendee	IEEE Student Attendee
Indian (In INR)	INR 9500	INR 8500	INR 8500	INR 7300	INR 3000	INR 2500
Foreign (In USD)	USD 425	USD 375	USD 375	USD 135	USD 155	USD 105

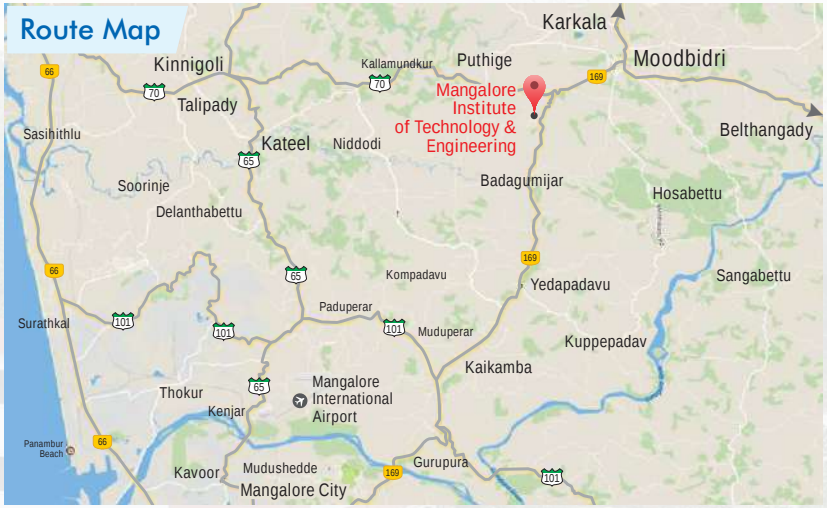
Payment Details

Payment of Registration Fee can be made by online transaction.
Details are furnished below:

Bank Name: **Canara Bank**
Account Name: **IEEE Mangalore**
Account No.: **8517 1010 03602**
Indian Financial System Code (IFSC): **CNRB0008517**
Society for the Worldwide Interbank Financial Telecommunication (SWIFT) Code: **CNRBINBBRFM**

Please mention your Paper-ID and
FULL NAME while making the online payment.

Route Map



Contact

Srikrishna Shastri C
Associate Professor
Mangalore Institute of Technology and Engineering
Moodabidri, Karnataka, India
Email: org.discover18@mite.ac.in

Nagesh Prabhu
Professor
NMAM Institute of Technology
Nitte, Karnataka, India

Website: www.ieee-discover.org
E-mail: ieeediscoverconf@gmail.com

Sponsorship Details

Sponsorships for IEEE Discover are categorized mainly into four levels - Platinum, Gold, Silver and Bronze - each with its own set of perks. All of the necessary details are as stated below. Pick your category and proceed.

Platinum Sponsors - INR 2,50,000

- Recognition as PLATINUM sponsor of the conference.
- Exhibit space during the conference.
- Name and Logo on Conference Banner.
- Logo on Conference Badge.
- Logo on Conference invitations.
- Opportunity to place a company banner at the conference venue
- 3 Complimentary conference registrations
- 3 Complimentary conference banquet tickets
- 20 minute Session opportunity during the conference
- Company-provided promotional items in the conference registration kit
- Full Page Advertisement in the conference program booklet
- Acknowledgements during opening and closing sessions
- Opportunity to place a company banner at the conference dinning venue
- Opportunity as Guest of Honor for Inaugural function or as Keynote Speaker Banner with logo of the sponsor will be displayed at the venue of all the events of IEEE Mangalore Sub-Section

Gold Sponsors - INR 1,50,000

- Recognition as GOLD sponsor of the conference.
- Exhibit space during the conference.
- Name and Logo on Conference Banner.
- Logo on Conference Badge.
- Opportunity to place a company banner at the conference venue.
- Two Complimentary conference registrations.
- Two Complimentary conference banquet tickets.
- 15 minute Session opportunity during the conference.
- Company-provided promotional items in the conference registration kit.
- Half Page Advertisement in the conference program booklet.
- Acknowledgements during opening and closing sessions.
- Opportunity to place a company banner at the conference dinning venue.

Silver Sponsors - INR 50,000

- Recognition as SILVER sponsor of the conference.
- Exhibit space during the conference.
- Name and Logo on Conference Banner.
- Logo on Conference Badge.
- Opportunity to place a company banner at the conference venue.
- Two Complimentary conference registrations.
- Two Complimentary conference banquet tickets.
- 15 minute Session opportunity during the conference.
- Quarter Page Advertisement in the conference program booklet.
- Acknowledgements during opening and closing sessions.

Bronze Sponsors - INR 25,000

- Recognition as BRONZE sponsor of the conference.
- Opportunity to place a company banner at the conference venue.
- Acknowledgements during opening and closing sessions

AWARDS

ENGINEERING COLLEGE OF THE YEAR 2015
INDUSTRY ENGAGEMENT
Awarded by the Higher Education Review Magazine

OUTSTANDING CONTRIBUTION IN SOFT SKILLS ROLLOUT - 2015
SOFT SKILLS
Awarded by Infosys

UNISYS CLOUD 20/20
All India Project Competition
ALL INDIA SECOND BEST PROJECT 2017
2017 : All India II Position
2016 : All India III Position
2015 : Top Five Finalist

International Go-Kart Championship - 2014
FOURTH POSITION OVERALL
MITE Go-KART
Organized at LPU, Jalandhar, Punjab

Baja Student India 2016
MOST POPULAR CAR OF THE YEAR 2016
MITE ALL TERRAIN VEHICLE
Awarded by JK Tyre Motorsport
All India 10th overall standing

KPIT SPARKLE
Annual National Design & Development Innovation contest
PLATINUM AWARD
WITH CASH PRIZE RS. 10 LAKHS
2017 : Two Projects amongst Top 35
2016 : One amongst Top 35 Finalists

5
VTU RANKS 2015
2014 : Three Ranks
2013 : MBA - First Rank

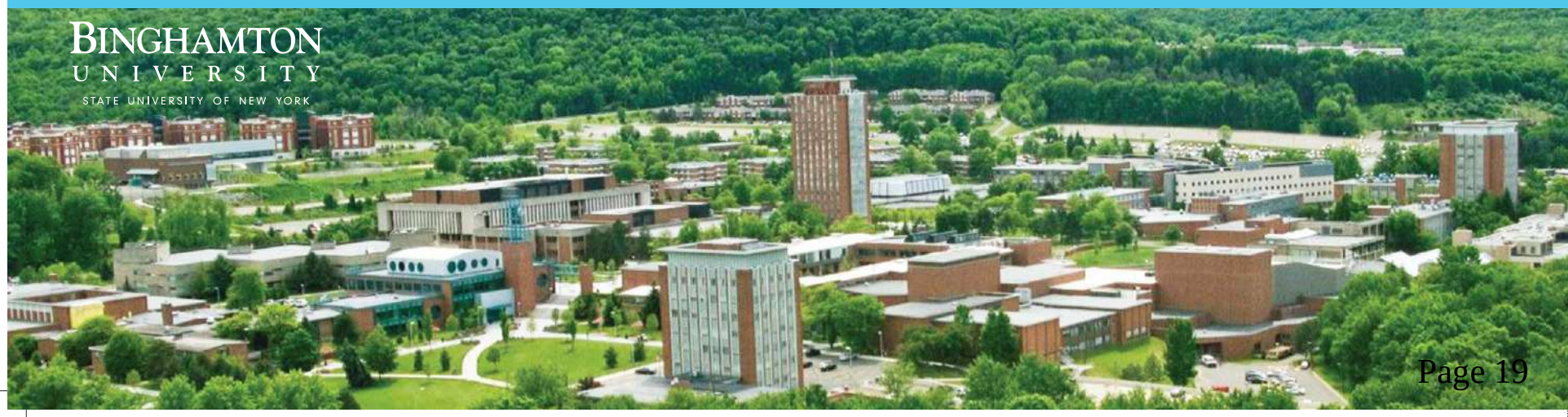
Green Campus
BEST ENGINEERING COLLEGE UNDERTAKING GREEN INITIATIVES
Awarded by Karnataka State Pollution Control Board, DK Dist

Karnataka State Council for Science & Technology
Student Project Sponsorship 2017
16
PROJECTS SPONSORED
STATE HIGHEST
2016 : 14 Projects sponsored

Eco Kart Championship 2017
BEST DESIGN AWARD
MITE E-KART
National event Organized at BML University, Gurgaon

MITE
MITE
MANGALORE
Invent Solutions

BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK



International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics 'DISCOVER'

IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (DISCOVER) was conducted at Mangalore Institute of Technology & Engineering (MITE), Moodbidri on 13th and 14th August 2018. The conference was jointly organized by IEEE Mangalore sub-section and MITE. The aim of the conference was to create an opportunity for the researchers of various Colleges / Universities / Industries / Research Organizations to exhibit and present their innovation, creativity and research. Dr. Tulika Mitra, Professor, School of Computing, National University of Singapore inaugurated the conference. Prof. Alok Rastogi, Department of Electrical and Computer Engineering, The Watson School of Engineering and Applied Sciences, Binghamton University delivered a keynote address. He explained about the various semiconductor devices and the process involved in the manufacturing of semiconductor chips, non-volatile memory and photovoltaic cells. Total 130 papers were received from all over the globe. However, after three rounds of peer review, to maintain the quality of the papers 50 papers were selected for conference presentation. The conference presentations were conducted in 5 different tracks namely distributed Computing, Communication, VLSI, Electrical and Communication Circuits and Robotics.

International Conference proceedings volume released by Dr. Tulika Mitra, Professor, School of Computing, National University of Singapore

Keynote address by Prof. Alok Rastogi, Department of Electrical and Computer Engineering, The Watson School of Engineering and Applied Sciences, Binghamton University

Keynote address by Dr.Tulika Mitra, Professor, School of Computing, National University of Singapore

Head of the Dept. of E & C Engg.
Mangalore Institute of Technology & Engineering
Badaga Mijar, MOODBIDRI - 574 225

Head of the Dept. of Info. Sci. & Engg.
Mangalore Institute of Technology & Engineering
Badaga Mijar, MOODBIDRI - 574 225

Head of the Dept. of Comp. Sci. & Engg
Mangalore Institute of Technology & Engineering
Badaga Mijar, MOODBIDRI - 574 225

MITE

MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING

(An ISO 9001:2015 certified Institution)
(A unit of Rajalaxmi Education Trust, Mangalore)
Badagamijar, Moodabidri

Mr. Narendra U P, Dean (T&P) Visits Binghamton University to discuss Collaborative Academic Programs

December 11th -15th, 2017

Mr. Narendra U P, Dean (Training & Placement), and Associate Professor, Department of Information Science & Engineering visited Binghamton University, State University of New York, USA as part of the academic collaboration with the university on December 2017. Mr. Narendra was at the Binghamton University from December 11th – 15th 2017 to discuss the collaborative academic programs between MITE and Binghamton University. As part of the visit, Mr. Narendra met the Directors and Deans of various Schools of the University to understand the academic process and unique teaching methodology. The objective of the visit was to incorporate the best practices followed at the US University to be incorporated at MITE Moodabidri. Also, discussions were held with the Deans of various schools about the various programs offered on the latest technological trends by the University, so that the same programs by the top Professors of the US University can be offered to the students here at MITE. The visit is part of the Memorandum of Agreement signed by MITE with Binghamton University last year.

The Binghamton University visit of Mr. Narendra started with a Meeting with Dr. Hari Srihari, Dean, Thomas J. Watson School of Engineering and Applied Science, followed by an presentation on overview of Binghamton University and the Watson School. Also, Mr. Narendra had separate discussions with the Chair/Directors of various Departments. The Laboratories and the Centers of Excellence catering to the Studies of each Departments were also visited during the meeting.

Mr. Narendra had an exclusive meeting with Dr. Donald Nieman, Executive Vice President of Binghamton University wherein discussions was done about the way in which Both the Universities can collaborate together and conduct more activities, Workshops on latest technologies, Conferences, that can benefit the Students and Faculty. On the Last Day, Mr. Narendra also attended the Watson Advisory Board Meeting, where each Department Directors presented a brief about their activities and the future plans.

Narendra U P
Dean (Placement & Training)
Mangalore Institute of Technology and Engineering
Badagamijar PO, Moodabidri DK Dist - 574225
Tel : 08258 262895 - 99 EXT: 165

BINGHAMTON UNIVERSITY

STATE UNIVERSITY OF NEW YORK

OFFICE OF THE DEAN
THOMAS J. WATSON SCHOOL OF ENGINEERING AND APPLIED SCIENCE

P.O. Box 6000
Binghamton, New York 13902-6000
607-777-2871, Fax: 607-777-6256

November 7, 2017

Professor Narendra Urvinkhan Puttappa
Mangalore Institute of Technology and Engineering
Badaga Mijar, Near Moodabidre, Mangalore TQ
DK Dist, Karnataka, India, 574225

Dear Professor Puttappa:

We are delighted to invite you, Narendra Urvinkhan Puttappa, to visit our campus on December 11, 2017 through December 15, 2017.

During your visit, we would like to discuss the collaborative academic programs between our universities. We would also like to use this opportunity to show you our campus, research and teaching labs, and have you meet with our academic leaders.

This invitation is extended to:

Narendra Urvinkhan Puttappa
Date of Birth: 04/07/1978
Passport Number: J1374606
Passport Expiration: 18/07/2020

We look forward to your visit this December, 2017. Please do not hesitate to contact me with any additional questions or concerns. Thank you.

Sincerely,

Peter J. Partell
Associate Dean for Academic Affairs and Administration
Binghamton University
Thomas J. Watson School of Engineering and Applied Science
4400 Vestal Parkway East
PO Box 600
Binghamton, NY 13902

MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING

(An ISO 9001:2015 certified Institution)
(A unit of Rajalaxmi Education Trust, Mangalore)
Badagamijar, Moodabidri

Program Schedule as part of the Binghamton University Visit

Monday, Dec 11th 2017	Meeting with -Dr. Hari Srihari, Dean, Thomas J. Watson School of Engineering and Applied Science -Monice DeGennaro, Senior Assistant to the Dean, Thomas J. Watson School of Engineering and Applied Science
	Overview of Binghamton University and the Watson School By -Dr. John Bay, Associate Dean, Graduate Recruitment and Research -Ms. Lisa Gallagher, Assistant Dean, Graduate Recruitment and Research
	Meeting with -Dr. Peter Partell, Associate Dean, Academic Affairs & Administration -Janet Keesler, Assistant Dean, Administration
	Tour of Innovative Technologies Complex Location with Chris Chase, Watson Equipment & Operations Manager & Don Kunkel, Watson Director of Information Technologies
	Meet with International Student and Scholar Services -Patricia (Trisha) Bello, Director of ISSS; Assistant Provost for International Education and Global Affairs (IEGA)
Tuesday Dec 12th 2017	Meeting with Dr. Paul Chiarot, Associate Professor & Graduate Director, Department of Mechanical Engineering
	Meeting with - Dr. Doug Summerville, Chair, Department of Electrical and Computer Engineering
	Tour of Biomedical Engineering Laboratories with- Dr. Kaiming Ye, Chair, Biomedical Engineering
	Meeting with School of Management Dr. Upinder Dhillon, Dean, School of Management & Select Department Heads, School of Management, School of Management Career Services
Wednesday Dec 13th 2017	Meeting with Dr. Weiyi Meng, Chair, Department Computer Science
	Meeting with Dr. Nagen Nagarur, Professor, Department of Systems Science and Industrial Engineering
	Tour Engineering Building Labs with Vince Brady, Manager of Engineering Learning Environments
	Meeting with Professor Sangwon Yoon, Department of Systems Science and Engineering
Thursday Dec 14th 2017	Meet with Vice Provost of Binghamton University -Dr. Hari Srihari, Dean, Thomas J. Watson School of Engineering and Applied Science -Dr. Donald Nieman, Executive Vice President for Academic Affairs and Provost
	Meeting with Fleishman Career Center -Denise Lorenzetti, Director of Fleishman Career Center
	Meet with Alumni and Career Connections Office Lindsey Sikorski, Director of the Alumni and Career Connections Office, The Watson School
	Meeting with Professor Paul Chiarot, Department Head of Mechanical Engineering
Friday Dec 15th 2017	Attending Watson Advisory Board Meeting
	Meet with Students- Undergraduate and Graduate
	An Academic Overview of Our Campus: Watson School by Dr. Donald Nieman, Executive Vice President for Academic Affairs and Provost
	Address by President Harvey Stenger
	Faculty Presentation of various Schools

Narendra U P
Dean (Placement & Training)
Mangalore Institute of Technology and Engineering
Badagamijar PO, Moodabidri DK Dist - 574225
Tel : 08258 262695 - 99 EXT: 165

MANGALORE INSTITUTE OF TECHNOLOGY AND ENGINEERING
(An ISO 9001: 2015 Certified Institution)
(Affiliated to Visvesvaraya Technological University Belagavi)
Badaga Mijar, Moodabidri-574225, Karnataka

Sample Documents of Details of Functional MoUs with Institutions of National, International importance, other Universities etc are uploaded.

For complete document of Details of Functional MoUs with Institutions of National, International importance, other Universities etc for the last five years follow the link below,

Part - 1	**https://mite.ac.in/wp-content/uploads/2021/08/3_5_2-List-of-activites-conducted-under-MoU-Part-1.pdf**
Part – 2	**https://mite.ac.in/wp-content/uploads/2021/08/3_5_2-List-of-activites-conducted-under-MoU-Part-2.pdf**
Part – 3	**https://mite.ac.in/wp-content/uploads/2021/08/3_5_2-List-of-activites-conducted-under-MoU-Part-3.pdf**
Part – 4	**https://mite.ac.in/wp-content/uploads/2021/08/3_5_2-List-of-activites-conducted-under-MoU-Part-4.pdf**
Part - 5	**https://mite.ac.in/wp-content/uploads/2021/08/3_5_2-List-of-activites-conducted-under-MoU-Part-5.pdf**