INTENSIVE TEACHING WORKSHOP
(ITW-2021)

March 20th
&
27th, 2021

BITS Pilani
Pilani Campus

innovate   achieve   lead
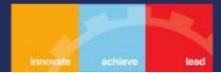
Organized by
Teaching Learning Centre

VICE CHANCELLOR'S MESSAGE

Dear Colleagues,

Heartiest welcome to another chapter of the *Intensive Teaching Workshop* (ITW), a program conceived and designed to help you excel in teaching. As you would have heard by now that BITS Pilani is a concomitant research and teaching institute. Its legacy in teaching will always be our guiding light while we explore niche directions in pedagogy, in Edu-Tech and continue to bring frontiers of research findings into the classroom.

It won't be a hyperbole to say that the success of BITSians in every sphere of life-academia, corporate, entrepreneurship, civil services, social arena, literature and performing arts, research, defense services and several others - is the success of our teaching pedagogy. In challenging times like these, when teaching had to embrace the virtual delivery mode, we must revisit our teaching learning processes.

BITS Pilani has always adapted to the changing environments and adopted the appropriate and contemporary pedagogy from time to time. This would not have been possible without the wisdom and dedication of the faculty of the institute. The *Teaching Learning Center* of BITS Pilani through the *Intensive Training Workshop* presents a treasured platform to draw attention to its teaching-learning culture and eco-system. ITW also provides an opportunity and a podium for the faculty members to reflect on and discuss their teaching/learning experiences. I hope this workshop leaves all of you with a renewed spirit and passion to embark further on your journey towards becoming an excellent mentor in the classroom, be the role model for the students for the rest of their lives, and influence the path they will be on throughout their career. As Henry Brooks Adams famously said, a *teacher affects eternity; she/he can never tell where her/his influence stops.*

Wish you all the very best.

PROF. SOUVIK BHATTACHARYA
VICE CHANCELLOR
BITS PILANI

DIRECTOR'S MESSAGE

Dear Faculty Participants,

The delicate balance of mentoring someone is not creating them in your own image, but giving them the opportunity to create themselves.

~ Steven Spielberg

Learning Centre (TLC) BTIS Pilani, Pilani campus is about to embark on yet another exciting voyage, it gives me immense pleasure in welcoming you to another chapter of Intensive Teaching Workshop (ITW) here at BITS.

The vibrant and diversified education system at BITS has been one of its major highlights besides several other unique features. Ceaselessly evolving, BITS Pilani has always improvised its curriculum and pedagogy to stay relevant leading innovations in the field of education. Today, our university provides excellent Digital infrastructure for teaching – Telepresence classrooms for cross-campus teaching, MOOC Courses, digitization of teaching contents, digital library, etc. which are focused on maximizing the learning outcomes. These experiences have been instrumental in helping our faculty and students to adapt quickly to the new normal during the current pandemic situation.

You will gain valuable insights into the education culture at BITS during this well-crafted workshop. This interactive experience will help you revamp your pedagogical practices and design teaching materials suited to the diversified curriculum that also subsumes in it the judicious interplay between industrial needs and their academic orientation. Having said that, the workshop would be an ideal platform for all the new members of our academic fraternity to bring in with them fresh waves of academic energy and enrich the constantly developing the robust academic culture at BITS, Pilani.

Good Luck!

PROF. SUDHIRKUMAR BARAI
DIRECTOR
BITS PILANI, PILANI CAMPUS

FACULTY IN-CHARGE'S MESSAGE

Teaching is the soul of any education system. With this philosophy at the core of BITS Pilani education system, the Intensive Teaching Workshop (ITW) was conceived nearly five decades ago. Essentially it focuses on imparting training for quality teaching to the new faculty and helping them acclimatize with the BITS education system. Over the years ITW has evolved into a dynamic and vibrant learning unit. It also encompasses the latest pedagogical practices and improvisations in order to make the training more useful and relevant. Keeping in view the changing academic challenges, ITW aims at boosting the confidence of the faculty participants in teaching, assessment, and evaluation, using technology both as a platform and as a teaching aid, engaging learners effectively and working on the learning outcomes of teaching following the revised Bloom's Taxonomy. The philosophy being practiced at ITW for so long, perfectly aligns with the ethos and the directives of the National Education Policy (NEP) 2020, which emphasizes the Continuous Professional Development of faculty irrespective of the level of education they are engaged in - school, college, or university.

PUSHP LATA
FACULTY IN-CHARGE, TLC

ACKNOWLEDGEMENTS

CONTENTS

1. Teaching Learning Centre

To create and uphold excellence in teaching at BITS Pilani, a Teaching Learning Centre is established across the institute, in all four campuses. The Teaching-Learning Centre promotes sharing of teaching-learning experience, encourages innovation in teaching-learning methodologies, and creates a platform for learning from the best practitioners and from each other. It also conducts pedagogical research and actively seeks strategies/interventions in specific target contexts. TLC organizes workshops to train academicians in the use of the latest technology and various approaches and techniques for effective teaching and learning. It also creates a platform to address the various pedagogical challenges by conducting national/international conferences, lecture series, workshops, and training programs for academicians and scholars.

The details of the Teaching Learning Centre can be obtained from https://www.bits-pilani.ac.in/tlc/home.html.

2. Organizing Committee

ITW Coordinators

Dr. Prashant Uday Manohar (Department of Chemistry) Email: pumanohar@pilani.bits-pilani.ac.in

Dr. Prashant Uday Manohar has been an Assistant Professor at the Department of Chemistry, BITS Pilani, Pilani Campus, since August 2009. He carried out his doctoral research in Chemistry at National Chemical Laboratory (July 2001-July 2007) under the supervision of Dr. Sourav Pal and obtained the Ph.D. degree (University of Pune) in 2007. He was a Postdoctoral Research Associate at the Department of Chemistry, University of Southern California, Los Angeles, CA (USA) in Prof. Anna I. Krylov's research group from October 2007 to June 2009. Dr. Manohar is a Theoretical and computational chemist.

Dr. Meetha.V.Shenoy (Department of Electrical & Electronics Engineering) Email: meetha.shenoy@pilani.bits-pilani.ac.in

Dr. Meetha V Shenoy is an Assistant Professor in the Department of Electrical & Electronics Engineering at BITS Pilani. She has been a lead instructor and also a member of the content development team of the MOOC and flipped classroom courses delivered through the various online content delivery platform. Her specialization is in the area of Deeply Embedded Systems. Her current research work covers the design of Optimal Embedded Hardware, Software, and network architectures for Autonomous Systems, Robotic Systems, and IoT Networks. She is also passionate about exploring various aspects of pedagogical research to find effective teaching/learning practices.

Dr. Gautam Singhvi (Department of Pharmacy) Email: gautam.singhvi@pilani.bits-pilani.ac.in

Dr. Gautam Singhvi is an Assistant Professor in the Department of Pharmacy, BITS, Pilani. He has been involved in teaching and research related to pharmaceutical product development for the last 12 years. He has published more than 85 international papers, 15 book chapters, and filed 6 patents. He is actively involved in practicing the newer teaching pedagogy in his classroom teaching and motivating students to face the challenges of the new era.

Other TLC Members

Dr. Ashutosh Bhatia (Department of Computer Science & Information Systems) Email: ashutosh.bhatia@pilani.bits-pilani.ac.in

Dr. Ashutosh Bhatia received his B.E. degree in Computer Science from Barkatullah University, Bhopal, India, in 2000. From 2001-2005 he worked as a scientist in Defence Research and Development Organization (DRDO), India. He received his M.E. degree in Computer Science from the Indian Institute of Science (IISc), Bangalore, India, in 2007. From 2007-2010, he worked as a research engineer in Samsung India Software Operations (SISO). His research interests include building new designs, protocols, algorithms, and theories that improve the security, performance, and robustness of various networks and systems.

Dr. Krishna C. Etika (Department of Chemical Engineering) Email: etika.krishna@pilani.bits-pilani.ac.in

Dr. Krishna C. Etika has been an Assistant Professor at the Department of Chemical Engineering, BITS Pilani, Pilani Campus, since March 2018. He carried out his doctoral research at Texas A&M University, College Station, TX, U.S.A. After Ph.D., Dr. Etika worked for Intel Corporation in U.S.A as a Technology Development Process Engineer from Jan 2011 to May 2014. Dr Etika has worked in IIT Madras as an Institute Post Doctoral Fellow for the period Nov 2014–Aug 2015.

Dr. Muhammed Afzal P (Department of Humanities & Social Sciences) Email: muhammed.p@pilani.bits-pilani.ac.in

Dr. Muhammed Afzal P. has been an Assistant Professor at the Department of Humanities and Social Sciences,BITS Pilani, Pilani Campus, since 2019. He carried out his doctoral research in Cultural Studies at the Department of Cultural Studies, The English and Foreign Languages University, Hyderabad. His areas of interest are Cultural Studies, Film Studies, Literary and Cultural Theory, Marxism, and Language Politics.

Dr. Nirankush Dutta (Department of Management) Email: nirankush.dutta@pilani.bits-pilani.ac.in

Dr. Nirankush Dutta has been an Assistant Professor in the Department of Management, since 2017. Prior to joining BITS Pilani, he had worked in the IT industry in India and abroad for four years, and in academia for two years, where he taught Management courses to students of the post-graduate level. His primary research interest lies in Online Social Media Marketing and e-Commerce. In his Doctoral thesis, he has focused on building an empirically validated model on the role of trust in Online Social Media Marketing. He believes in interactive teaching with contemporary real-world examples in a friendly atmosphere. He prefers to inspire students to learn more on their own by raising their level of inquisitiveness and hand-hold them at the time of need.

Dr. Shibani K Jha (Department of Civil Engineering) Email: shibani@pilani.bits-pilani.ac.in

Dr. Shibani K Jha has been an Assistant Professor at the Department of Civil Engineering, BITS Pilani, Pilani Campus, since April 2013. She carried out her doctoral research at Indian Institute of Science, Bangalore. Dr. Shibani's research interests are mainly in groundwater contamination, geothermal energy, modeling of geological processes, etc. Dr. Shibani has contributed in many outreach activities like invited lectures on societal issues, teaching learning issues, nature-based solutions for water problems, motivational talks for students, mentored and counseled many students as faculty mentor of academic counseling cell.

Dr. Virendra Singh Shekhawat (Department of Computer Science & Information Systems) Email: vsshekhawat@pilani.bits-pilani.ac.in

Dr. Shekhawat is an Assistant Professor in the Department of Computer Science and Information Systems at Birla Institute of Technology and Science, Pilani, Pilani, India. He is also Faculty In-charge of Software Development & Educational Technology. He did his Ph.D. in Computer Science and Engineering from BITS Pilani. He has played a key role in several initiatives taken for Educational Technology at BITS Pilani. His broad research interests lie in the areas of Computer Networking, Distributed Systems, and Robotics. Currently, he is researching the area of Delay Tolerant Networks (DTN), Multi-robot Coordination Systems (MRS), and Software Defined Networks (SDN).

TLC Advisors

Dr. Kaushar Vaidya (Department of Physics) Email: kaushar@pilani.bits-pilani.ac.in

Dr. Kaushar Vaidya has been an Assistant Professor at the Department of Physics and is currently, a TLC Advisor. She has been Faculty In-Charge TLC during 2018-20. Her research interests are in Astronomy and Astrophysics, primarily in the field of star formation. She has been Faculty In-Charge, Astro-club (since 2014), and Mentor of the Team Anant (since 2019). Dr. Kaushar is a passionate teacher and had been an active member of the Academic Counseling Cell (2014-18).

Prof. Surekha Bhanot (Department of Electrical & Electronics Engineering) Email: surekha@pilani.bits-pilani.ac.in

Prof. Surekha Bhanot is a Professor in the Department of Electrical and Electronics Engineering. She has been serving the institute for over four decades. She is the senior-most advisor of TLC and is very helpful in nature. She is an accomplished teacher, good counselor and through her student engagement, nurtures the adaptability and capacity of the students for lifelong learning, in addition to curricular learning. Her areas of interest are Instrumentation System Design, Biomedical Instrumentation, and Artificial Intelligence Applications in Soft Sensing, Process Modeling, and Control.

Prof. Tapomoy Guha Sarkar (Department of Physics) Email: tapomoy@pilani.bits-pilani.ac.in

Prof. Tapomoy Guha Sarkar is an Associate Professor in the Department of Physics. His research interest lies in theoretical cosmology and he is specialized in the study of the diffuse intergalactic medium through the Lyman alpha forest spectra and red-shifted 21-cm signal. He has taught a variety of courses including Mechanics Oscillators and Waves, Quantum Mechanics, Statistical Mechanics, Astrophysics, Thermodynamics, etc.

Research Consultant

Prof. Tamali Bhattacharya, Email: tamali@pilani.bits-pilani.ac.in

Prof. Tamali Bhattacharyya has a Masters in Economics from Calcutta University and a PhD from the School of Education Technology, Jadavpur University on the Impact of educational software on learning outcome in secondary school children. Currently, she is a Research Consultant with the TLC, BITS Pilani, Pilani Campus. She has been a Research Project Manager in several Education Technology based projects at IIT Kharagpur, and has several journal and conference publications to her credit including a few IEEE publications. She was a faculty member in Economics at Savitri Girls College in Kolkata and Hijli College in Kharagpur. Her research interests include education technology, instructional design, pedagogy, rural and tribal child education, and social economics. She developed a multi-modal computer-aided learning tool Khelapara for primary school children. She is a co-founder of an NGO, ASMA (Association for Supporting Marginalized Aspirations) based in West Bengal.

Resource Persons

Prof. Ajit Pratap Singh (Department of Civil Engineering) Email: aps @pilani.bits-pilani.ac.in

Prof. Ajit Pratap Singh is a Professor in the Department of Civil Engineering and is presently, the Dean, Academic-Undergraduate Studies Division (institute-wide). Prof. Ajit Pratap Singh received Civil Engineering degrees from BITS Pilani and is a Fellow of the Institution of Engineers (India) and Fellow of Indian Association of Hydrologists (FIAH). He has also served as Professor and HoD, Civil Engineering at the Dubai Campus and is a member of various boards/committees at vari- ous universities.

Dr. Amol M Marathe (Department of Mechanical Engineering) Email: amolmm@pilani.bits-pilani.ac.in

Dr. Amol M. Marathe is an Assistant Professor at the Department of Mechanical Engineering. He joined the institute in 2012, prior to which he has worked at JNCASR, Honeywell (Bangalore), CRL (Pune) over a period of 4 years. He did his Ph. D. from IISc, Bangalore, Master's degree from University of Pune, Pune and Bachelor's degree from Shivaji University, Kolhapur. His current research interests include perturbation methods and non-smooth dynamical systems. He am interested in birding, jungle trekking and playing Badminton.

Dr. Aniruddha Roy (Department of Pharmacy) Email: aniruddha.roy @pilani.bits-pilani.ac.in

Dr. Aniruddha Roy is an Assistant Professor at the Department of Pharmacy and an accomplished scientist in the field of nanotherapeutics. As a lead researcher, he is also the inventor of 2 patented platform technologies for targeted tumor therapy, of which one has been taken up by FACIT, Canada. His main area of research interest include nanomedicine, combination therapeutics and multifunctional nanoparticles.

Prof. Anu Gupta (Department of Electrical & Electronics Engineering) Email: anug@pilani.bits-pilani.ac.in

Prof. Anu Gupta received the M.E and Ph.D. degrees from BITS Pilani in 1995 and 2003, respectively. In 1995, she joined the institute as Assistant Lecturer is now, a full Professor since 2016. Her research interest includes Low power, high performance analog/ digital/ mixed signal design for FPGA/ ASIC applications.

Prof. Bharti Khungar (Department of Chemistry) Email: bkhungar@pilani.bits-pilani.ac.in

Prof. Bharti Khungar is an Associate Professor at the Department of Chemistry. She joined the institute in 2007 and is known for motivating students to learn Chemistry. Her area of research and teaching expertise are coordination chemistry, biological chemistry, green chemistry. She is recipient of Summer Research Fellowship (twice) from Academies of Science, India, under which she worked at BARC, Mumbai during summers of 2013 and 2014. Prof. Khungar also worked at Chapman University, Irvine, CA, USA during summer 2016 under the University Immersion Scheme of the institute.

Dr. Bibhas Ranjan Sarkar (Department of Chemistry) Email: bibhas.sarkar@pilani.bits-pilani.ac.in

Dr. Bibhas Ranjan Sarkar joined BITS Pilani, Pilani Campus as Assistant Professor of Chemistry in August 2013. He is a Chemist by training and specializes in Catalysis research. His research is focused on the development of catalytic technology routes for the industrially important chemicals reactions. Dr. Sarkar is a passionate educator believing in total development of students emphasizing on intricate details and building up understanding and correlations therein.

Prof. Jayashree Mahesh(Department of Management) Email: jmahesh@pilani.bits-pilani.ac.in

Dr. Jayashree Mahesh is currently an Assistant Professor in the Department of Management. She has completed her PhD from BITS Pilani, Pilani Campus. She has more than 14 years of teaching experience and a wide experience in teaching HR, Leadership and Communication related courses. Her research interests are in the area of Innovative Pedagogies for Student Engagement, Mindfulness and Employee Wellbeing, Management Practices, Cross Cultural Management, Indian Management and Culture. She is a member of Academy of Management, British Academy of |Management and INDAM (an affiliate of AOM)

Prof. Jyoti (Department of Management) Email: jyoti@pilani.bits-pilani.ac.in

Prof. Jyoti is an Associate Professor in the Department of Management. Her primary areas of interest in teaching and research are: Strategy & Entrepreneurship, Technology Management, R&D Management, Intellectual Property Rights Management and General Management. She has been Faculty-In-charge - Pilani Campus, Center for Innovation, Incubation & Entrepreneurship since June 2015.

Dr. Krishna M. (Department of Economics & Finance) Email: krishna@pilani.bits-pilani.ac.in

Dr. Krishna is an Assistant Professor in the Department of Economics and Finance. His research interest span variety of topics in Labour and Development, Energy Sources, Buyer-supplier relationship (SNA Model), Functioning of Panchayat Raj Institutions, Knowledge economy, etc.

Dr. Muthukumar G (Department of Civil Engineering) Email: muthug@pilani.bits-pilani.ac.in

Dr. G. Muthukumar is an Assistant Professor in the Department of Civil Engineering. His areas of expertise include Earthquake Resistant Analysis & Design of concrete structures, Nonlinear Finite Element Analysis, Crack Modeling, Study of char- acteristics of basalt fibre, Fire Resistant Design ,Ductile detailing, Resilience based design, Review of code provisions. At present, he is Convener of the Academic Counseling Cell and is a nucleus member of the Practice School Division.

Dr. Pankaj Sharma (Department of Biological Sciences) Email: pankajsharma@pilani.bits-pilani.ac.in

Dr. Pankaj Sharma has been an Assistant Professor in the Department of Biological Sciences since 2008. His research interest lies in the characterization of relevant enzymes from desert plants, with a view to elucidate their functions in planta, and explore their usefulness for food processing/pharmaceutical industry. He also works on phytochemical profiling of plants. Dr. Sharma enjoys teaching and endeavors to make his classes interesting for students.

Prof. Poonam Goyal (Department of Computer Science & Information Systems) Email: poonam@pilani.bits-pilani.ac.in

Prof. Poonam Goyal is Associate Professor in the Department of Computer Science & Information Systems. She heads the Web Intelligence and Social Computing Laboratory (WiSOC Lab) of the Department and is a core member of Ad- vanced Data Analytics and Parallel Technologies Laboratory (ADAPT Lab). Her research has contributed in various social and scientific domains like social media analytics, multi-modal knowledge graphs, bio-informatics, etc. She is a co-recipient of 2010 IBM Research Innovation Award under the Smarter Planet Initiative in the area of Scalable Data Analytics.

Prof. Pratik N. Sheth (Department of Chemical Engineering) Email: pratik@pilani.bits-pilani.ac.in

Prof. Pratik N. Sheth is an Associate Professor in the Department of Chemical Engineering. His research interest lies in variety of areas including Computational Fluid Dynamics, Modeling, Simulation adn Optimization, Biomass Gasification and Pyrolysis, Alternate Energy Resources, etc. He has taught several core courses in Chemical Engineering.

Prof. Rajiv Gupta (Department of Civil Engineering) Email: rajiv@pilani.bits-pilani.ac.in

Prof. Rajiv Gupta is a Senior Professor in the the Department of Civil Engineering. He has been serving the institute as a faculty for about three and half decades. He has executed large number of sponsored research projects and is a recipient of Shrimati Saroma Sanyal Memorial Medal by Institution of Engineers at Fifteenth Indian Engineering Congress at Hyderabad, 21st Dec. 2000 and a few gold medals for his research papers. Prof. Gupta had been a visiting faculty at University of Virginia.

Prof. Rakhee (Department of Mathematics) Email: rakhee@pilani.bits-pilani.ac.in

Prof. Rakhee is an Associate Professor in the Department of Mathematics. She joined the instutute in 2008. She received PhD from Dr. B.R. Ambedkar University, Agra in 2003 and has worked as a visiting faculty in Khandari Campus of the university followed by faculty at Banasthali University, prior to joining BITS Pilani. Her research interests include the areas of applied probability, performance analysis of communication networks, inventory and supply chain management. She has published several research publications in refereed International/National journals/proceedings and has a monograph to her credit.

Prof. Sangeeta Sharma(Department of Humanities & Social Sciences) Email: sang@pilani.bits-pilani.ac.in

Sangeeta Sharma is an Associate Professor in the Department of Humanities & Social Sciences, Birla Institute of Technology and Science, Pilani. She is currently heading Publication and Media Relations Unit. She was the Coordinator for UGC Centre for Women's Studies and the Group Leader of the department from May 2008-July 2010. Apart from Advertising, her areas of interest include Technical Communication, Creative Thinking, and Linguistics. At BITS she has handled various responsibilities like nucleus member of Distance Learning Programme Division, Academic and Counseling Board member, Doctoral Advisory Committee member, Senate member, coordinating faculty for Intensive Teaching Workshops, member of the Library committee, etc., and was warden for Malaviya girls hostel for four years.

Prof. Sanjiv Kumar Chaudhary (Department of Humanities & Social Sciences) Email: chskumar@pilani.bits-pilani.ac.in

Prof. Sanjiv Kumar Chaudhary started his teaching career in a traditional college in 1989. From 1992 to 1997 he was involved in research work and in 1997 he joined English Language Teaching Institute (ELTI), Assam as a Lecturer where his job was to train teachers teaching English in government schools, and continued in that position till June 2004. On 12th July 2004, I joined the then Languages Group of BITS, Pilani-Pilani Campus as a Lecturer. In 2006 he was promoted as Assistant Professor and on 1st February 2013 he became an Associate Professor.

Ms. Shikha Joshi (Mpower Cell, BITS Pilani) Email: shikha.joshi@abet.co.in

Shikha Joshi is presently working as a Psychologist at Mpower Cell, BITS Pilani, providing Counselling Services to Students and Faculty. She has worked as a School Psychologist at various Schools in Bangalore and Haryana. She is skilled in Mental Training including Hypnosis, Relaxation; Guidance, and Counseling; Team Building Exercises; Concentration, Focus, etc. She has achieved many awards such as ICON AWARD by Radio City as Youngest Best Psychologist, INDIA PRIDE AWARD for her Outstanding Achievements, INDIA SHINING AWARD by AFCI. She has a specialization in Clinical and Child Psychology. She had a short stint with the Indian Air Force as a Body Language Trainer.

Prof. Shilpi Garg(Department of Biological Sciences) Email: shilpi@pilani.bits-pilani.ac.in

Prof. Shilpi Garg is an Associate Professor in the Department of Biological Sciences. In 2010 she was awarded the prestigious "UGC-Dr. D.S. Kothari Post doctoral-fellowship". Prof. Garg believe that teaching and research goes hand in hand and and constantly works on excelling equally in both. Her research interests include Molecular Parasitology especially related to the malaria parasite, Cell and Molecular Biology and Immunology.

Prof. Smita Raghuvanshi (Department of Chemical Engineering) Email: smita@pilani.bits-pilani.ac.in

Prof. Smita Raghuvanshi is an Associate Professor in the Department of Chemical Engineering. Her research interests span variety of topics in Environmental Management Systems, Environmental Engineering and Separation Processes. She has taught several courses in the field of Environmental management, Polymer technology, etc.

Prof. P. Srinivasan (Department of Mechanical Engineering) Email: psrinivasan@pilani.bits-pilani.ac.in

Prof. P Srinivasan is an Associate Professor in the Department of Engineering and an accomplished teacher and researcher. He is presently, and Associate Dean, Work-Integrated Learning Programme Division. He had been Dean of the Practice School Division. He is a faculty member of BITS Pilani since 2006, prior to which, he already had a huge experience of teaching in various colleges and institutes since 1989.

Prof. Sushila Shekhawat (Department of Humanities & Social Sciences) Email: sula@pilani.bits-pilani.ac.in

Prof. Sushila Shekhawat is an Associate Professor in the Department of Humanities & Social Sciences. Her research interest includes Film studies, Indian Writings in English, Business communication, Technical Writing, Applied Linguistics, Media studies, etc. She is involved in teaching graduate and Post graduate students at BITS Pilani. She has handled various responsibilities like nucleus member of Publications and Media Relatons Unit, Academic and Counseling Board member, Doctoral Advisory Committee member, Doctoral research Committee member, Senate member, member of the Library Committee, Editor of BITSCAN - a semester Magazine and Editor for University-wide Newsletter, etc.

Prof. Trilok Mathur (Department of Mathematics) Email: tmathur@pilani.bits-pilani.ac.in

Dr. Trilok Mathur is an Assistant Professor in the Department of Mathematics. His research interests span a wide range of topics in Fractional Calculus and its applications, Geometric Function Theory, Fuzzy Logic, Multi-criteria decision-making techniques, special functions, etc, and has taught a variety of core courses in Mathematics.

4. ITW Part-I Schedule

The ITW Part-I has been scheduled to run on Saturday, March 20, 2021, in the NAB Auditorium (Room # 6110).

Time	Saturday, March 20, 2021, Venue: NAB Auditorium (Room # 6110)	
	Topic	**Resource Person(s)**
08:00-08:30	**Breakfast and Registration**	
08:30-08:40	Orientation	Prof. Pushp Lata
08:40-08:50	Vice Chancellor's address	Prof. Souvik. Bhattacharya
08:50-09:00	Director's address	Prof. Sudhirkumar Barai
09:00-09:15	**Photograph**	
09:15-09:45	Teaching Profession - Personal Perspectives	Prof. Surekha Bhanot
09:45-11:00	Domains of Learning and Instructional Objectives	Prof. Tamali Bhattacharya, Dr. Krishna C. Etika
11:00-11:15	**Tea**	
11:15-12:45	Academic Regulations of BITS Pilani and its implementation in Teaching, Assessment, and Grading	Prof. Ajit Pratap Singh
12:45-13:30	Flipped Mode of Lecture Delivery: Opportunities and Challenges	Prof. P Srinivasan
13:30-14:15	**Lunch**	
14:15-15:45	Technology-Enabled Teaching and Learning	Dr. Ashutosh Bhatia Dr. Virendra S. Shekhawat Dr. Prashant Uday Manohar
15:45-16:00	**Tea**	
16:00-17:00	Assessment and Evaluation	Dr. Shibani K Jha, Dr. Bibhas R Sarkar Dr. Jayashree Mahesh, Dr. Meetha V. Shenoy
17:00-17:45	Better Student Engagement for Enhancing Teaching-Learning Effectiveness	Prof. Pushp Lata , Dr. Muthukumar G, Dr. Shikha Joshi
17:45-17:50	Vote of Thanks	Dr. Prashant Uday Manohar
17:50-16:15	**High Tea**	

5. Abstracts of ITW Phase-I sessions

Teaching Profession - Personal Perspectives

Prof. Surekha Bhanot

In my long journey of 41 plus years of challenging and rewarding experiences in teaching , learning from senior professors, peers and students is ongoing. I would like to share my main takeaways about teaching from this long learning period .

Three keywords in teaching : Knowledge + Preparation + Connect. All three need to be nurtured and adapted to with changing technologies and needs.

Learning the subject, understanding basic concepts, physical intuition behind maths, graphs/curves, relating knowledge to real world problems is the first and core task. Preparation for class, giving thought to what to teach, how to teach, in which sequence to teach, how to use technology to make teaching interesting, coherent, relevant, engaging is also equally important. Enthusiasm and energy for teaching learning and sincerity, integrity and honesty in teacher's behavior has a n infectious, transforming and positive effect.

Considering formal and direct feedback from students' eyes, body language helps in improving the content and style. Giving time to students when they come for counseling , guidance on professional and personal issues is a most worthy investment of time. It leaves lasting impression and has most positive impact on students.

Apart from teaching course content, ensuring that students possess adaptability and capacity for lifelong learning. Last but not the least duty is to try to make them appreciate a wider scope of life other than just getting grades, building in them health consciousness, scientific temperament, sensitivity towards saving environment, empathy towards underprivileged, encouraging zeal to discuss, change unjust systems, dream of a world free from fear, prejudices, narrow minded loyalties .

Domains of Learning and Instructional Objectives

Prof. Tamali Bhattacharya and Dr. Krishna C. Etika

Twenty-first century education should be outcome-based, leading to development critical core competencies such as collaboration, digital literacy, critical thinking, problem solving and self-learning. The students should apply knowledge to new situations, analyze information, collaborate, solve problems, and make decisions. So the objectives of the faculty members are to make higher education system more learner-centric. Introducing outcome-based learning allows learners to follow the courses at their own pace and learning styles. Developing and delivering lessons by teachers are integral in the teaching process. It is hence important for teachers to know three domains of learning from Bloom's Taxonomy - cognitive (thinking), affective (emotions or feeling) and Psychomotor (Physical or kinesthetic). Designing the course learning outcome is the important because it helps the teacher to identify not just content but what changes they want to see in his students. The curriculum should incorporate higher order thinking skills, multiple intelligences, technology and multimedia, communication skill and self-learning methodology along with authenticated scientific assessments and evaluation. To write the instructional objectives is the major part of ITW. Instructional objectives must be written to communicate realistic, measurable, and learner centric outcomes. We mainly focus on three component of instructional objectives – performance, condition and criterion. To write the course learning outcome using the Action Verb is the major part of this training session. Additionally, the participants will also be introduced to various components expected in the course handout which is being followed at BITS Pilani.

Academic Regulations of BITS Pilani and its implementation in Teaching, Assessment and Grading

Prof. Ajit Pratap Singh

Teaching, learning, and evaluation processes at BITS Pilani are considered to be indivisible entities. While the faculty member has the freedom to adapt his/her style of teaching, it is his/her responsibility to carry out student evaluation in a continuous manner, so that the overall teaching-learning process for a course becomes effective. Through our past experiences, we have evolved different ways of teaching-learning and evaluation. All elements, viz. expertise, skill sets, resources, technology, administration, etc. have been integrated to exchange the knowledge through teaching, learning, and assessment tools for courses, which are essential for all academic programs offered at BITS Pilani. In this presentation, some salient features of the Academic Regulations of BITS Pilani would be illustrated with the current best practices. Finally, the evaluation and grading processes adopted at BITS would be discussed. Thus, the presentation would highlight certain important experiences and best practices that have been adopted in teaching, learning, and evaluations at BITS Pilani.

Flipped Mode of Lecture Delivery: Opportunities and Challenges

Prof. P. Srinivasan

Flipped mode of lecture delivery is considered to be one of the options to enhance the teaching and learning process especially in higher education institutions. This model helped in tiding over the crisis in the education sector due to the pandemic. A lot of research has gone in understanding the effectiveness of this model. While this mode has distinct advantages over the regular mode, effective implementation may be challenging as prior preparation from the part of students before coming to the class is very essential for successful implementation. Flipped mode of lecture delivery was implemented in BITS Pilani through WILP in 2013. Analysis of the data based on offering the course through flipped mode will be presented in the session along with interesting case studies. Detailed discussion on opportunities and challenges of offering courses through flipped mode will be the major focus of the session. I will also share my own experience of delivering a course both through regular mode and flipped mode to make the audience understand the measures to be taken for effective implementation of flipped mode of lecture delivery.

Technology Enabled Teaching and Learning

Dr. Ashutosh Bhatia, Dr. Virendra Singh Shekhawat, Dr. Prashant Uday Manohar

Technology will not replace all teachers, but the teachers who use technology will probably replace the teachers who do not use technology. The students and teachers are gradually adopting online education. This trend accelerated due to the COVID-19 pandemic, where teachers are forced to use online tools to deliver lectures. The use of technology in teaching is not a compulsion that has arrived due to the pandemic. Rather, it can greatly enhance the teaching and learning experience through its effective integration with classroom and online teaching. Technology is rapidly being used in every aspect of teaching, such as content creation, content delivery, and student engagement, class interaction, assessment, and evaluation. In this session, we will learn various tools, techniques, and platforms required to effectively conduct all these teaching activities. In particular, we will learn our own Learning Management System (LMS) called NALANDA, online class platforms such as google meet and Microsoft teams, PIAZZA (a student engagement platform), and certain tools and techniques which will enable the participants to perform many activities related to course conducting, more effectively.

Assessment and Evaluation

Prof. Jayshree Mahesh, Dr. Shibani K. Jha, Dr. Bibhas Ranjan Sarkar, Dr. Meetha V. Shenoy

One important and integral part of effective teaching involves the assessment and evaluation of students. A faculty member needs to ensure that the assessments and evaluation are credible, reliable, and valid in all respect in both single- and multi-section courses. Therefore, one needs to conduct different evaluation types, e.g. tests and quizzes, tutorials and assignments, lab experiments, and case studies. While some of these are extensively used in certain domain areas or subjects, a faculty interested in teaching and evaluating innovatively can implement some of these in other domain areas or subjects too. This session will provide an overview of all these different evaluation components and elaborate on the various parameters that you can use for each of these.

Better Student Engagement for Enhancing Teaching Learning Effectiveness

Prof. Pushp Lata, Dr. G. Muthukumar, Dr. Shikha Joshi

Student engagement is one of the defining characteristics of quality Teaching Learning at an educational institution. Both Learner and teacher play a very crucial role in the entire student engagement process, both inside and outside the classroom. For holistic development of students, it is essential to have a more nuanced understanding of student engagement from all the three universally accepted dimensions of student engagement i.e. affective, cognitive and behavioral. Having more focus on academic performance, unfortunately the student- teacher engagement has reduced to marks and other measurable achievements. The present module, therefore, focuses on building a discussion on how to engage with our students by creating a supportive environment with flexibility, openness, and acceptance, without compromising on rigor, discipline, integrity and accountability. The session will also include discussion regarding the challenges of dealing with students when they return to campus. This will be an interactive session involving brief case studies and activities.

6. ITW Part-II Schedule

ITW Part-II will be conducted on, March 27, 2021, from 9:00 am to 1:00 pm. The participants have been randomly distributed into six groups. Each group will have four resource persons including one TLC member. Each participant will demonstrate his/her teaching skills by presenting a short lecture of 20 minutes on the topic of their own choice. The participants are advised to make balanced use of blackboard, slides, etc. The resource persons will make observations and share the same at the end of each presentation.

	Participants	Resource Persons
Group 01		
Room # 6108	Dr. Aditya Gautam Dr. Rahul Kumar Dr. Radha Raman Mishra Dr. Saket Verma Dr. Sai Sesha Chalapathi Gattupalli Dr. Sandeep Joshi Dr. Suvanjan Bhattacharyya	Dr..Amol Marathe Prof. Anu Gupta Prof.Rakhee Dr.Krishna C. Etika[a]
Group 02		
Room # 6102	Dr. Achint Nigam Dr. Chintalapalli Vijayakumar Dr. Deepak Kumar Saxena Dr. Paul Mathew Dr . Prateek Dr. Revendranath Triumalsety Dr. Veena R	Prof. Rajiv Gupta Prof.Shilpi Garg Prof.Sushila Shekhawat Dr.Nirankush Dutta[a]
Group 03		
Room # 6103	Dr. Amit Rajanarayan Singh Dr.Aneesh A. M. Dr. Divyansh Patel Dr. Satyendra Kumar Mourya Dr.Sharda Tripathi Dr. Shishir Maheshwari Dr.Tribeni Roy	Prof.Sanjeev Kumar Chaudhary Dr. Smita Raghuvanshi Dr.Tapomoy Guha Sarkar Dr. Meetha V Shenoy[a]
Group 04		
Room # Room # 6104	Dr. B. S. Shashank Dr. Byomakesh Debata Dr. Divyum Sharma, R Srinivas Dr.Sarah Mariam Abraham Dr.Sayantan Chakraborty Dr.Sourav Kumar Sasmal	Dr. Aniruddha Roy Prof. Pratik N Seth Dr. Trilok Mathur Dr. Shibani K Jha[a]
Group 05		
Room # 6105	Dr.Amitesh Singh Rajput Dr.Arkaprovo Ghosal Dr.L Rajya Lakshmi Dr.Mrinmoyee Basu Dr.Mukul Joshi Dr.Vinti Agarwal Dr.Tanmaya Mahapatra	Prof. Bharti Khungar Dr. Krishna M. Prof. Poonam Goyal Dr. Muhammed Afzal P.[a]
Group 06		
Room # 6106	Dr.Jagat Sesh Challa Dr.Kishor B. Nandapurkar Dr.Samatha Benedict, Sandipan Dutta Santosh Kumar Dr.Pamula Dr.Sarbani Ghosh, Dr. Vijay B. Kakade	Prof. Jyoti Dr. Pankaj Sharma Prof. Sangeeta Sharma Dr. Gautam Singhvi[a]

[a] TLC representatives

7. Participants

Dr. Achint Nigam (Department of Management)
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Dr. Achint Nigam, joined BITS Pilani as Assistant Professor on January 18, 2020. He holds a FPM degree in Marketing from IIM Lucknow. Currently, he teaches marketing research and digital marketing to first and higher-degree students. His research interest lies in digital marketing, pricing, and promotions. Before joining BITS he had been working at ICFAI Hyderabad for 6 months.

Dr. Aditya Gautam (Department of Electrical & Electronics Engineering)
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Dr. Aditya Gautam joined BITS Pilani as Assistant Professor on July 25, 2019. Before this, he had been working on several projects at IIT Jodhpur and NFTDC Hyderabad. His research interests are in control of power electronic converters, microgrids, electric vehicles, and renewable energy technology.

Dr. Amitesh Singh Rajput (Department of Computer Science & Information Systems) Email: amitesh.singh@pilani.bits-pilani.ac.in

Dr. Amitesh Singh Rajput joined BITS Pilani as Assistant Professor on December 27, 2019, after completion of his Ph.D. from the Department of CSE at IIT Roorkee. He also has served as faculty at RGPV Bhopal and SIST, Bhopal, prior to his Ph.D. He likes to teach courses in Computer Programming, Algorithms, Data Structures, and Network Security. His research interest lies in Privacy-Preservation, Multimedia Computing, and Cryptography.

Dr. Amit R. Singh (Department of Mechanical Engineering)
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Dr. Amit R. Singh joined BITS Pilani as Assistant Professor on December 02, 2019. He is a computational mechanician and is interested in working on problems at the interface of biology and mechanics. He likes to teach courses in Solid Mechanics, Fluid Mechanics, and computational aspects of these.

Dr. Aneesh A.M. (Department of Mechanical Engineering)
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Dr. Aneesh A.M. joined BITS Pilani as Assistant Professor on December 02, 2018. Prior to this, he was working as an Ad-hoc Faculty at NIT, Calicut. His teaching and research interests span a variety of areas such as Thermodynamics, Gas Dynamics, Transport Phenomena and Microfluidics, Heat transfer, Fluid-structure interaction, Multi-scale thermal hydraulics, computational studies, etc.

Dr. Arkaprovo Ghosal (Department of Chemical Engineering)
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Dr. Arkaprovo Ghosal joined BITS Pilani as Assistant Professor on September 18, 2020. Prior to this, he had been Adjunct Assistant Professor at the University of Illinois, Chicago, USA. His area of expertise includes theoretical and computational fluid dynamics, multi-phase and multi-component flow through porous media, etc, and likes to teach courses in these and related areas.

Dr. B.S. Shashank (Department of Civil Engineering)
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Dr. B. S. Shashank joined BITS Pilani as Assistant Professor on December 21,2020. He has pursued his doctoral studies at IIT Bombay. His teaching and research interests lie in the realm of geotechnical engineering and its applications in underground space creation and utilization, sustainable ground modification and stabilization of weak soils, soil erosion, permeable reactive barriers, degradation, and/or valorization of municipal and industrial waste, etc.

Dr. Byomakesh Debata (Department of Mechanical Engineering)
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Dr. Byomakesh Debata joined BITS Pilani as Assistant Professor on February 05, 2020. Prior joining to BITS Pilani, he was an Assistant Professor at IFIM Business School. He did Ph.D. in Finance from IIT Kharagpur and Masters in Computational Finance from the Institute of Mathematics and Application. His primary areas of teaching and research are financial economics, computational finance, and behavioral finance.

Dr. Chintalapalli Vijayakumar (Department of Humanities & Social Sciences)
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Dr. Chintalapalli Vijayakumar joined BITS Pilani as Assistant Professor on December 06, 2020. Prior to this, he had been teaching English Language courses at Imam AbdulRahman Bin Faisal University in the Kingdom of Saudi Arabia and had designed and conducted faculty development programs on EAP and ESP. He likes to compile language corpora for teaching and learning purposes.

Dr. Deepak Kumar Saxena (Department of Management)
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Dr. Deepak Saxena joined BITS Pilani as Assistant Professor, on December 01, 2020. He is an M. Tech. in Industrial and Management Engineering from IIT Kanpur and a PhD in Management Information Systems from Trinity College Dublin (Ireland). He is interested in researching on Enterprise Systems and likes to teach the courses on Principles of Management, Information and Knowledge Management Systems.

Dr. Divyansh Patel (Department of Mechanical Engineering)
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Dr. Divyansh Patel joined BITS Pilani as Assistant Professor on December 29, 2020. His teaching interest lies in manufacturing engineering, particularly, in manufacturing processes, machining processes, material science, etc. His research interest lies in use of ML, AI, etc in studying and researching various advanced machining processes and additive manufacturing.

Dr. Divyum Sharma (Department of Mathematics)
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Dr. Divyum Sharma joined BITS Pilani as Assistant Professor on September 09, 2019. Prior to this, she had been teaching undergraduate courses in Algebra and Calculus at the University of Waterloo, Canada. She completed her PhD from TIFR, Mumbai in 2016. Her research interest lies in Diophantine equations, number theory, etc.

Dr. Jagat Sesh Challa (Department of Computer Science & Information Systems)
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Dr. Jagat Sesh Challa joined BITS Pilani as Assistant Professor on February 01, 2021. He did M.Sc. (Tech.) in Information Systems followed by M.E. in Software Systems, and then, Ph.D., all from the CSIS department of BITS Pilani, Pilani Campus. Prior to his current appointment, he worked as a Postdoctoral Researcher at CUCIS Laboratory at North-western University, USA. His research interests include - Big Data Analytics, Material Informatics, Stream Analytics & High-Performance Computing. His teaching interests include- Data Structures & Algorithms, Logic in Computer Science, Discrete Mathematics, and Data Mining.

Dr. Kishor B. Nandapurkar (Department of Electrical & Electronics Engineering)
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Dr. Kishor Bhaskarrao Nandapurkar joined BITS Pilani as Assistant Professor on February 15, 2021. He has completed his Ph. D in Electrical Engineering (Linearizing Front-Ends for Tunneling Magneto-Resistance Angle Sensor: Design, Analysis and Performance Evaluation) from IIT Kharagpur. He did his Bachelors (in Instrumentation Engineering) from Government College of Engineering, Amravati (Sant Gadge Baba Amravati Vidhyapeeth), and Masters (in Electrical Engineering) from National Institute of Technology, Calicut.

Dr. L. Rajyalakshmi (Department of Computer Science & Information Systems)
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Dr. Rajya Lakshmi joined BITS Pilani as Assistant Professor on August 07, 2020. likes to teach courses in Computer Programming, Data Structures, and Algorithms, Operating systems, Networks. Her research interests include Handover management, routing, scheduling, and cross-layer techniques in wireless networks.

Dr. Mrinmoyee Basu (Department of Chemistry)
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Dr. Mrinmoyee Basu joined BITS Pilani as Assistant Professor on January 01, 2021. Prior to this, she had been DST Inspire faculty at the Department of Chemistry, BITS Pilani, Pilani. She likes to teach courses in Inorganic Chemistry. Her area of expertise is Electrochemistry.

Dr. Mukul Joshi (Department of Biological Sciences)
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Dr. Mukul Joshi joined BITS Pilani as Assistant Professor on December 17, 2020. He likes to teach assigned courses with updated tools and techniques. • To interact with students for solving their doubts and considering their feedback for improving teaching skills. • Assessment and provide suggestions for updating the courses regularly. Research To lead a research group focusing on abiotic stress management in plants. • Involvement in intra-departmental to multi-institutional collaborative research projects.

Dr. Paul Mathew (Department of Humanities & Social Sciences)
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Dr. Paul Mathew joined BITS Pilani as Assistant Professor on November 09, 2020. Before this, he was Assistant Professor of English and Cultural Studies at Christ University, Bengaluru. His research areas are film & literature, popular culture (graffiti, street art), and social reproduction theory.

Dr. Prateek (Department of Humanities & Social Sciences)
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Dr. Prateek joined BITS Pilani as Assistant Professor on January 08, 2021. He is a former post-thesis fellow in theatre studies at the University of Queensland. He completed his Ph.D. in theatre studies at the University of Queensland. He was a visiting Ph.D. scholar at Humboldt University and the University of Oxford. He wrote his MPhil at Jawaharlal Nehru University, India. He is a former Fulbright fellow at Yale University and worked as an Assistant Professor of English at SRM University Andhra Pradesh before joining BITS Pilani.

Dr. Radharaman Mishra (Department of Mechanical Engineering)
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Dr. Radha Raman Mishra joined BITS Pilani as Assistant Professor on July 21, 2020. Prior to this, he was involved in product design R&D in composite materials. He likes to teach manufacturing engineering, in particular, manufacturing processes, additive manufacturing, advanced machining processes, advanced casting processes, etc. His research activities are primarily in the area of microwave processing of materials, casting and additive manufacturing.

Dr. Rahul Kumar (Department of Electrical & Electronics Engineering)
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Dr. Rahul Kumar joined BITS Pilani as Assistant Professor on November 02, 2020. Prior to this, he was a post-doctoral fellow at the Institute for Nanoscience and Engineering, University of Arkansas, Fayetteville, USA. He obtained his M.Tech degree (2012) from Jadavpur University and Ph.D. (2016) from IIT Kharagpur. His teaching and research interests include electronic devices and microelectronics fabrication.

Dr. Revendranath T. (Department of Management)
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Dr. T. Revendranath joined BITS Pilani as Assistant Professor on November 07, 2020. Prior to this, he had been teaching at the ICFAI Business School, Hyderabad, for over a decade. He likes to teach courses in finance, entrepreneurship, business analytics, and research methods, while his research interests explore the role of finance in socio-economic growth of low-income communities, financial instruments for social impact, and environmental sustainability, and social entrepreneurship.

Dr. R. Srinivas (Department of Civil Engineering)
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Dr. Rallapalli Srinivas joined BITS Pilani as Assistant Professor on July 13, 2020. He also had served the institute, earlier, during 2015-2018 as Assistant Professor followed by a postdoctoral researcher and course instructor at University of Minnesota, U.S.A as Postdoctoral researcher and course instructor, prior to his current appointment. His research interests are watershed modeling, environmental hydrology, hydro-climatology, and fuzzy logic-based decision making in water resources.

Dr. S.S.C. Gattupalli (Department of Electrical & Electronics Engineering)
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Dr. Sai Sesha Chalapathi Gattupalli joined BITS Pilani as Assistant Professor on December 11, 2019. Prior to this, he had been working at the institute as a lecturer in Electrical and Electronics Engineering, since 2009. He teaches courses on Real-Time Systems, Microprocessor programming, etc. His research interests are the Internet of Things, Unmanned Aerial Vehicles(UAV).

Dr. Saket Verma (Department of Mechanical Engineering)
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Dr. Saket Verma joined BITS Pilani as Assistant Professor on July 29, 2019. His teaching and research interests lie in hydrogen energy and hydrogen-fueled IC engines, Automotive vehicles, alternative fuel technology, and unconventional engines, and Applied thermodynamics, energy conservation, energy system modeling, and optimization.

Dr. Samatha Benedict (Department of Electrical & Electronics Engineering)
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Dr. Samatha Benedict joined BITS Pilani as Assistant Professor on November 11, 2020. Prior to joining BITS, she worked as Post-Doctoral Research Scholar in University of California, Los Angeles – USA. Her current research area of interest includes wearable sensors for bio-medical applications and gas sensors for breath analysis and food quality monitoring. Her Teaching interest lies in subjects related to core EEE courses such as Microelectronic Circuits, Analog IC design, and Semiconductor device physics.

Dr. Sandeep Joshi (Department of Electrical & Electronics Engineering)
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Dr. Sandeep Joshi joined BITS Pilani as Assistant Professor on August 17, 2020. Prior to this, he has worked as a Chief Engineer at the Samsung R&D Institute Bangalore. His area of research includes 5G, 6G wireless communication systems, smart grid communications, and AI in wireless communications.

Dr. Sandipan Dutta (Department of Physics)
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Dr. Sandipan Dutta joined BITS Pilani as Assistant Professor on March 01, 2021. He completed his Ph. D in Physics from the University of Florida, Gainesville, USA. Dr. Dutta did his Bachelors (in Mathematics) from Indian Statistical Institute, Bangalore, and Masters (in Physics) from IIT Mumbai. He worked as a Post-Doctoral Researcher in the Institute of Basic Science, Korea before joining BITS.

Dr. Santosh Kumar Pamula (Department of Mathematics)
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Dr. Santosh Kumar Pamula joined BITS Pilani as Assistant Professor on February 01, 2021. He enjoys teaching Mathematics to both undergraduate and graduate students of engineering and Science. Most of his interests lie in Analysis, Linear algebra, Functional Analysis, etc. Besides these, he loves working on challenging problems in collaboration with young research scholars, colleagues, and other researchers across the world. Currently, he is working on problems related to C*-algebras, Quaternionic Hilbert spaces, and Dilation theory.

Dr. Sarah Mariam Abraham (Department of Civil Engineering)
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Dr. Sarah Mariam Abraham joined BITS Pilani as Assistant Professor on January 15, 2021. Prior to joining BITS, he was Assistant Professor at Thapar Institute of Engineering and Technology, Patiala, Punjab, and later Assistant Professor at Mar Baselios Christian College of Engineering and Technology, Kuttikanam, Kerala. Her teaching and research interests include pavement Material characterization, design, and construction, Recycling of Pavement materials subsequently sustainable pavement construction.

Dr. Sarbani Ghosh (Department of Chemical Engineering)
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Dr. Sarbani Ghosh joined BITS Pilani as Assistant Professor on February 01, 2021. She has completed her Ph. D in Chemical Engineering (Hydrogen Storage in Single-Walled Carbon Nanotubes) from the IIT Kharagpur. She did her Bachelors (In Chemical Engineering) from West Bengal University of Technology and Masters (In Chemical Engineering) from the University of Calcutta. She worked as a Post-Doctoral Researcher at Linkoping University Sweden, before joining BITS.

Dr. Satyendra Kumar Mourya (Department of Electrical & Electronics Engineering)
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Dr. Satyendra Mourya joined BITS Pilani as Assistant Professor on December 20, 2019. He did his Post-Doctoral Degree in Microelectronics and VLSI domain. He has developed silicon carbide based electron devices for high-temperature applications. He is currently working towards the development of Ga2O3 based devices for extreme environmental application.

Dr. Sayantan Chakraborty (Department of Civil Engineering)
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Dr. Sayantan Chakraborty joined BITS Pilani as Assistant Professor on January 19, 2021. Prior to joining BITS, he has worked as a post-doctoral research associate at Texas A&M University, College Station, USA. His research interests include chemical stabilization of soils and seismic response and slope stability analyses.

Dr. Sharda Tripathi (Department of Electrical & Electronics Engineering)
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Dr. Sharda Tripathi joined BITS Pilani as Assistant Professor on December 14, 2020. Prior to joining BITS, she has a postdoctoral experience from December 2019- December 2020 working at the Department of Electronics and Telecommunications, Politecnico di Torino, Turin, Italy. Her research interests lie in Communication networks, AI-powered solutions for IoT communication and applications, Smart grid networks, Design, analysis, and development of 5G networks.

Dr. Shishir Maheshwari (Department of Electrical & Electronics Engineering)
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Dr. Shishir Maheshwari joined BITS Pilani as Assistant Professor on November 6, 2019. His research interests include biomedical signal and image analysis, machine / deep learning-based signal and image classification, time-frequency-based signal, and image analysis. My teaching interests are signals and systems, digital signal processing, electronic devices, and digital electronics.

Dr. Sourav Kumar Sasmal (Department of Mathematics)
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Dr. Sourav Kumar Sasmal joined BITS Pilani as Assistant Professor on November 28, 2020. His interests lie in methodological and theoretical research work mainly address the complex systems related to ecology and epidemiology through mathematical modeling and nonlinear analysis. He likes to teach linear algebra, real analysis, differential equations, complex analysis, numerical analysis, mathematical modeling, etc.

Dr. Suvanjan Bhattacharya (Department of Mechanical Engineering)
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Dr. Suvanjan joined BITS Pilani as an Assistant Professor in the Department of Mechanical Engineering. He completed his post-doctoral research at the Department of Mechanical and Aeronautical Engineering, University of Pretoria, South Africa. His research interest lies in computational fluid dynamics in fluid flow and heat transfer, turbulent, steady, unsteady separated flows, and convective heat transfer. He is the author and co-author of 100 papers in high-ranked journals and prestigious conference proceedings.

Dr. Tanmaya Mahapatra (Department of Computer Science & Information Systems)
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Dr. Tanmaya Mahapatra joined BITS Pilani as Assistant Professor on October 19, 2020. He holds a masters in Software Systems Engineering from Rheinisch-Westfälische Technische Hochschule (RWTH), Aachen and a PhD. (Dr. rer. nat.) in Computer Science from Technical University of Munich (TUM), Munich. His research interests lie in the field of model-driven software development for Big Data systems, programming tools for data analytics, and a bit in data-driven.

Dr. Tribeni Roy (Department of Mechanical Engineering)
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Dr. Tribeni Roy joined BITS Pilani as Assistant Professor on on December 21, 2020. Prior to joining BITS, he was a postdoc at Imperial College London. He also served as an Assistant Professor at Royal Global University from 2011 – 2014 in Mechanical Engineering. His teaching and research interests include energy storage devices and Micro/Nano manufacturing.

Dr. Veena R (Department of Humanities & Social Sciences)
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Dr. Veena R joined BITS Pilani as Assistant Professor on Pilani on January 2, 2020. Prior to joining BITS, she worked in SRM Institute of Science and Technology, Chennai. Her teaching and Research Interests lie in Political Science and International Relations broadly and Chinese studies specifically. She is currently working on two specific topics which are China's Belt and Road Initiative in Sri Lanka and China Pakistan Economic Corridor (CPEC).

Dr. Vijay Bajirao Kakade (Department of Civil Engineering)
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Dr. Vijay Bajirao Kakade joined BITS Pilani as Assistant Professor on August 8, 2020. He is interested in teaching subjects of Transportation Engineering to the first and higher degree students. His area of research interest is pavement material. The research was mainly directed towards the construction of long-lasting pavement with less carbon emission.

Dr. Viniti Agarwal (Department of Computer Science & Information Systems)
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Dr. Viniti Agarwal joined BITS Pilani as Assistant Professor on March 14, 2020. Her research interests include Graph learning, machine learning, deep learning, and semi-supervised learning. Before Joining BITS, she worked as a Postdoctoral researcher, in the Institute for Information and Communication Technology, Norwegian University of Science and Technology (NTNU), Gjovik, Norway, and Assitant Professor in the Department of Computer Science, Maitreyi College, University of Delhi.

Appendices

A. Feedback Form (Phase-I)

1. Mention the aspects that you appreciated the most in each of the following sessions:

- Teaching Profession-Personal Perspectives

- Domains of Learning and Instructional Objectives

- Academic Regulations of BITS Pilani and its implementation in Teaching, Assessment and Grading

- Flipped Mode of Lecture Delivery: Opportunities and Challenges

- Technology-Enabled Teaching and Learning

A. Feedback Form (Phase-I)

• Assessment and Evaluation

• Better Student Engagement for Enhancing Teaching Learning Effectiveness

2. The topics covered in ITW are relevant (Rate on a scale of 1-5, 1 being lowest, 5 being highest)

3. What did you like best about this ITW?

4. Any other aspect/topic you would have liked to have been covered in ITW Phase-I?

5.   Outcome Evaluation: This section helps us evaluate how effective the ITW was in providing participants the desired content. Circle your answer.

1. Your confidence in designing Instructional Objectives for a course:

Before ITW: Poor   Fair   Good   Excellent

After ITW: Poor   Fair   Good   Excellent

2. Your confidence in designing effective lecture content and assessment components based on the three domains of learning (cognitive, affective, and psychomotor):

   Before ITW: Poor   Fair   Good   Excellent

   After ITW: Poor   Fair   Good   Excellent

3. Your confidence in enabling learner-centric Teaching?

   Before ITW: Poor   Fair   Good   Excellent

   After ITW: Poor   Fair   Good   Excellent

4. Understanding of BITS Academic Regulations.

   Before ITW: Poor   Fair   Good   Excellent

   After ITW: Poor   Fair   Good   Excellent

5. Your confidence in participating in Technology Enabled Teaching

   Before ITW: Poor   Fair   Good   Excellent

   After ITW: Poor   Fair   Good   Excellent

6. Your confidence in using the Flipped mode of Teaching/Learning

   Before ITW: Poor   Fair   Good   Excellent
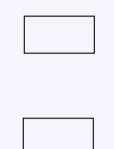
   After ITW: Poor   Fair   Good   Excellent

7. What further training or support would help you to be a confident teacher?

B. Feedback Form (Phase-II)

1. **Rate your level of agreement on a scale of 1 to 5 (with 1 being "highly disagree", and 5 being "highly agree") to each of the following:**

   - The time allotted for each presentation was sufficient

   - I received adequate feedback about my presentations

   - The feedback given was extremely useful for my improvement

   - The resource faculty members were professional and friendly

   - I benefited immensely from observing the presentations of my other colleagues

2. On a scale of 1 to 5 (1 being "highly dissatisfactory", and 5 being "highly satisfactory"), How would you rate your overall experience of this semester's ITW?

3. Any suggestions you may have for strengthening the current format of ITW further?

C. Resources

Following resources are made available by the AUGS-AUGSD division which can be accessed by a faculty from the link given below.

https://academic.bits-pilani.ac.in/Faculty/faculty-dashboard.aspx

- Bulletin

- Academic Regulation

- Handout of Courses

- Instructions for Question paper production

- List of Text Books

- Pre-requisites of courses

- Semester Time Table

Following resources are made available by the TLC division which can be accessed by a faculty from the link given below

https://www.bits-pilani.ac.in/tlc/Pilani/Resources.html

- Guidelines to teachers

- Invited Talks

- List of Books (related to teaching/learning)

Following resources on online teaching are made available by the TLC division which can be accessed by a faculty from the link given below

https://www.bits-pilani.ac.in/tlc/Pilani/Online-Teaching.html

- Gluing Traditional and Online Teaching

- Student Engagement (Mentimeter) and Breakout Sessions

- Take-home assignments, and Online discussions using Slack

- Use of Tablets Introduction to jPlag and Mail-Merge

- Sharing Experience of Flipped-mode of Teaching

- Introducing Canvas - A Learning Management System

- Training on Online Assessment

TEACHING LEARNING CENTRE
INTENSIVE TEACHING WORKSHOP