



International Webinar Series on Project Ideas

“Ideas move society forward”: Vidya organises international webinar series on Project Ideas

It has been said that good ideas move the world and good projects change society. To take the society forward we need great project ideas that contribute to finding solutions to the most pressing questions of our time, thus moving our societies forward. Who else, other than the younger generation, are to be exposed to those great project ideas? This must have been the thought process of the members of a group of people in Vidya, inspired and motivated by Vidya's academic role model Dr Sudha Balagopalan, Dean-Academics, when they conceptualised the idea of holding an International Webinar Series on Project Ideas.



Dr Sudha Balagopalan

The idea of holding such a webinar series was itself a great idea and the idea was turned into a reality by a team of dedicated personnel associated with Vidya Skill Centre under the leadership of Mr Anil M (AP, ECE Dept). The team could gather together a galaxy of eminent personalities from around the world and each one of these luminaries presented a host of fresh challenging ideas that could definitely take the society forward. This report is an attempt to present the spirit and to capture some of the reverberations of that truly international webinar series.

All the activities of the webinar series were conducted through the Google Meet platform.

Inaugural ceremony



Mr V P Nandakumar speaking in the inaugural ceremony

The webinar series started with a formal inaugural ceremony held at 10.30 am on 11 July 2020 presided over by Dr Santosh Prasannan, Chairman, VICT. Sri VP Nandakumar, MD and CEO of Manappuram Finance Ltd and an Honorary Adviser of VICT, was

the Chief Guest of the occasion. In his keynote address Mr Nandakumar touched the right note when he spoke of Data Science, Robotics, Artificial Intelligence and other modern technologies and their relevance and need for promotion during the current lockdown period. Dr Saji C B, Principal, welcomed the online audience spread all over the world and from all disciplines and walks of life including the students, staff and management of Vidya. Dr Sudha Balagopalan gave a brief introduction to the Webinar Series and Mr Anil M (Head of Skill Centre) offered the vote of thanks.

The speakers in the Webinar series

1. Er Anoop Nandakumar (New Zealand)
2. Dr Tomy Sebastian (Michigan, USA)
3. Er Gopi Battineni (Italy)
4. Dr Nitin Padmanabhan (Canada)
5. Dr Sethu Wariyar (UK)
6. Prof (Dr) Amit Bhaya (Brazil)
7. Ms Devika Chandramohan (USA)
8. Er E P Krishnaprasad (Switzerland)

Webinar 1 : Er Anoop Nandakumar (New Zealand) (11 July 2020)



Meet Er Anoop Nandakumar

Projects and Operations Manager at CPE Systems, Auckland, New Zealand providing innovative Test & Measurement and Data Acquisitions solutions. He is leading the day to day operations and project management from inception, quotation, execution, delivery, commissioning and support. He has developed electrical and mechanical hardware and software for applications in farming, laboratories, aviation, PCB testing etc.

In his presentation Er Anoop Namdakumar talked about New Zealand and his neighbourhood and about how the authorities handled the Covid 19 crisis in New Zealand effectively. He spoke of the relevance of all basic and interdisciplinary courses and his UG project of a controlled furnace. He introduced his project based courses in his PG programme at University of Auckland and spoke authoritatively on the following:

1. The design and implementation of rehabilitation robotics and the game software to calm patients
2. Rail stress monitoring and wheel burn assessment based on data analysis
3. Ship Motion Data Acquisition to assess fatigue to prevent cracking along the passageway
4. Lab for gauging the impact of heavy traffic on roads for New Zealand Transport Agency
5. EV and Induction Power technology with wireless charger technology collaborating with UoA, NZ
6. Honey (Tea tree) classification based on AI technologies for Veritaxa

Webinar 2 : Dr Tomy Sebastian (Michigan, USA)

(12 July 2020)



DR. TOMY SEBASTIAN

Meet Dr Tomy Sebastian

Dr Tomy Sebastian, Director, Motor Drive Systems at Halla Mechatronics, Michigan, USA has worked with R & D Center of KELTRON, TVM, Black & Decker Corporation, Baltimore, Delphi Saginaw Steering Systems and Nexteer

Automotive, Michigan and was inducted into the Delphi/Nexteer Innovation Hall of Fame. He has taught several courses across Canada and the USA. Dr Sebastian is an IEEE fellow. Due to the pioneering research in PM motor design and control issues and applications in steering systems he received the 2019 IEEE Nikola Tesla award. He is the recipient of the 2010 IEEE Industry Applications Society's Outstanding Achievement Award. He was the General Chair for the First IEEE Energy Conversion Congress and Exposition (IEEE ECCE 2009) held in San Jose, CA. During 2017-2018 he served as the President of the IEEE Industry Applications Society

The presentation by Dr Sebastian touched on the “why” and “what” of electrical vehicles (EV) before speaking of the issues in the charging process. Then he moved on to describe various challenges like: cost effectiveness, packaging, higher efficiency, fault tolerance, diagnostic capability, fail-safe operation, redundancy needs, noise, higher temperature operation and self-diagnostics. He stressed the interdisciplinary nature of the construct of an EV with role for Power Electronics, low torque ripple motor design, smart sensors and sensor fusion, smart control algorithms, advanced software, communication systems, mechanical safety, etc. His parting message was that “these are the best times to be an engineer”.

Webinar 3 : Er Gopi Battineni (Italy)

(13 July 2020)



Meet Er Gopi Battineni

Er Gopi Battineni's work experience involves teaching at his alma mater, JNT University, AP, writing programmes in Yanthra software, and serving as a computer analyst at University of Della Marche, Italy) His research work is spread over Sheffield Hallam University, UK, University of Bordeaux, France and now at University of Camerino, Italy. His present work consists of design of Artificial Intelligence (AI) systems to assist seafarers' health.

Er Gopi Battineni spiritedly took over the session after he drew a simplistic distinction between AI, Machine Learning and Deep Learning and the relevance of adequate and powerful database, feature extraction techniques and algorithms. His passion in the subjects overflowed when he spoke of his work in modeling, extracting the features and predicting dementia and Alzheimer's diseases. He also gave an interesting take on Covid 19 modeling and shared some of his inferences about weekly predictions and public policies and the need for chatbots and design considerations with implementations.

Webinar 4 : Dr Nitin Padmanabhan (Canada)

(14 July 2020)



DR. NITIN PADMANABHAN

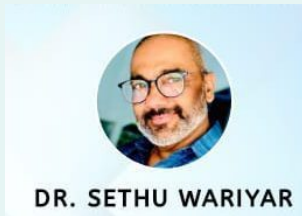
Meet Dr Nitin Padmanabhan

Dr. Nitin Padmanabhan is a Postdoc Fellow at University of Waterloo, Canada with over six years of research experience and with a PhD funded partly by Natural Science and Engineering Research Council, Canada. Dr Nitin has more than 11 years of experience in teaching university/college students in Canada and in India, at undergraduate and postgraduate levels. He was awarded the 2018 Energy Council of Canada Energy Research Fellowship, 2017 Faculty of Engineering Award, University of Waterloo, 2017 Best Teaching Assistant Award in the University of Waterloo, and 2005 NSS Student Volunteer in Kerala State.

Dr Nitin compared his evolution as a researcher and as a teacher and, based on his exposure, advocated project based learning in a big way. He cited several examples illustrating how diffidence and exam-oriented superficial learning hampered performance and created mental blocks. On the other hand a project would impart more skills like skills in presentation, decision making, time management, crisis management etc. He emphasized on the importance of learning new software and programming languages. Speaking on the “art of learning” he also gave an outline of how projects can be done including mathematical modelling, coding, planning, implementation, documentation and even publications.

Webinar 5 : Dr Sethu Wariyar (UK)

(15 July 2020)



Meet Dr Sethu Wariyar

Dr Sethu Wariyar is a Consultant in Paediatric Neurodisability with three decades of clinical experience in child health, including developing and leading services for children with various forms of Neurodisability. He has expertise in neuro-developmental problems like ADHD, ADD, etc. He is a Training Programme Director for the Northern England Deanery and the region covered by the Kent, Surrey and Sussex Deanery- facilitating training of young paediatricians of the future as the Consultant Trainer.

In a very fascinating talk, Dr Sethu Wariyar started with technologies that link engineering and medicine now: AI, genetic engineering and cloning, telemedicine. Next he spoke how Machine Learning and Deep Learning were being used for diagnosis, prognosis and treatment. With simplified explanation behind the medical and physiological phenomena, Dr Sethu talked about the need for an autism diagnostic tool and the design considerations for a wearable devices to help autistic children. He also gave lucid explanations on subjects like the stages of anxiety and how they can be monitored and controlled. There was discussion on “mindfulness” as a therapy for anxiety.

Webinar 6 : Prof (Dr) Amit Bhaya (Brazil)

(16 July 2020)



DR. AMIT BHAYA

Meet Prof (Dr) Amit Bhaya

Dr Amit Bhaya has an honours B Tech degree from IIT, Kharagpur, Master's and Ph D from the University of California, Berkeley, in just 5 years. He is a full professor in Federal University of Rio de Janeiro, Brazil, working in control and systems theory and applications, and related fields. He has books with Eugenius Kaszkurewicz, in Birkhäuser/Springer, in SIAM etc.. He holds a 1A level research fellowship of the Brazilian National Council for Scientific and Technological Development and Researches funded by the Brazilian Govt agencies. He has consultancy projects for the Brazilian companies Petrobras and Eletrobras, and the multinational Dell-EMC.

Dr Bhaya's session was also special since he used the simplest of concepts to explain complex modeling techniques way back from 1957 which have stood the test of times. Using transition diagrams and concepts of predator-prey balance he could explain population dynamics in the biological world, the importance of ads in the dynamics in markets and also the susceptible-infected-recovered projections and predictions in the epidemics context. After the mathematical modeling, he said, it is for the control engineering to take on the job of modifying the properties and for optimization theory for optimal control. These techniques are also applicable to a hostile environment since prediction and policy making are outcomes.

Webinar 7 : Ms Devika Chandramohan (USA)

(17 July 2020)



DEVIKA CHANDRAMOHAN A

Meet Ms Devika Chandramohan

Ms Devika Chandramohan is a second year medical student at Keck School of Medicine, University of Southern California, Los Angeles, USA with a demonstrated history of work in the medical practice industry. Recipient of a BS in Psychobiology from University of California, LA and a recipient of the UC Regents Scholarship. She has a passion for the holistic care of patients, and for creating empathetic, long-term relationships with patients to support their health journeys.

It was pleasant listening to Ms Devika as she softly spoke of her decision to specialize in geriatrics and how her upbringing led her to such a decision. She also spoke on some technologies which can be easily handled by the elderly and more relevant to the age in which they were young. Some areas where the elderly can be helped with technology or otherwise were outlined as companionship, at least a regular tele-talk, some help with use of telemedicine, some interpretation help for interacting with the medical experts without visiting hospitals, any technology to redress the pathetic conditions of old age homes, and loneliness at all ages.

Webinar 8 : Er E P Krishnaprasad (Switzerland)

(18 July 2020)



MR. KRISHNAPRASAD

Meet Er E P Krishnaprasad

Head of Sales and application: Asia & Asia Pacific, ABB Switzerland, Saudi Arabia, ABB Relays AB, Sweden. MBA in Strategy, Swiss Business School, Zurich, after a degree from National Institute of Technology Calicut. Skills: Management, Team Building, Sales, and in many more areas

Er E P Krishnaprasad made a great start, tracing the four industrial revolutions with the inspiring words that we are now in the most exciting 4th industrial revolution, the digital transformation. An overview covering global demography, economy, technology, renewable energy, the challenges of solar and wind energy was given with videos of some astonishing work of ABB. He gave excellent tips on selecting projects, forming teams and the fact that it is the learning from the project that is the real success and not the project outcome itself. Teaching students to think in terms of what they can do for society while searching for project ideas, looking to support local industry, learning to be non-judgmental were all great takeaways from this lecture. He too commented that this is the best time to be alive, definitely a very powerful inspiration for the audience.
