



OPJU

UNIVERSITY OF STEEL TECHNOLOGY
AND MANAGEMENT

OP JINDAL UNIVERSITY

(UGC and AICTE approved)

OP Jindal Knowledge Park; Punjipathra, Raigarh - 496109 [C.G.]



Centre for Industry Academia Collaboration (CIAC)

<http://www.opju.ac.in/ciac.php>

REQUEST FOR PROJECTS AND R&D PROPOSALS:

Context

OPJU, set up by JSPL Group as part of the \$18 Billion OP Jindal Group is located in Raigarh District in the state of Chhattisgarh, which surrounded by many core industries in steel making, mining, and power generation. The state of Chhattisgarh is endowed by nature with rich mineral and natural resources. Development of human capital in the state is key to realizing the potential for its society and constituents. Given the location advantage, OPJU enjoys and its proximity to states, rich in coal, iron ore, and other minerals. It is uniquely positioned to foster a collaborative environment through partnerships with industry and academic institutions to become a leading university dedicated to meeting the needs of the Steel industry through alignment of teaching, research, and capacity building activities that the steel and power industry requires.

India is the world's third largest producer of Steel and aspires to triple its production in the next decade. With such enormous growth, OPJU will play a pivotal role in meeting the industry challenges to provide well trained people, work on developing new technologies to enhance productivity, and promote global best practices amongst the Industry players. The University will consciously create resources that address problems unique to the Steel and Power industry in the areas of engineering, technology, science, and management practices.

By keeping this vision, CIAC, OPJU is continuously exploring to the new technological developments to enhance research and innovation capacity through building bilateral industry-academia linkages.

OPJU has team of competent professionals with the capacity to handle numerous R&D projects at a given time frame from its national and International clients

Objectives

Main objectives are:

1. The First objective of this proposal is to invite projects from different industries, research organizations and Institutions. The nature of the projects could be small scale, large scale, R&D type or a part of their existing projects
2. The projects can be in form of solutions to the problems in their existing processes or any technological up gradation to them.
3. To support collaborative research and knowledge sharing between university and industry.
4. Inviting the industries to add their specific skill based course contents with existing curriculum to make students industry ready.

TECHNOLOGY CENTRES AND LABS

(<http://www.opju.ac.in/cstpd.php>)

Centre for Steel Technology and Product Development (CSTPD)

The OP Jindal University (OPJU) is the only private university dedicated to meet the challenges of the country's iron and steel industry by establishing a dedicated centre to promote research, knowledge sharing, provide training and programs to meet the needs of the industry in the areas of Steel Technology, Power Technology, Welding Technology and Environmental and Waste Management. Centre of Steel Technology and Product Development (CSTPD) has been established at OPJU, Raigarh by the Jindal Steel and Power Ltd. (JSPL) Group to cater to the needs of the entire Indian Iron & Steel producers and User Industries.

Focus Areas:

- Ferrous Process Metallurgy
- Process Modelling
- Thermo-mechanical Processing of Steels
- Structure-Property Correlations
- Corrosion Protection of Steels
- Center of Excellence in Welding Technology
- Power Technology
- Material Testing
- Environmental and Waste Management

Intelligent Systems Lab

It is established by Intel Incorporation to cater the needs of Industry 4.0 research initiatives by providing advanced equipment and training on Internet of Things, AI, Machine Learning and Automation.

OPJU has a team of professionals to solve critical industrial data analysis and uses machine learning techniques to provide intelligent solutions in terms of hardware and software.

Focus Areas:

- Internet of Things
- Data Analytics and Machine Learning
- Electric Vehicles
- Advanced Control Systems

CAD CAM Lab

This lab is equipped with CREO, Solid Works, CATIA, HCAM and ANSYS with CFD software. Further, it is proposed to enhance the capabilities and develop a facility for integrated product design software solutions.

Simulation and Modelling Lab

This lab is equipped with Solid Works, ANSYS, COMSOL Multiphysics, MatLab and NI Lab View software to support Mode Based Designs (MBD) and Simulations in engineering projects.

Centre for Renewable Energy

We are equipped with an experienced in-house Engineering, Procurement and Project management teams with a thorough understanding of solar systems to provide our expertise for Solar Project Development, O&M, Clean Energy and Regulatory Matters.

Computational Fluid Dynamics (CFD)

With the long association with Analytic & Computational Research, Inc., USA, we undertake research in the fields of Computational Fluid Dynamics (CFD) and Engineering Virtual Reality (EVR). We also bring new advances in these fields and apply the results in industrial situations.

- Porus and Fractured Media
- Flow Analysis in Power Plant Equipments
- Combustion Analysis
- Processes in turbulent fluids
- Automobile Research

Mechatronics and Vibration Analysis Lab

This lab is equipped with NI data acquisition systems and vibration measurement equipment.

Makers Space: The Fab Lab

School of Engineering established a laboratory for student's access to implement the creativities. The "Maker Space" would be a central setup and could be utilized by the students of engineering / management as well as science students.

Maker spaces have an opportunity to revolutionize the current system by providing an extracurricular means for students to engage in more hands-on projects and develop a large range of skills that are currently being underdeveloped. Maker spaces go beyond the traditional laboratory environment in the undergraduate curriculum offering access to rapid prototyping equipment and conceptual design spaces coupled with a unique culture that can be transformative to its users.

It's primary use and benefits are:

- Hands-on prototyping and designing
- Interdisciplinary problem solving and physical modelling
- Provides students and educators with a flexible, visible learning environment

Material Testing Laboratory

The Laboratory is well equipped with sophisticated machines such as ultra modern Universal testing machine, fatigue testing machine, compression testing, compaction factor apparatus, impact testing machine, Vee-Bee consistometer and others. The projects are invited in the major areas like Structural Design, Cement and Concrete, Pavement Design, Environmental Engineering and Traffic analysis. The following testing facilities are available:

- Cement testing
- Course aggregate and fine aggregate testing
- Water testing
- Admixture
- Fly ash
- Sinters
- Concrete testing
- RCC tiles testing
- RCC pavers
- PCC pavers and tiles
- Fiber RCC

Robotics, Automation and Controls

Ongoing research on robotics, automation and controls is leading to frequent and many technological advances producing grate Industry needs in these areas. OPJU has the state of the art infrastructure in Robotics, Hydraulics and Pneumatics, PLCs, microcontrollers, and IIOT facilitates for effective Research and products development. Special focus areas are industrial robotic control and simulation software for Automobile / Automotive Engineering, Energy and manufacturing industries.

Industrial Management Research Lab

The laboratory provides solutions to various areas of management covering operational, strategic, and tactical levels and helping number of private sector organizations, Public Sector Undertakings, Central and state governments, NGOs and others. The main focus areas are industrial logistics, human resource management, operations management, financial management, information Technology, economics and knowledge management.

Summary

Based on the vision and objectives proposed in this proposal we would like to invite Industries from India and abroad to submit their projects queries or R&D proposals. We also hope that these proposals may also lead to the platform for Memorandum of Understanding (MoUs) in Academic and Scientific cooperation between us.



For Further Details, please contact:

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