3.7.2: Number of functional MoUs with institutions/ industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years

Any additional information

A

Report

of

GUJCOST Sponsored

One Week STTP

On

Future of Electric Mobility in India

17th to 21st June, 2019

Presented by

Dr. Jignesh A. Makwana

Coordinator, FEMI-2019

Associate Professor, PG Studies, Marwadi University, Rajkkot

Program Type: One Week Short Term Training Program

Title: Future of Electric Mobility in India

What was Objective?

Short Term Training Program on "Future of Electric Mobility in India" was a step toward supporting national interest of caring environment by adopting electric mobility for transportation. This one-week training awarded participants about word scenario of electric vehicle adaptation, where India stands on policy making for faster adaptation and encouraging EV manufacturers & entrepreneurs, challenges & solutions faced by EV industries, future demand and scope of employment and research trends in the sector of electric & hybrid vehicles.

Participants:

Total 28 participants including faculties, PG/Phd Research Scholars and Graduate Engineers from all over the India had participated actively in this program.

List of Participants:

Sr. No	Name	Designation
1	Kishant Khut	Engineer Graduate
2	Subhash Vaghmare	Assistant Professor
3	Himanshu Chaturvedi	Assistant Professor
4	Uvesh Sipai	Assistant Professor
5	Anshumann	Assistant Professor
6	Pavak Mistry	Assistant Professor
7	Vatsal Patel	Assistant Professor
8	Dinesh Chabadia	Assistant Professor
9	Gunjan Tetar	Assistant Professor
10	Champaben Mansukhbhai Chauhan	Assistant Professor
11	Rushit Chauhan	Assistant Professor
12	Unnati Patel	PG Research Scholar
13	Mrudurajsinh Chudasama	Assistant Professor
14	Ronak Doshi	Assistant Professor
15	Dhiraj Shrimali	Assistant Professor
16	Nirav Tolia	Assistant Professor
17	Rajesh Patel	Professor
18	RAKESHKUMAR SUKHADIA	Assistant Professor
19	Nishant Kothari	Assistant Professor
20	Amit Ved	Associate Professor
21	Meeta Matnani	Associate Professor
22	Dilip Moyal	Assistant Professor
23	Pankaj Yadav	Assistant Professor
24	Dr. Yogesh Jani	Associate Professor
25	DR MUKTA TRIPATHI	Assistant Professor
26	Tapan Trivedi	Assistant Professor
27	Atul Kunapara	Assistant Professor
28	Nilay kumar	Assistant Professor

Experts:

Expert from NITs, IITs, EV Industries and other reputed industries had given through information and updates, and shared important research and surveys on area of electric vehicle and E-Mobility in India.

List of Experts:

Sr. No	Name	Designation & Affiliation
1	Dr. Jignesh Makwana	Associate Professor, PG Studies, Marwadi University, Rajkot
2	Dr. Ragvan	Associate Professor, IT Gandhinagar
3	Mr Jitesh Dodia	Lead Electrical Engineer, Menza Motors Pvt. Ltd
4	Mr. Tapan Trivedi	Sr. Assistant Professor, Electrical Dept. MEFGI, Rajkot
5	Dr. Rakesh Maurya	Associate Professor, SVNIT Surat
6	Prof. Dr Sarang Pande	Professor & Dean, PG Studies, Marwadi University
7	Prof. Dr. Varsha Shah	Professor, SVNIT Surat
8	Dr. Ranjan Behera	Associate Professor, IIT Patna
9	Dr. Rashi Gupta	MD, Vision Mechatronics (Known as "Batterywali of India")
10	Dr. Amit Sant	Assistant Professor, PDPU, Gandhinagar
11	Mr. Amit Ved	Associate Professor & Head, Electrical Engg. Dept, MEFGI, Rajkot

Sessions:

1. EV Start-ups and new EV industries in India by Dr. Jignesh Makwana

2. Selection of Motors for Electric Vehicle by Dr. Raghvan

3. Latest Trends and Government Policies of EV in India by Mr. Jitesh Dodia

4. DSP Controller for Power Electronic Converters by Mr. Tapan Trivedi

5. Improved Power Controller for Electric Vehicle Battery Charging by Dr. Rakesh Maurya

6. Passenger Safety & Comfort by Dr. Sarang Pande

7. Ultracapacitor & its application by Dr. Varsha Shah

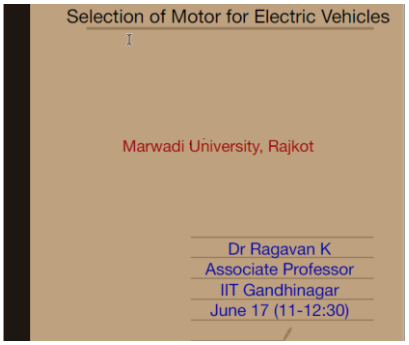
8. Selection of Electric Motor & Power Electronics Converter by Dr. Ranjan Bahera

9. Battery Management System (Future of e-Mobility) by Dr. Rashi Gupta

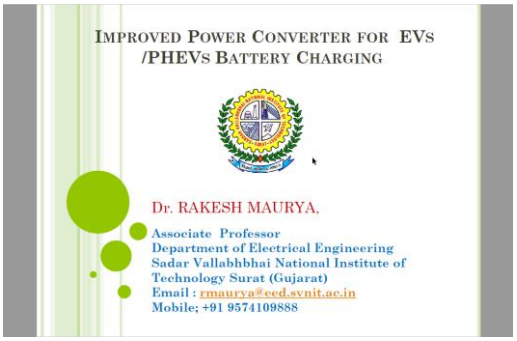
10. Electric Propulsion System, Battery Technology: V2G and G2V by Dr. Amit Sant

11. Electronics Control in Electric Vehicles By Mr. Amit Ved

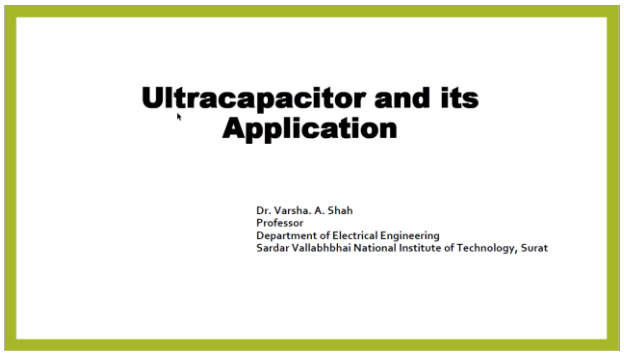

Marwadi University
EV Start-ups and new EV industries in India
FUTURE OF ELECTRIC MOBILITY IN INDIA
17-JUNE-19
BY. DR. JIGNESH MAKWANA
ASSOCIATE PROFESSOR, ELECTRIC ENGG. DEPT., MARWADI UNIVERSITY

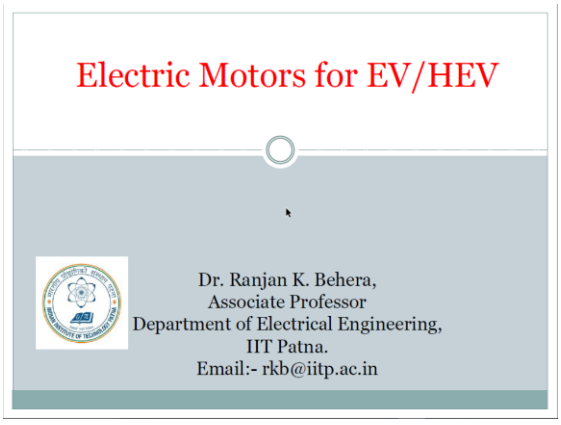

Selection of Motor for Electric Vehicles
Marwadi University, Rajkot
Dr Ragavan K
Associate Professor
IIT Gandhinagar
June 17 (11-12:30)

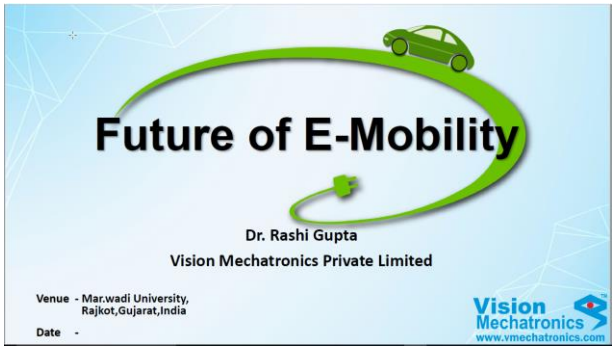

MENZA MOTORS PVT. LTD.
Latest Trends and Government policies of EV in India
Menza
Motors

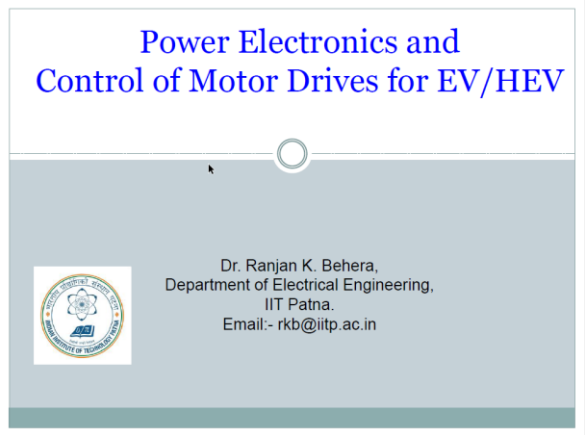

IMPROVED POWER CONVERTER FOR EVS /PHEVS BATTERY CHARGING
Dr. RAKESH MAURYA,
Associate Professor
Department of Electrical Engineering
Sadar Vallabhbhai National Institute of Technology Surat (Gujarat)
Email : rmaurya@eed.svnit.ac.in
Mobile; +91 9574109888


Marwadi University
PASSENGERS' SAFETY AND COMFORT
Saurabh Srivastava
Sarang Pande


Ultracapacitor and its Application
Dr. Varsha. A. Shah
Professor
Department of Electrical Engineering
Sardar Vallabhbhai National Institute of Technology, Surat


Electric Motors for EV/HEV
Dr. Ranjan K. Behera,
Associate Professor
Department of Electrical Engineering,
IIT Patna.
Email:- rkb@iitp.ac.in


Future of E-Mobility
Dr. Rashi Gupta
Vision Mechatronics Private Limited
Venue - Mar.wadi University, Rajkot,Gujarat,India
Date -
Vision Mechatronics
www.vmechatronics.com



Outcome with Session Summary:

After completing this short-term training program on "Future of Electric Mobility in India", participants got in-depth detail scenario of electric vehicle and e-mobility in India.

On 1st day, Dr. Jignesh Makwana provided vast information about EV start-ups, what automobile industries thinking about future of electric vehicle, requirement and research area of electric vehicle field. Dr. Ragwan enriched participants with fundamental details of electric motor requirement for EV point of view. Mr. Jitesh Dodia had provided detail of government policies and role in support to E-mobility in India. He also gave important information about li-ion battery chemistry for safe and reliable operation of EVs.

2nd day were started with hands-on session on DSP controller. Participants learned the DSP coding for producing sine PWM and signals required to produced control pulse for EV motors. Dr. Rakesh Maurya taught detail about charging system and different topology required to build efficient and reliable battery charging system. It includes on-board charger and fast DC chargers with different topology comparison.

On day 3, Dr. Sarand pande and Mr. Saurabh Srivastava explained essentials about passenger safety and comforts. It covered vehicle dynamics, body structure analysis to predict part experience more stress during accident and other safety measures. Dr. Varsha shah taught fundamentals of ultracapacitors, how this high-power dense device can use to extend battery range, and different connection topology of power electronics converter to utilize ultracapacitor more effectively in electric vehicles.

4th day were started with interactive session by Dr. Ranjankumar Bahera. It was an excellent session which covered design of 5 phase Induction Motor, DC-DC Converters and possibility of bearing less motors. Dr. Rashi Gupta explained detail about cell balancing and importance of battery management for li-ion battery pack design. She also explored detail about battery swapping technology and portable battery system.

On Day 5, Dr. Amit Sant explained importance of EV Motor control with detail of vector control algorithm with results. Mr. Amit ved informed about electronics required in automobile and their importance.

Overall this 5 days covered all most all possible sectors of Electric Vehicle and related research area including EV Industries, EV Startups, government policy and vision, vehicle dynamics, EV safety & comfort, EV motors, motor controllers, On board chargers, fast DC chargers, public chargers, charging sockets and standards, DC-DC Converters, vehicle electronics & communications.

Participant's Feedback:

Overall Summary:

Institute/Organization Covered: 15

State Covered: Gujarat, Maharashtra, Bihar, Hariyana

City Covered: Rajkot, Gandhinagar, Junagadh, Himatnagar, Mumbai, Gurugram, Patna,

FEMI 2019 Committee Members

Coordinator:
Dr. Jignesh A. Makwana

Co-coordinators:
Dr. Dinesh Kumar
Mr. Shantilal Babaria

Team Members:

Mr. Ronak Doshi

Mr. Pavak Mistri

Mr. Mruduraj Chudasama

Mr. Dilip Moyal

Mr. Nirav Tolia

Mr. Vatsal Patel

Ms. Darshana Valani

Ms. Hemadriba Zala

Vote of Thanks:

Thank you to the "Gujarat Council of Science & Technology" and Marwadi Education Foundation's Group of Institution, Marwadi University for funding this STTP.

Thank you to all participants for there support and active participation in this program.

Thank you to all team members and faculties of electrical engineering department for their support and coordination.

Thank you to Dean & Directors of Marwadi University for their continuous support and encouragement for organizing such events.

Thank you to all expert's foe spending their valuable time and sharing knowledge.

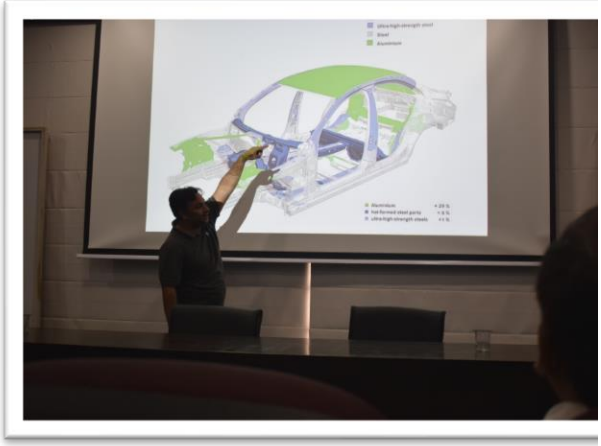
Thank you to all supporting staffs of Marwadi University for their daily arrangements of conference room.

Thank you to guest-house and hostel manager & staff, and to transport department for their assistant and support.

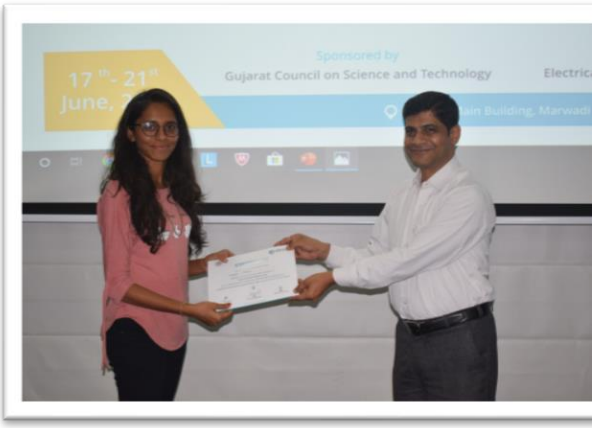
Thank you to all mess staff and manager for delicious food and excellent service.

Thank you to GUJCOST support team for helping and communicating with full assistance.

Photo Gallery:




Sponsored by
Gujarat Council on Science and Technolo
17 th - 21 st
June, 2019


Sponsored by
Gujarat Council on Science and Technology
17 th - 21 st


Sponsored by
Gujarat Council on Science and Technology


Sponsored by
Gujarat Council on Science and Technology
17 th - 21 st
June, 2019


Sponsored by
Gujarat Council on Science and Technology


Sponsored by
Gujarat Council on Science and Technology

THANK YOU

SHRADDHA
CIVIL SERVICES

Date – 31/12/2019

To Whomsoever It May Concern

This is Certified that **Mr. Yash Bhuva** (Roll Number 91800105010), **Mr. Ravirajsinh parmar** (Roll Number 91800105016), **Mr. Malhar Sharma** (Roll Number 91800105031) and **Mr. Aftab Sama** (Roll Number 91800105023), the students of Civil Engineering Department, Marwadi University, Rajkot have satisfactorily completed their internship for the period of 10-11-2019 to 25-12-2019.

During their internship, we found them punctual, hardworking and dedicated to the work with good moral character.

We wish them all the best for bright future.

Gbarai

Mr. Gopal Barai,
Managing Director,
Shraddha Civil Services.

"Arihant", Plot no. 4/A, Yogi Darshan Society, Kalawad Road, Rajkot - 360007
Mo.: +91 942 916 902 6 & +91 982 422 356 5 E-mail : shraddhacivilservices@gmail.com

Marwadi University

Value Added Course

Basic & Advance Sensorics and Mechatronics

Duration: (32 hours)

Objectives:

- Understand key elements of Mechatronics system, representation into block diagram.
- Understand concept of transfer function, reduction and analysis.
- Understand principles of sensors, its characteristics, interfacing with DAQ microcontroller

THEORY
Introduction to Sensorics: Its Knowledge and scope of employability, What is Sensorics?, different sensor types, classification of sensors, Types of proximity sensors, contact type, non contact type **Inductive Sensors** Fundamental Principles, Types, Interfaces for Inductive Proximity Switches **Capacitive Sensors** Fundamental Principles Practical Model **Ultrasonic Sensors** Fundamental Principles, Distance Measuring Ultrasonic Sensors Possible Errors in distance measurements with Ultrasonic Sensors Operating Conditions **Photoelectric Sensors** Fundamental Principles Methods of Operation of Photoelectric Sensors Signal Processing in Photoelectric Sensors Types

Marwadi University

Magnetic Sensors

Fundamental Principles

Principle of Operation

Application

Modular Mechatronic System

Introduction and study of mMS

Troubleshooting of mMS

PRACTICAL

Project 01 :Behaviour of inductive sensor NJ

Project 02 : Behaviour of the capacitive sensor CJ

Project 03 : Behaviour of magnetic sensors MJ

Project 04 : Behaviour of the direct detection sensor OJ

Project 05 :Behaviour of through beam sensors

Project 06 : Behaviour of the reflex photoelectric sensor OBS

Project 07 :Behaviour of an ultrasonic sensor

Project 08 : Operating range and hysteresis of the inductive sensor NJ

Project 09 : Switching frequency of the inductive sensor NJ

Project 10 : Operating range and hysteresis of the capacitive sensor CJ

Project 11 : Response curve of the capacitive sensor CJ

Project 12 : Switching frequency of the capacitive sensor CJ

Project 13 : Operating range and hysteresis of the magnetic sensor MJ

Project 14 : Detection range and hysteresis of the direct detection sensor OJ

Project 15 : Reduction factor of the direct detection sensor OJ

Project 16 : Switching frequency of the direct detection sensors OJ

Pap

rexroth
A Bosch Company

Marwadi University

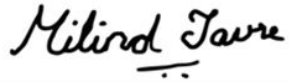
FACULTY OF TECHNOLOGY

CERTIFICATE

of ACHIEVEMENT

Mr/Ms. MANTRA ASHOKBHAI GEDIA has successfully completed the workshop on **"Basic & Advance Sensorics and Mechatronics"** held during 30th Jan to 20th Mar, 2021 at "CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES, (A joint venture of Marwadi University-Bosch Rexroth)".

Dr. N. V. Rachchh
Head of the Department, Mechanical Engineering,
Marwadi University



Mr. Milind Tavre
Asst. Manager, Drive & Control Academy
Bosch Rexroth, India

Marwadi University

Basics & interface of PLC to Pneumatics and Hydraulics

Duration: (40 hours)

Objectives:

- To understand the generic architecture and constituent components of a Programmable Logic Controller.
- To develop a software program using modern engineering tools and technique for PLC and SCADA.
- To apply knowledge gained about PLCs and SCADA systems to real-life industrial applications.

THEORY
What is PLC? Basic concepts of PLC Working of PLC & General Applications Indra control PLC's – Technical Details Hardware Details of L10/L20 Documentation provided in CD Related Soft wares for PLC Detailed presentation on Inline Products Technical & Hardware details on : - Digital I/O's - Analog I/O's - Bus-couplers Function Modules Indraworks Software Installation Indraworks Software features explanation in detail. Indralogic standard settings Project development in Indraworks Hardware Configuration Project Development in Indralogic Logic Development - Ladder Diagram - Addressing of Digital I/O's - Creating Parallel Paths (Net- work) - Programming Language Selection/Conversion Logic Development - Variable Declaration (Local/Global) - Declaration in Tabular Format - Function Blocks (Timers, Counters etc.) - Exercises Logic Development - Segregation of programs based - on functionality or application Mathematical Functions (Add, Sub, Div etc.) - Exercises Logic Development - Data type Conversion Operators - Inserting Blocks or inputs Exercises Logic Development - Addressing Analog I/O's

Marwadi University

- Working with Analog I/O's
- Configuring Analog I/O's Exercises

PLC Configuration Task Configuration
Watch & Recipe Manager Target Settings Project/Data Backup

- Export/Import
- Source Code Download Archive/Restore

Overview of different types of HMI

Interface of PLC to PNEUMATICS

Comparison of PLC logic vs Relay logic PLC logic in controlling Pneumatics drive
Advantages of PLC logic Limitations of Relay logic

Interface of PLC to HYDRAULICS

Comparison of PLC logic vs Relay logic
PLC logic in controlling Hydraulic drive
Advantages of PLC logic Limitations of Relay logic

Evaluation Test at the end of the Module

PRACTICAL

Exercise 01 Tank filling device simulator
Exercise 02 Supervise equipment
Exercise 03 Pump control 1
Exercise 04 Gate control system
Exercise 05 Starter control
Exercise 06 Furnace door control
Exercise 07 Reaction vessel
Exercise 08 Pump control 2
Exercise 09 Road works traffic lights
Exercise 10 Cleaning system

Interface of PLC to PNEUMATICS

PLC AND & OR function in pneumatic drive control
PLC signal storage function in pneumatic drive control
PLC "Switch ON delay function in pneumatic drive control"
PLC "Switch OFF delay function in pneumatic drive control
PLC "Raising and Falling edge" function in controlling pneumatic drive control
PLC logic to "Displacement control of pneumatic cylinder"

PLC logic to controlling sequence of two pneumatic cylinders
PLC logic to controlling sequence of three pneumatic cylinders

Marwadi University

Interface of PLC to HYDRAULICS

PLC AND & OR function in Hydraulic drive control
PLC signal storage function in Hydraulic drive control
PLC "Switch ON delay function in Hydraulic drive control"
PLC "Switch OFF delay function in Hydraulic drive control
PLC "Raising and Falling edge" function in controlling Hydraulic drive control
PLC logic to "Displacement control of Hydraulic cylinder"
PLC logic to controlling sequence of two Hydraulic cylinders
PLC logic to controlling sequence of three Hydraulic cylinders

rexroth
A Bosch Company

Marwadi University

FACULTY OF TECHNOLOGY

CERTIFICATE

of ACHIEVEMENT

Mr/Ms. SMIT YOGESH BHALODIA has successfully completed the workshop on **"Basics & interface of PLC to Pneumatics and Hydraulics"** held during 26th June to 28th August, 2021 at "CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES, (A joint venture of Marwadi University-Bosch Rexroth)".

Dr. N. V. Rachchh
Head of the Department, Mechanical Engineering,
Marwadi University

Milind Tavre

Mr. Milind Tavre
Asst. Manager, Drive & Control Academy
Bosch Rexroth, India

Uczelnia Jana Wyżykowskiego

Marwadi University

Funded by the Erasmus+ Programme of the European Union

ERASMUS+ Programme

Visit Report - April 2019

Table of Contents

Introduction

My Erasmus+ Teaching Staff mobility was with LODZ University of Technology, Poland. I was warmly welcomed by the International Cooperation Centre colleagues who guided me through matters related to my mobility stay, which was cherished and remembered throughout my stay. During this Teaching Staff mobility, I could engage with various stakeholders.

Impact of the Mobility project at local, regional and national levels AND measures to disseminate the results of mobility projects at multiple levels:

Relationship building and knowledge exchange:
Such international education initiatives helped promote relationship building and knowledge exchange between people and communities at the regional level at my home country to collectively work for local & global challenges.

International Academic Exchanges Foster Peace and Cross-Cultural Understanding:
In preparing a student as a global citizen, international student exchange is a key manoeuvre at the curve necessary for a young student's development. The exchange also fosters cross-cultural understanding - a key component of peace,
diplomacy and sustenance in human and social development. International academic exchange increases mutual respect among the people of the world, fosters an appreciation of differences and respect for similarities, and thereby enhances our ability towards better understandings and communications – an imperative and necessary attribute for the global workforce.

The visit has added to my Teaching-Learning skillset. I have equally positive words for the European Commission who approved this grant and gave me a rich & memorable opportunity to visit Poland. I also would like to share that my personal & professional needs were very well taken care during my stay, which was a memorable one and shall be cherished and remembered throughout.

I am confident and I look forward to such opportunities coming my way as-as well as to my institution which shall add to knowledge and overall life experiences.

Prof. (Dr.) R B Jadeja
Dean – Faculty of Engineering & Technology
Marwadi University

Summary of University Visits

Óbuda University

Hungary

UTP University of Sciences and Technology

Bydgoszcz

SLOVAK UNIVERSITY OF TECHNOLOGY

BRATISLAVA

Technical University of Ostrava

Budapest University of Technology and Economics

Szechenyi Istvan University

Lodz University of Technology

Uczelnia Jana Wyzykowskiego
Poland

UTP University of Science and Technology, Bydgoszcz

UTP University of Science and Technology in Bydgoszcz has more than 60 year-long tradition. The Institute is a multi-profile school of higher education; the only one in the region which integrates both agricultural and technological sciences and the only one in the region educating engineers. Throughout the 60-year-long history 38,000 students have graduated from the University, mostly majoring in civil engineering and machinery construction and agriculture. A Visit to UTP University of Science and Technology was scheduled on April 05th, 2019. An interaction and discussions were held with the officials of local industry cluster of Bydgoszcz area, Dr. Adam Gadomski, Vice-Rector International Office and Prof. Dr. Piotr Szewczykowski, Faculty at Mechanical Engineering Department.

Discussion Points

- Study offerings for First Year students of Mechanical Engineering at Marwadi University.
- Exploring possibilities for induction of Mechanical Engineering students at Marwadi University for further Three years of University studies at UTP Bydgoszcz.
- Internship possibilities with the local industries related to Mechanical Engineering.

Actionable

- To disseminate this offer among the students of Mechanical Engineering, Marwadi University.
- Counsel parents of interested students about this opportunity.

SLOVAK UNIVERSITY OF TECHNOLOGY, BRATISLAVA

Slovak University of Technology in Bratislava is a technical university in Slovakia. According to the Slovak higher education ranking scheme prepared by ARRA, STU has been the best University in chemicals technologies, computer and technical sciences. Interaction and discussion opportunity was shared with Prof. Ing. arch. Ľubica Vitková, Vice Rector, STUBA & Dr. Lenka Hrudková, International Relations on April 08th, 2019.

Discussion Points

- Bilateral Research – Post-Doctorate & Doctoral opportunities.
- Institutional bilateral Erasmus+ Students & Staff mobilities in Engineering & Technology and various activities to enhance international cooperation.

Actions to Initiate

- Draft for Memorandum of Understanding has been shared with SUT.
- Inputs from Deans of the Faculty & Prof. Ing. arch. Ľubica Vitková awaited.

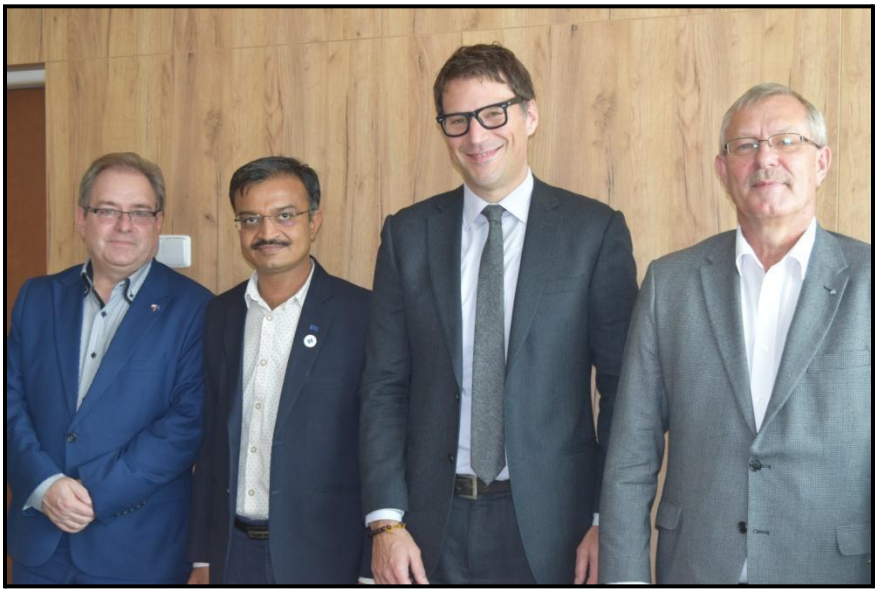
Technical University of Ostrava draws on 170 years of research and academic excellence to provide world class education in 7 Faculties offering Bachelor's, Master's, PhD, and exchange programmes to students from six continents. State of the art research facilities, cooperation with leading companies, and partnerships with universities and research institutions the world over provide excellent opportunities for student, teachers, and researchers alike. A visit to Technical University of Ostrava was planned and scheduled on April 09th, 2019. Had an opportunity to discuss with Ms. Irena Havelková, International Office, Mr.Daniel Casten-Director of Confucius Classroom International Relations Officer and Prof. Dr Paval Brandstetter, Dean Faculty of Electrical Engineering and Computer Science.

Discussion Points

- To enter into understanding with regard to Academic collaborations and share draft of MoU.
- Specific proposal/s shall be shared and discussed mutually.
- Institutional bilateral Erasmus+ Students & Staff mobilities in Engineering & Technology and various activities to enhance international cooperation.

Actionable

- MoU draft has been shared, to be authorized and sent to CZ Republic.



Óbuda University, Hungary

Óbuda University has an excellent conditions for world-class research and education, a multi-cultural flair in labs and lecture halls and active promotion of international partnerships. The university is a leading institution and an attractive international place for study and research for prospective research scholars. On April 10th, 2019 visit to Óbuda University, Hungary was scheduled. During the visit discussions were held with Prof. Dr. László Nádai, Dean of Kandó Kálmán Faculty of Electrical Engineering, Ms. Erzsébet Veres, Deputy Director for International Affairs & Head of Mobility Department, Mr. Péter Harmath, Head of External Relations Department.

Discussion Points

- Bilateral Research – Post-Doctorate & Doctoral opportunities.
- Institutional bilateral Erasmus+ Students & Staff mobilities in Engineering & Technology and various activities to enhance international cooperation.

Budapest University of Technology and Economics

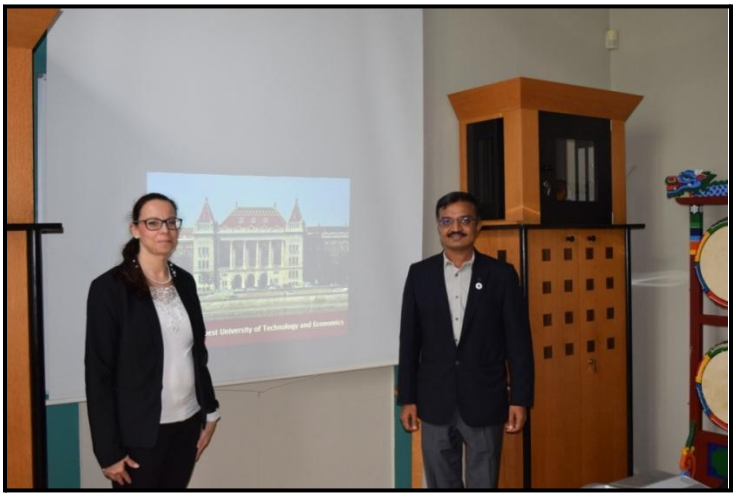
The Budapest University of Technology and Economics (BME) is a public higher education institute operating as a central budgetary institution. A visit to Budapest University of Technology and Economics was held on April 11th, 2019. During the visit discussion and interaction with Ms Adrienn Füzesi, Director for International Relations was held with an objective to have collaboration and understanding in Doctoral and Post Doctoral opportunities.

Discussion Points

- Cooperation specific to Doctoral & Post-Doctorate opportunities.
- Enter into understanding in the said specific areas between Marwadi University and Budapest University of Technology and Economics.

Actionable

- MoU draft has been shared, to be authorized and send to Budapest University of Technology and Economics.



Szechenyi Istvan University

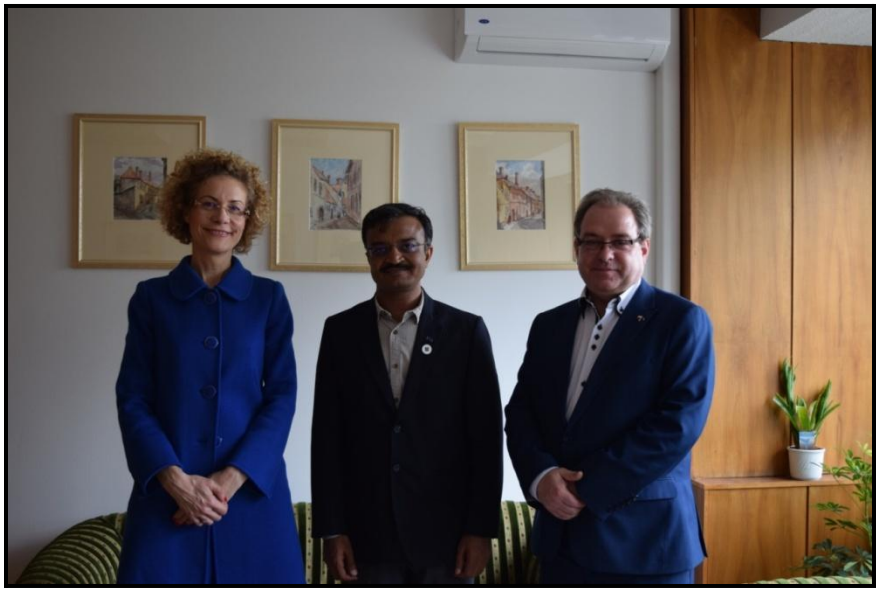
The Széchenyi István University (SZE) is located in Hungary. The University was established in 2002. It has an excellent reputation in Electrical and Mechanical Engineering and has a partnership with leader car manufacturers. On April 12th, 2019 visit to Szechenyi Istvan University was scheduled. During the visit discussion were held with Dr. Eszter Lukács, Vice-Rector for Educational Affairs, Dr. Tibor Dőry, Gyula Kautz Faculty of Business & Economics and Ms. Helga Hoffmann, Centre of International Programmes.

Discussion Points

- Exploring potential areas for bilateral research & other diverse opportunities for collaboration in the fields of Engineering & Technology at postgraduate and doctoral levels.
- Institutional bilateral Erasmus+ Students & Staff mobilities in Engineering & Technology and various activities to enhance international cooperation.

Actionable

- Marwadi University shall share potential areas to Szechenyi Istvan University.



Lodz University of Technology

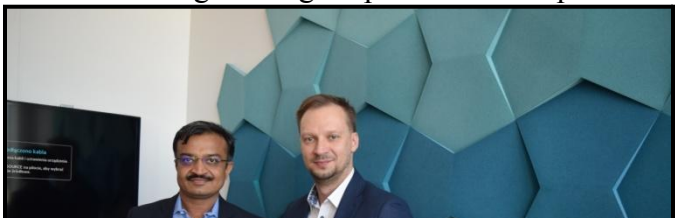
Lodz University of Technology has been developed as one of the biggest technical universities in Poland. A visit to Lodz University of Technology was scheduled on April 15th to 19th, 2019. During the visit discussions were held with Dr. Małgorzata Świt, Head - International Office and Dr. Tomasz Siewierski Institute of Electrical Power Engineering, Lodz University of Technology.

Discussion Points

- Doctoral and Post Doctoral opportunities for Research Scholars and staff members of Marwadi University.
- Student Exchanges across all possible specializations.
- One PhD scholar application submitted for scholarship programme.

Under **ERASMUS+** staff mobility for teaching, between Programme and partner countries 8 hours teaching were delivered. A lecture class was conducted at LODZ University on the subject Electronic Power Converters: Power Quality Issues and Mitigation Techniques using SAPF to understand the teaching learning process. During the course of lecture many students interacted, discussed and tried to learn Indian higher education system.

A Discussion was held with Dy. Dean of Mechanical Engineering Department to explore the opportunities for Student Exchange



Program and Doctoral Studies. An opportunity was shared to visit laboratories of Mechanical Engineering Department along with Dy. Dean and explore possibilities for scientific collaborations. The Dy Dean has also assured to invite 1 Research Scholar from Marwadi University at Mechanical Engineering Department of Lodz University of Technology for a period of 1 month to undergo research studies.

A meeting was held with Prof. Irena Wasiak, the Director of Lodz University and Dr. Tomasz Siewierski, Assistant Professor at the Electrical Power Engineering Department of Lodz University. The meeting was intended to have an alliance for research collaboration in the field of Electrical Power Engineering. A visit to different laboratories of the Institute of Electrical Power Engineering Department was also scheduled. The meeting resulted with an opportunity to undertake doctoral research for the faculty member of Marwadi University. Prof. Uvesh Sipai, a Research Scholar of Marwadi University under the guidance of Dr. R B Jadeja shall be visiting Institute of Power Engineering at Lodz University for a period of 1 month to undertake Doctoral Studies. This research opportunity shall give Prof. Uvesh Sipai access to state of the art laboratories related to Electrical Power Engineering and will work under the guidance of Prof. Irena Wasiakand and Dr. Tomasz Siewierski who have carved specialization in Microgrid, Integration of Distributed Energy Researches with grid, Power Quality Assessment in a Microgrid and much more. This opportunity is fully granted under the Polish Government [PROM] program.

Meetings at International Cooperation Centre

1. Visited International Educational Projects Division, discussed with Prof. Malgorzata Swit with regard to further collaborations and scientific activites.

2. Visited Student Mobility Division, discussed with Prof. Mariola Jozefowicz with regard to Dual Degree Program between Marwadi University and Lodz University.

3. Visited Accreditation and International Ranking Division, interacted and discussed with Prof. Justyna Kopanska regarding Accreditation at EU and Rankings.

Interaction with Students of Marwadi University at Lodz University

Under the ERASMUS+ program 14 students of Computer Engineering & Civil Engineering Department at Marwadi University are undergoing studies at Lodz University. An interaction and discussion were held with the students who are undergoing their studies. Feedbacks were obtained from the students in terms of teaching learning process and examination evaluation system being practiced.

Lectures and Activities

Prof. R B Jadeja and Prof. Polkowice conducted lectures on IT Tools in Management, IT Tools in Logistics and Modern IT Systems. IT tools implemented at Marwadi University was shared particularly in the areas of Teaching & Learning process, Human Resource Management, online logistics management, online canteen system and as well as online assessment system adopted. Active participation and interaction were noted among the students and eagerness to know process adopted at Marwadi University was exhibited by students. Implementation of different parameters while adopting IT systems were explained which remains different as per the country needs.

Summary of Lectures delivered

Date	Subject	Hours	Students
6-Apr-19	IT Tools in Management	6	Under Graduate
6-Apr-19	IT Tools in Logistics	4	Under Graduate
7-Apr-19	IT Tools in Management	4	Under Graduate
7-Apr-19	IT Tools in Logistics	6	Under Graduate
13-Apr-19	IT Tools in Logistics	6	Under Graduate
13-Apr-19	Modern IT Systems	2	Under Graduate
14-Apr-19	Modern IT Systems	2	Under Graduate
14-Apr-19	IT Tools in Management	8	Under Graduate

Class photograph, where healthy interactions among students were noted, especially students who belonged to different domains such as working in bank, shopping malls, insurance companies, hospitals etc.

Final Engineering Exam: Defense

Date: 13/04/2019
Student: Magdalena Kwiatowska

An opportunity was shared as an invited guest in the Final Engineering Exam (Defense). It was my honor and privilege to share inputs as a guest examiner. I am very thankful to the Dean of Engineering and Technology.

Meetings with Senior Officials of UJW:

- Dr. Wlodzimierz Olszewski - The Rector, UJW
- Dr. Dariusz Zajac - The Chancellor, UJW
- Dr. Tadeusz Kierzyk - The Dean, Lubin Branch
- Prof. Dr. Stanisław Piesiak - The Dean, Social Sciences Branch
- Prof. Dr. Rafal Czachor - The Dean, Social Sciences Branch

The meetings were held for Post Doctoral activities, to understand teaching-learning process at UJW and education system in India. The inputs were shared by Dr. Dariusz Zajac - The Chancellor of UJW and the activities being undertaken in terms of scientific work. Prof. R B Jadeja is very thankful, for giving an opportunity to work with Post Doctoral Fellow at UJW Poland.

A healthy interaction were held with Dr. Wlodzimierz Olszewski - The Rector, UJW in terms of teaching learning process and different types of courses available at Marwadi University and UJW. Rector has also agreed to provide all support from UJW and to work with Prof. Polkowice.

We also met Prof. Dr. Stanisław Piesiak - The Dean of Social Sciences, Prof. Dr. Rafal Czachor- The Dean of Social Sciences and Dr. Tadeusz Kierzyk- The Dean of Lubin Branch. They have given valuable inputs and parameters, what they have implemented at UJW which was very useful and informative for collaborative projects and post doctoral research activities.