SCHOOL OF SCIENCE OP JINDAL UNIVERSITY, RAIGARH

QUARTERLY REPORT

April - June 2023

Knowledge ^{for}Life



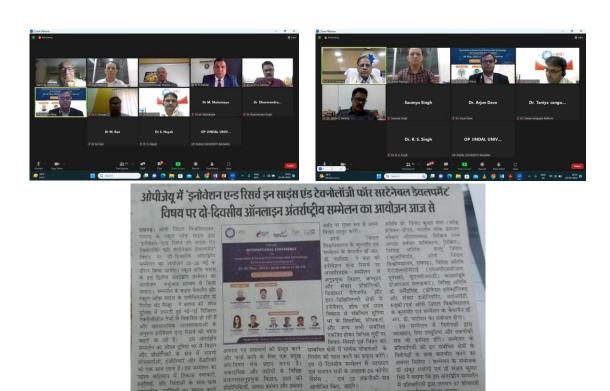
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2nd Virtual International Conference organised during 25-26 May 2023

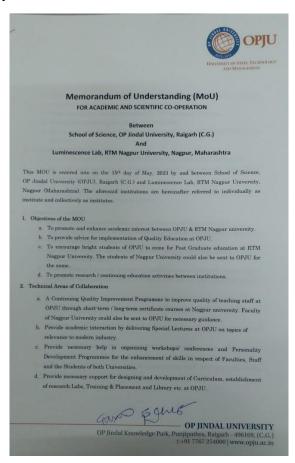
School of Science, OP Jindal University organized 2nd Virtual International Conference on Innovation and Research in Science & Technology for Sustainable Development during 25-26 May 2023. The conference themed around four tracks viz Applied Science, Engineering & Technology, Disaster management and other related theme. Prof. Vinod Kumar Sharma, Senior Professor-DM, Indian Institute of Public Administration and Vice-Chairman, Sikkim State Disaster Management Authority, Govt. of Sikkim (Chief Guest), Dr. Dharmendra Singh, Head, Dept. of Computer Science & Engineering and Professor (Electronics & Comm. Engg.), IIT, Roorkee (Guest of Honour), Mr. Garry de la Pomerai, DRR consultant to UNISDR, UNESCO, UNCRD, Kathmandu, Prof. G. D. Sharma, Vice Chancellor, University of Science & Technology, Meghalaya, Meghalaya, Dr Arjun Dave, Director, Vedant Knowledge Systems Pvt. Ltd., Rajkot, Gujrat, Dr Ashok Kumar, Associate Professor, Department of Applied Sciences, National Institute of Technical Teachers Training and Research, Chandigarh, Dr. Debashis De, Professor, Department of Computer Science and Engineering, Maulana Abul Kalam Azad University of Technology, West Bengal, Dr S. K. Sinha, Associate Professor & Head, Dept. of Physics, BIT Mesra, Patna Campus were among the distinguished speakers from academia and industries delivered keynote speeches on Applied Sciences, Recent Technologies, Disaster Management and other fields related to Management and Humanities, etc. A total of 109 abstracts were received from PAN India out of which 102 abstracts were selected and 87 of which were presented during the 4 technical sessions. 4 best papers were awarded to Mr Umakanta Behera, Government College of Engineering, Keonjhar, Odisha, Ms Rohini Raina, Shri Mata Vaishno Devi University, Ms Nidhi Nirmalkar, Department of Chemistry, GGU Bilaspur, Chhattisgarh and Dr. G Kathyayani, P.Venkata Subrahmanyam, G. Venkata Ramudu, Department of Applied Mathematics, Yogi Vemana University, Kadapa, Andhra Pradesh on the four key tracks of the conference.





Memorandum of Understanding signed

A MoU for academic and research co-operation was signed between School of Science, OP Jindal University Raigarh and Luminiscence Laboratory, RTM Nagpur University, Nagpur Maharashtra on 15th May 2023.



Value Added courses organized

• Green Technologies for Sustainable Development

Department of Physics, School of Science organized a 30 hours' value added course on Green Technology for Sustainable Development during 22nd March to 21st April 2023. The objective of the course was to impart latest technology and capacity building of students towards green technologies which are becoming increasingly important for ensuring sustainability. The course covered different perspectives of ecofriendly mechanisms, techniques and recent advancement to resolve environmental issues and approaches towards sustainable development. Further, this course helps to create awareness among participants about emerging environmental issues and their possible solutions on maintaining a thoughtful process to develop mechanism of safe, sustainable, eco-friendly solution for their management. Sixteen students of UG and PG attended the course. The course was coordinated by Dr. K.N. Singh, Associate Professor, Department of Physics, School of Science, OPJU.





• Innovation and Entrepreneurship Management

The School of Science, OP Jindal University organized a Value-Added Course on Innovation and Entrepreneurship Management from April 12 to 26, 2023, for the target students of B.Sc.(H) VI Semester of SoS. The objectives of conducting the course were to develop the skills of idea generation, creativity and innovativeness, and to let the students understand the role and importance of entrepreneurship for economic development as well as enabling them to design business plans by considering all dimensions of business. It was a course of thirty hours including lectures on various topics of innovation and entrepreneurship management delivered by expert resource persons of the concerned fields. There were ten topics containing three lecture hours on each area that enabled the participating students to grasp a wide knowledge on current business scenarios, innovation management, business model, sustainability innovation and entrepreneurship marketing of innovation, technology innovation process, incubators, and so on. Fifty-two students from various departments of the School of Science attended all the sessions actively. The course was coordinated by Dr Sanjay K. Singh, Professor, Dept. of Humanities, SoS, and Prof. Manas R. Mishra, Sr. Assistant Professor, Dept. of Mathematics, SoS.





• Design Thinking in the Field of Applied Science

A 30 hours' **Value Added Course** on **Design Thinking** in the field of Applied Sciences was organized by School of Science, O P Jindal University, Raigarh **during 24**th – **28**th **April 2023**. A total of seventeen students from B.Sc. (Hon.) IV semester participated in the course. The aim of the course was to develop a research aptitude for better understanding of market (customer/ user/ society) requirements and to define, develop and present new ideas and solutions for the identified problem. **Dr. Biranchi P Panda**, Professor, School of Management, OPJU Raigarh was the resource person. An overwhelming response was received from the students who participated in the course. Dr. Saumya Singh, Associate Professor, Department of Mathematics, School of Science coordinated the course.





Parents Summit 2023 organised

On **27**th **April 2023 Parents Summit 2023** was organized by School of Science. A total of 64 parents/ guardians of School of Science wards visited the campus and interacted with management, faculty and staff. The parents were overall satisfied with the progress of their wards.







Open House & Career Counselling Seminars Organised

A series of Open House and Career Counselling Seminars were organized for under graduates, and 12th students to make them familiar about the opportunities and scope after graduation in science stream and emphasize the importance of higher education. Dr. Kavita Patel, Assistant Professor (Sr. Gr.), Department of Chemistry School of Science along with other faculty and staff members of School of Science conducted these sessions. The list of sessions are as follows:

S.	Date	School's/ Colleges Name	Persons Involved
No.			
1	14/05/2023	Govt. Polytechnic Raigarh	School of Science
2	18/05/2023	Govt. K. G. Arts and Science College Raigarh	School of Science
3	09/06/2023	Dharamjaigarh	Dr. G.C. Mishra, Dr. Sanjay Singh, Dr. Kavita Patel, Dr. Dipti Shukla
4	12/06/2023	Kharsia	Dr. G.C. Mishra, Dr. Sanjay Singh Dr. Kavita Patel, Dr. Saumya Singh
5	22/06/2023	Tamnar Schools Visit	Dr. Ankur Rastogi, Dr. Saumya Singh Dr. Kavita Patel
6	23/06/2023	Gharghoda	Dr. G.C. Mishra, Dr. Sanjay Singh Dr. Kavita Patel, Dr. Debasmita Samal

Some photographs of the conducted career counselling sessions:













Paper & Book Publication

- **Dr. K. N. Singh**, Associate Professor, Department of Physics, published a research paper entitled "Effect of B-site disorder on the electrical properties of Barium Zirconium Titanate Ceramics composites" in the ES Materials and Manufacturing, a SCOPUS indexed journal.
- **Dr. Dipti Shukla**, Department of Physics, published a research paper titled Effect of Autoclave and Non-Autoclave Hydrothermal Synthesis Methods on the Structural Properties and Optical Properties of LiBaF3 Phosphor: A Comparative Study in a Scopus indexed journal: Materials Today: Proceedings (a Elsevier Publication).
- Dr. Swati Verma, Department of Mathematics, published a paper titled A New NTRU
 Cryptosystem with Block Matrix Formulations in a Scopus indexed journal: European
 Chemical Bulletin.
- **Dr. G.C. Mishra**, Department of Physics, published a research paper titled Photoluminescence and -ermoluminescence Study of Ca1.02Sr1.98Al2O6: Dy Phosphor Synthesized by Combustion Method in a Scopus indexed journal: Materials Letters: X. (a Elsevier Publication).

Patent Publication

• **Dr. Ankur Rastogi**, Associate Professor, Department of Chemistry, published a patent entitled "Machine Learning Based Approach to Study the Lead-Free Bismuth Based Perovskite Materials for Solar Cell Applications", Application No. 202311016895

Talk Delivered

- Dr. Ankur Rastogi, Associate Professor, Department of Chemistry, presented a lecture on "Macrocyclic Chemistry" as a keynote speaker on 20th April 2023 in a "Faculty Development Programme on Research Trends in Science" organized by Kirodimal Govt. Arts & Science, Raigarh.
- Dr. Kavita Patel, Sr. Assistant Professor, Department of Chemistry, presented a lecture on "Pharmacological properties of Medicinal Plants" as a keynote speaker on 22nd April 2023 in a "Faculty Development Programme on Research Trends in Science" organized by Kirodimal Govt. Arts & Science, Raigarh.
- Dr. Deepak Patel, Associate Professor, Department of Chemistry, presented a lecture on "Asymmetric Catalysis" as a keynote speaker on 23rd April 2023 in a "Faculty Development Programme on Research Trends in Science" organized by Kirodimal Govt. Arts & Science, Raigarh.





- Dr. R. S. Singh, Department of Physics, delivered an invited talk on Metal-Decorated Silicon Carbide Nanotubes for Hydrogen Storage at the World Congress on Materials Science Research and Nanotechnology held on May 22, 2023 in Rome, Italy.
- **Dr. R. S. Singh**, Department of Physics, delivered an expert talk on **Epitaxial Graphene on SiC: Characterization and Optoelectronic Applications** in a STC/FDP on Characterization of Nano-materials and Applications held at the National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh on May 25, 2023.

FDP/ Conference, Seminar/ Workshop/ Webinar, etc. attended/ participated

• **Dr. Taniya Sengupta Rathore**, Associate Professor, Dept. of Biotechnology, SOS, OPJU has attended one week FDP on "**Blended Learning,Development of MOOCs and E-content**" organized by IQAC, Raghunath Girls' Postgraduate College, Meerut in association with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi from 24th to 29th April 2023.



Doctor of Philosophy (Ph.D.) Degree Awarded

- Mr. Abhijeet Rameshrao Kadam, the first Ph.D. research scholar of the School of Science, Department of Physics has been declared eligible for the Degree of Doctorate of Philosophy in Physics. His thesis was on *Effect of Activators and Theoretical Approach in Luminescent Downconversion Phosphors and their Applications*. He was working under the guidance of Dr. Girish C Mishra (SoS, OPJU), and Dr. S J Dhoble (RTM, Nagrpur). The Open Defence Viva-Voce was held on 15 May, 2023.
- Mrs. Chaitali Manohar Mehare successfully defended Viva-Voce and has been found eligible for the award of Degree of Doctorate of Philosophy in Chemistry on June 7, 2023. She completed her research on *Chemical Route Synthesis and Luminescence*

Characterization of Rare-Earth Activated TLD and Led Phosphors under the supervision of Dr GC Mishra, Professor Physics and Associate Dean School of Science, OPJU Raigarh.





Achievements

- School of Science, OP Jindal University Raigarh received certificate of Achievement as Best Emerging School of Science Education (Central India) award by Alpha International Publications
- **Dr. Sanjay Kumar Singh,** Professor, Department of Humanities, SoS was awarded **Best Academician Award** by Alpha International Publications
- Dr. Anal Kant Jha, Associate Professor, Department of Biotechnology, SoS was awarded CV Raman Prize 2023 and Distinguished Professor Award 2023 by Institute of Researchers









Guest Lecture / Expert Talk organised

• Guest Lecture on How to select an Innovative Project on 26th April 2023

The Department of Chemistry, School of Science organized a guest lecture entitled "How to select an Innovative Project" on 26th April 2023. The Resource person was Dr. Dhanesh Singh, Professor, Department of Chemistry, Kirodimal Govt. Arts & Science College, Raigarh. The session was attended by the students of B.Sc. (H) Chemistry 6th semester and BSc(H) Biotechnology 2nd semester.





• One Day Skill Enhancement Workshop (13th April, 2023)

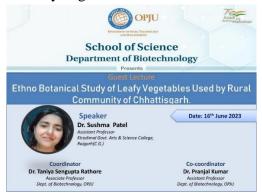
To impart practical awareness about the Biotechnology subject department of Biotechnology, School of Science, OPJU organized a **one-day skill enhancement Workshop** entitled **Awareness of Trends in Biotechnology** for B.Sc. (H) 2nd semester Biotechnology students on 13th April 2023. The workshop consists of three sessions, which includes hands on training on Hematology and Nanomaterial preparation from kitchen waste by **Dr. Taniya Sengupta Rathore** and **Dr. Anal Kant Jha** respectively and an online guest lecture on "Viruses, The Unsolved Question" by **Dr. Ashish Warghane**, Assistant Professor, SAST, Gujarat Technological University.





• Guest Lecture on Ethno Botanical Study of Leafy Vegetables Used by Rural Community of Chhattisgarh on 16th June 2023

Department of Biotechnology, School of Science OPJU organized a **Guest Lecture** entitled "**Ethno Botanical Study of Leafy Vegetables Used By Rural Community of Chhattisgarh.**" for B.Sc.(H) 2nd semester Biotechnology students on 16th June 2023. The Resource Person for the session was **Dr. Sushma Patel**, Assistant Professor, Dept. of Botany, Kirodimal Government Arts & Science College, Raigarh. In the session, she explained about 35 different leafy vegetables available in Chhattisgarh with their medicinal importance.





• One Day Capacity Development Programme on "Soft Skills and Impression Management" on 21st April 2023

School of Science, OP Jindal University, Raigarh organized a One Day Capacity Development Programme on "Soft Skills and Impression Management" on 21-April- 2023 for the purpose of building real capabilities rather than giving the students mere academic degrees and qualifications to improve productivity among the workforce in a workplace, and to offer opportunities for lifelong learning for developing various soft skills. This event helped the students to equip with the skills of self-presentation and impression construction to empower them with adequate skill sets for employability. There were three sessions on the following topics, "Soft Skill Development"; "Needs and Importance of Soft Skill Development"; "Impression Management" followed by an introductory ice-breaking session and ended with a valedictory and feedback session. The resource persons of the sessions were Dr Sanjay Kumar Singh, Professor, Dept. of Humanities, SoS and Dr Arindam Patra, Assistant Professor, Dept. of Humanities, SoS. The event was coordinated by Prof. Suchismita Panda, Assistant Professor, Dept. of Humanities, SoS.





Workshop on Writing of Research Paper and Preparation of Research Proposal on 15th May 2023

School of Science, OPJU in association with Academic Staff College (ASC), Internal Quality Assurance Cell (IQAC) and Research Development Cell (RDC) organized a workshop on Research Paper and Preparation of Research Proposal on 15th May 2023. The resource person was Dr. SJ Dhoble, Professor, RTM Nagpur University, Nagpur Maharashtra.



Outreach Activities

• Students visit to Govt. Middle School, Chharratangar on 11 April 2023; No. of Volunteers: 28

The students of B.Sc.(Hons) 6th semester, School of Science, OPJU in association with NSS, OPJU visited Govt. Middle School, Chharratangar and organised various activities like Essay writing competition on three topics, etc. The prizes were given away to the winners of the competitions. The faculty members and volunteers conducted a Workshop on WOMEN'S HEALTH AND HYGIENE for the girls of Govt. Middle School, Chharratangar (Adopted village) and distributed Sanitary napkins etc. The workshop was conducted by Dr Swati Verma, Dr Debasmita Samal and Dr Kavita Patel. They guided the participants on their personal health and hygiene for Good Health. The packets of Sanitary napkins were given away to all the participants. Total 24 girls participated in the workshop.













• Visit to Netraheen Bal Vidya Mandir, Amlidih on 11 April 2023; No. of Volunteers: 28

The students of B.Sc. (Hons)- 6th Semester, School of Science, OPJU in association with NSS, OPJU OPJU visited Netraheen Bal Vidya Mandir, Amlidih (Adopted Village) on 11th April 2023. The volunteers interacted with students. The volunteers guided the girls (06) about their personal hygiene. They donated Rice (26 Kg), Sugar (5 Kg), Salt (10 Kg), Rs. 1500/- and Ivory Sheets for Brail Practice (02) Packets to the Netraheen Bal Vidya Mandir.



B.Sc. (H) Ist Year Students Visit to Govt. Middle School, Chharratangar on 17 April 2023; No. of Volunteers: 37

The students of B.Sc. (Hons)- 1st Semester, School of Science, OPJU in association with NSS, OPJU visited Govt. Middle School, Chharratangar on 17th April 2023. The volunteers interacted with the students, told them about importance of cleanliness and organised various activities for the personality development of the students. The Co-ordinator of the programme distributed the book- 'Everyday Vocabulary' to 42 students of class-8th. The prizes were given away to the winners of the activities.



• Visit to Netraheen Bal Vidya Mandir, Amlidih on 17 April 2023; No. of Volunteers: 37

The students of B.Sc. (Hons)- II Semester, School of Science, OPJU in association with NSS, OPJU visited Netraheen Bal Vidya Mandir, Amlidih (Adopted Village) on 17th April 2023. The volunteers interacted with students. The volunteers guided the girls (06) about their personal hygiene. They donated Sugar (5 Kg), Rs. 1700/- and Ivory Sheets for Brail Practice (05) Packets to the Netraheen Bal Vidya Mandir.



Student's Placements

School of Science, OPJU congratulates BSc(H) Chemistry 6th semester students Ms Kalyani Singh and Ms Pooja Yadav for their selection at Vedanta.



Student's Achievements

- B.Sc.(Hons) Mathematics 4th Semester students completed their **Summer Outreach Program in Mathematics (SOPM 2023) organised by NISER, Bhubaneswar** during 22nd May to 10th June 2023.
 - Dipti Chandra
 - Ishan Hargunani
 - o Anjali Patel







- B.Sc.(Hons) Biotechnology 2nd semester students selected for 6-month internship on an agriculture project for the **OPJU-IC incubated startup**, **Mitti Agrotech Organics Pvt. Ltd**.
 - o Shruti Kumari
 - Sahana Singh
 - o M. Akansha and
 - Kasish Naaz
- Mahak Acharya and Shruti Kumari selected for presenting their innovative prototype in **Innovation**, **Design and Entrepreneurship Boot Camp IISER**, **Bhopal** organized by Ministry of Education's Innovation Cell from 22nd to 26th June 2023.
- BSc (Hons) Biotechnology 2nd semester students won various awards & prizes during various events as summarized below:

Student's Testimonials







