



CHILDREN'S EDUCATION SOCIETY (Regd.)
THE OXFORD COLLEGE OF ENGINEERING

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Detailed reports of programs organized on Intellectual Property Rights

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2016 - 17

The experts highlighted the areas for submitting research proposal to various Government Organizations and to get funded projects for Computer Application students.

Detailed report of this program:

Date: 29th November 2016

Program Title: Research Motivation Talk on "**Orientation Program for applying Sponsorship Project for various Government Agencies for Computer Applications Students and Faculties** "

Speakers: Dr. B K Manjunatha, HOD-BT, TOCE, Bangalore

Dr. Preeta Sharan, Professor, ECE, TOCE, Bangalore

Venue: No-601, New Building Seminar Hall

This Program was aim to give orientation about How to Apply the Funded Project from various Agencies. In this "Orientation Program for applying Sponsorship Project for various

Government Agencies for Computer Applications Students and Faculties" 108 MCA Final Year students and 11 Faculties are actively participated. This Programs helps a lot for our Outgoing Final Year Students. Promotion of Research in Social Sciences is one of the major activities of ICSSR. Research grants is direct financial support to research projects taken up by social scientists in addition to their normal duties in an honorary capacity. Funding Agencies provides grants to scholars to conduct research in various fields of social sciences which have a theoretical, conceptual, and methodological or policy orientation on the subject of their choice.

The research projects may belong to any of the prescribed social science disciplines or may be interdisciplinary in nature. The specific objectives of the programme are:

- a) To support high quality independent programme of research;
- b) To provide opportunities for training of future researchers;

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- c) To contribute to the development of elaboration of new theoretical or methodological approaches to research;
- d) To maintain and sustain various disciplinary research activities;
- e) To foster and promote collaborative, multidisciplinary research activities among researchers in the social sciences; and
- f) To facilitate communication of research outputs both within and beyond the academic community as well as to provide inputs to administrators and policy makers.

Research Programmes are a series of research studies undertaken simultaneously or sequentially on themes of significance and priority in Social Sciences. These studies identified by the ICSSR from time to time, are expected to be interdisciplinary and multi-disciplinary in nature for critical understanding of social science research and develop deeper understanding in terms of theory, methodology and policy outcome. However, high impact studies which are broad in character but fall within the ambit of a single discipline may also be considered.


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2017- 18


Report on Faculty Development program on Know your intellectual property rights
– Patent Awareness Workshop on 28th & 29th December, 2017

The Department of Biotechnology, ECE & CSE organized a two-day faculty development program on **“Know your intellectual property rights – Patent Awareness Workshop”** sponsored by DST-TIFAC, Govt. of India, on 28th & 29th December 2017. The main aim of the workshop was to impart greater awareness about the issue of IPR to the teaching and research fraternity and enable them to utilize it.

The main objectives of the program were:

- To understand patentability criteria in detail and viable aspect of the patent.
- To understand and asses the importance and scope of IPR in academic researches.
- To understand types of innovations patentable & how to test patentability of innovations.
- To understand procedure of patent writing, patent filing and the process of granting patent.
- Indian IPR policy and facility extended for filing.

The Program was inaugurated by the chief guest, Professor Prabhat Ranjan, Executive Director, DST-TIFAC, New Delhi, who delivered key note address on the program. Dr. Nagaraj R, Director of The Oxford Group of Institutions presented a overview of the work shop and emphasized on the need for greater level of understanding of IPR in the academics and its utilization for minimizing the gap between industry and academia. Principal Dr. Praveen Gowda addressed the gathering stressing on the importance of protecting and patenting the innovations in the present-day scenario in the field of Engineering. the inaugural session concluded with vote of thanks delivered by Dr. Balacoteshwari, Professor.


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Master of Business Administration. On the eve of inauguration dignitaries from various Academic institutions and Industry personals were present.

The first technical session began with Prof. Prabhat Ranjan delivering a talk on "Technology vision 2035 and National IPR policy" which emphasized on the importance of innovation, IPR policy, Academia and Industry interaction, global scenario in technology development and role of India in Global Science and technology. The Second Technical session was given by Mrs. Sangeetha Nagar, Scientist E, PFC-TIFAC, she delivered an expert lecture on the "Introduction to IPR" throwing light on the various opportunities for patenting the innovations, schemes of TIFAC in promoting filing of IPR. The third session was followed by Dr. S.P Sbramaniyan, Head Chennai Patent office, the speaker delivered a talk on "Patenting systems in India." the sessions gave an insight in the deeper understanding of IPR and the regulations and systems of patenting in India.

The post lunch session had an invited talk on "Prior Art search for Novelty with Demo" by Dr. Shivani Srivastava, Patent Attorney, M/s Lex Orbis, Bengaluru, explaining the method and procedure followed for prior art search, various websites, literature, and resources available for faculties.

Second day Pre-lunch session was started with a series of expert lecture from Mr. Naveen Suriya, K&S Partners, Bengaluru, He delivered a lecture on "Patenting in Engineering" explaining the methods that can be employed in enhancing innovation and patenting in Engineering technology and "Importance of IP policy and cell for educational institutions" was the talk delivered by Mrs. Sangeetha Nagar, Scientist E, PFC-TIFAC, In the third session, Ms. Bindu Sharma, CEO, Origin IP solutions LLP delivered a talk on "Copyright management in academic Institution". the session continued with Dr. Rama Krishnamurthy, Patent Attorney, Isha IP solutions, Bengaluru addressing the participants with her talk on "Industrial Design & their registration in India".



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The second day post lunch session began with technical talk titled "technology transfer & Patent Licensing "by Mr. N G Lakshminarayan, Chief NRDC, Bengaluru and the session ended by the last speaker Mr. Srikanth Venkatesh, TCS, Bengaluru delivering the lecture on "handling IP in industry: TCS Experience". A panel of experts was invited on the dias to address the doubts and confusions raised by the participants.

The FDP ended with valedictory function by the professionals and the staff members, collection of opinions from the participants and most importantly, distribution of Certificates of Participation for all the participants.

The workshop was successful in bringing awareness on patenting and the various opportunities available in Government policies to promote the innovation and patenting. It helped the faculty in understanding the role of TIFAC in promoting the patent awareness. The participating faculty of Visvesvaraya Technological University greatly benefited by the workshop and appreciated the effort of the Oxford College of Engineering and DST-TIFAC in organizing such a informative, brain storming, educative sessions and requested to organize one more Advanced workshop to train the faculty on patenting procedure. On behalf of all participants, we express our deep gratitude to DST-TIFAC, Executive Director Professor Prabath Ranjan, Mrs.Sangeetha Nagar, and Mr. Yeshawant D Panwar PFC-TIFAC for their kind support and we expect more such associated activities to spread awareness on Innovation and patenting in Academic Institutions.


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2018-19

Report On FDP organised in association with VTPC, Bengaluru

Innovation Management and Teaching Pedagogy

30th July 2018

The Department of Biotechnology & Department of Civil Engineering of The Oxford College of Engineering jointly organised a 1-day Faculty Development Program titled "Innovation Management and Teaching Pedagogy: Innovations in the education sector and significance of research ethics (copyrights) for academia" on the 30th of July 2018, in association with Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka for the benefit of all the faculty members of The Oxford College of Engineering.

The FDP included a formal inaugural session compered by Mrs. Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people on the dias were Dr. R.V. Praveena Gowda, Principal TOCE, and Dr. R Nagaraj, Director, The Oxford Educational Institutions, also the Chief Guest on the occasion, and the FDP chairs Dr. Amaranath K, HOD, Dept of Civil Engg, and Dr. B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of Engineering. Guest of Honour was Smt. Prabhavathi Rao, WTO & IPR Relay Cell – Program Coordinator, Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, and Government of Karnataka. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju Garu.

The welcoming speech was delivered by Dr. R.V. Praveena Gowda, Principal TOCE, who briefed about the objectives and the purpose of conducting this program. Dr. Manjunath, BK HOD of Biotechnology and the convenor of FDP spoke about the need of pedagogy in Engineering role of a teacher in igniting the young mind towards innovation through advanced teaching methods and highlighted the benefits of collaborative research, innovation and appreciated the kind support extended by VTPC in organising the FDP. The keynote address was given by the Chief Guest Dr. R Nagaraj, Director, The Oxford Educational Institutions.


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In his talk he highlighted the role of pedagogy in Engineering teaching and gave emphasis on Innovation in all domains.

The Guest of Honour, Smt. Prabhavathi Rao gave the theme facilitation, where she addressed the important issue of Intellectual Property Rights and the need to spread awareness about it among both academicians as well as industry people. She explained various steps taken by State government to promote patent filing, trade import and export, training session offered by VTPC for export trading and start-ups. She also informed the gathering about the training programs available in this area under the auspices of her department.

Following the inauguration and guest talks, more expert lectures were delivered by eminent personages. The two invited speakers in the FDP were Mr. Lokesh, Managing Director, Innomantra Consulting Pvt Ltd, and Dr. Farah Deeba, Senior WTO & IPR specialist and Former Principal Scientist, Monsanto, Bengaluru.

Mr. Lokesh of Innomantra Consulting gave a lively and interactive presentation, with audio-visual content including the spectrum of innovation, intellectual property and new product management. He discussed about meaningful and powerful ways to come up with Innovation which is very much necessary in all fields. His idea of design thinking and business innovation provided the audience with the insight about the need for creativity and its fruitful management.

The post-lunch session was presented by Dr. Farah Deeba, Consultant on Agriculture, WTO & TRIPs, Intellectual Property Protection. She addressed the gathering about copyrights, copyright protection and its relevance to the academic world, and also about the issues of plagiarism, citations and ethical exceptions to research. She also gave insight into the concept of copyleft and creative commons.

The program on the whole was very informative and provided a suitable platform for the faculties to understand about intellectual property rights and their protection as well as about innovations and to interact with leading experts in the field.



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Guests on the dias



Lamp lighting



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Talk by Chief Guest Dr. R Nagaraj, Director, The Oxford Educational Institutions



Theme felicitation by Guest of Honour, Smt. Prabhavati Rao



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Audience interaction with Mr. Lokesh, Innomantra



Talk on Copyright and Copyleft by Dr. Farah Deeba



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2019-20

Workshop On data analytics in retail marketing

A Report on

INDUSTRY ACADEMIA INTERACTION PROGRAMME

“Workshop on Data Analytics in Retail Marketing”

On 26th August 2019

Faculty Coordinator:

Dr. R V Dhanalakshmi

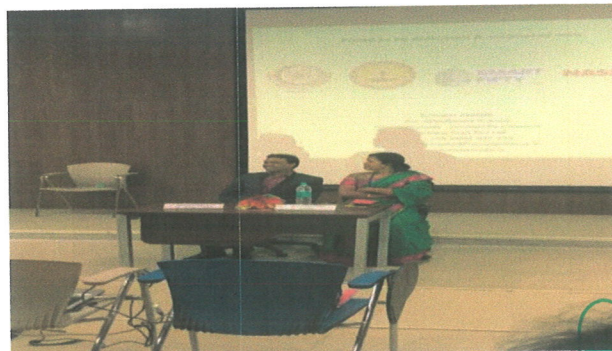
Resource Person:

Mr. Manikanda Prasad G V N

VP, Business Toys and

BANGALORE

A guest lecture on “data analysis on retail management and retail analytics” was held on 26th August 2019. The guest lecture has been organized by the department of MBA to provide the students with an opportunity to get a head start in retail analytics, which is an emerging in field of business analytics.



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The guest lecture began with welcome address by the Head of the Department, MBA. She has introduced and welcomed Mr. Manikanta Prasad GVN, Vice President of University Connect, resource person to deliver the lecture.



Learning experience with Sir Manikanta happened to be very well, He had been very friendly during the session and made us understand about the Topic with relevant examples Which seemed very much helpful to understand the related topic



Guest Lecture by Mr. Manikanta Prasad GVN on 26.08.19 Semester 3, MBA students.

At the end of the session we were introduced to a course which Helps in building knowledge of the student who are looking forward to take up a job in marketing field, The course which was introduced to us was possessed with all the relevant items and stuff which are crucially needed in retail marketing field




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Overall experience was very much helpful for we students to gain knowledge in the area of retail marketing.


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2020-21

**REPORT ON INAUGURAL CEREMONY OF "THE OXFORD - KSCST - VTPC CENTRE
FOR PATENT AND TECHNOLOGY TRANSFER" on 18.01.2021**

The Oxford College of Engineering, in association with Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries and Commerce, Government of Karnataka and Karnataka State Council for Science and Technology (KSCST), has organized the inaugural ceremony of "THE OXFORD - KSCST - VTPC CENTRE FOR PATENT AND TECHNOLOGY TRANSFER" on 18.01.2021 at the Oxford Group of Institutions.

The event was started with the Invocation song and welcoming the dignitaries by Dr.K. Valarmathy, Assistant Professor, Department of Biotechnology, The Oxford college of engineering. Sri S.N.V.L. Narashimha Raju Garu Chairman, The Oxford Group of Institutions, gave the Presidential address and he appreciated The Oxford College of engineering for taking initiatives for launching the IPR cell. Dr. Amarnath.K, Director, The Oxford Group of Institutions gave the key note address about the inaugural ceremony of "THE OXFORD - KSCST - VTPC CENTRE FOR PATENT AND TECHNOLOGY TRANSFER"

All the dignitaries virtually Inaugurated "THE OXFORD - KSCST - VTPC CENTRE FOR PATENT AND TECHNOLOGY TRANSFER".Dr.B.K.Manjunath, Convener, Dean Research, Professor & Head Department of Biotechnology The Oxford College of Engineering, Bengaluru gave an Overview and vision and mission of the centre and also explained about the importance of patenting in today's world. The chief guest for the Ceremony was Shri. H.Hemanth Kumar, Executive Secretary, KSCST, Bengaluru. Mr. Vivek Anand Sagar, Consultant, Patent Information Centre, Karnataka State Council for Science & Technology, KSCST, addressed the gathering about the Role of KSCST in promoting Intellectual Property Right (IPR) and various initiatives for stakeholders and overview of patenting, IPR courses, trainings, opportunities and resources available for the benefits of researchers, faculties and students. He shared the number of patents filed from different institution in India He also shared his view

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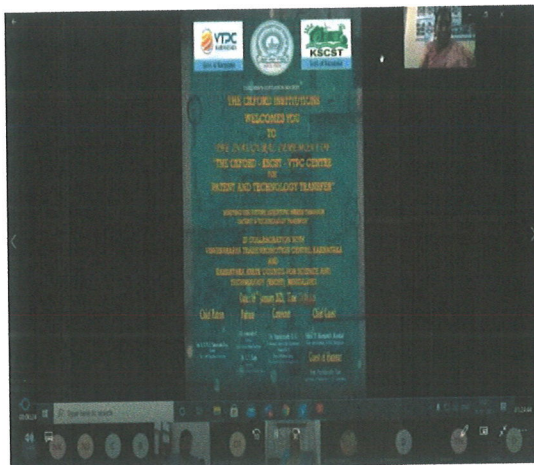


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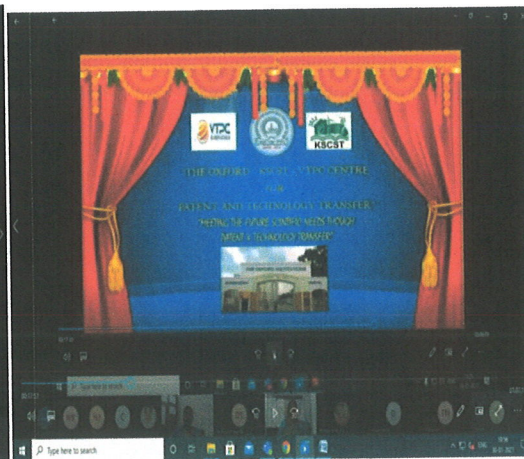
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on the benefits of launching "THE OXFORD - KSCST - VTPC CENTRE FOR PATENT AND TECHNOLOGY TRANSFER" in the Oxford Group of Institutions.

Following that the Guest of Honor for the Inaugural ceremony Smt. Prabhavathi Rao, Facilitator, Intellectual Property Initiatives and Geographical Indications Cell Visvesvaraya Trade Promotion Centre (Govt of Karnataka Centre for Export Promotion) Department of Industries & Commerce, Bengaluru addressed the gathering. She also appreciated The Oxford College of Engineering in taking Initiative for launching IPR cell for the Oxford Group of Institutions. She shared about the trends in Intellectual Property Ecosystem and also highlighted the Initiatives from Government of Karnataka, Centre for Export Promotion towards this and also mentioned about the golden rule for patenting. The inaugural ceremony is followed by valedictory address by Dr.G.T.Raju, Principal, The Oxford college of Engineering. He thanked all the dignitaries, convenor, representatives from VTPC, KSCST, organizers of the Inaugural ceremony, faculties and students for making the Inaugural ceremony a successful one.



Welcome Speech



Virtual Inauguration



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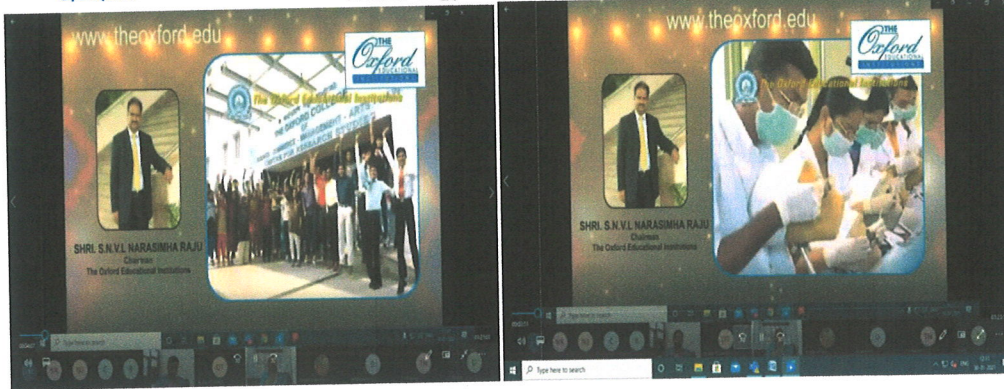
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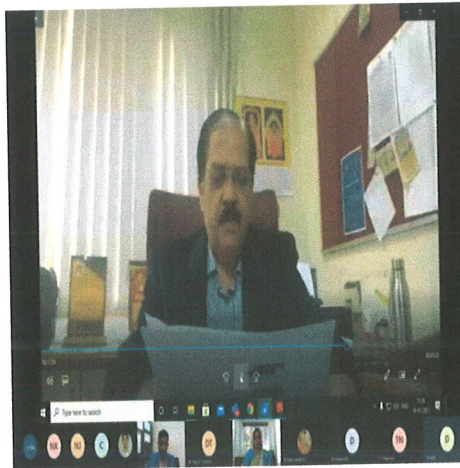
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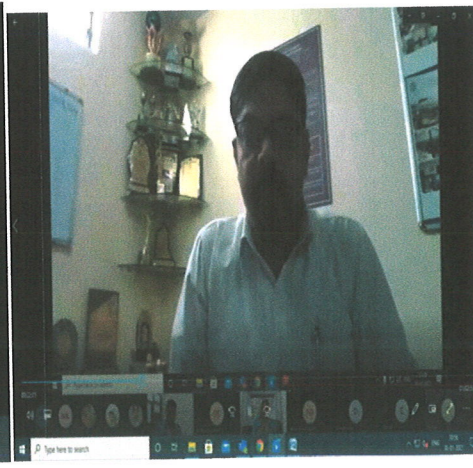
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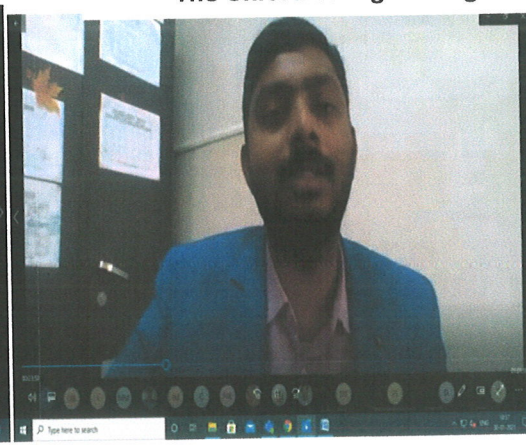
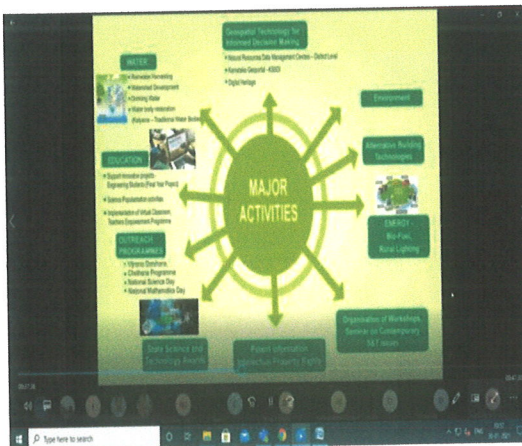


Key note address by Dr. Amarnath.K, Director, The Oxford Group of Institutions



Address by Dr.B.K.Manjunath, Convener, Dean Research, Professor & Head Department of Biotechnology,

The Oxford College of Engineering

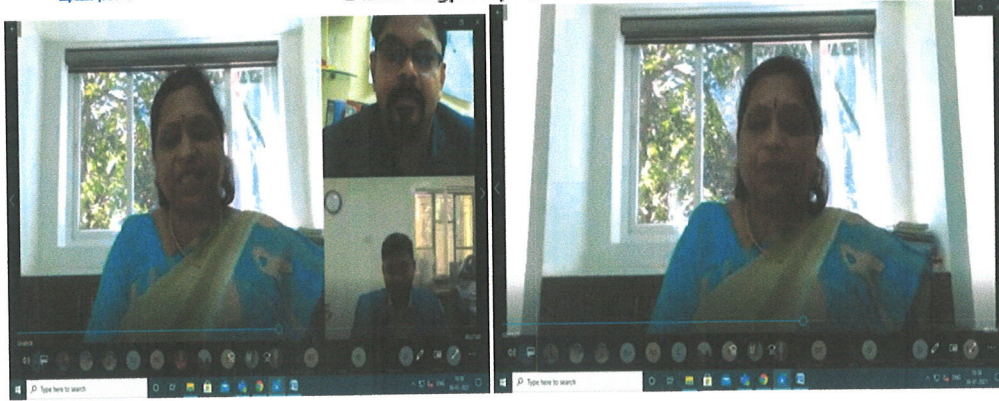


Address by Mr. Vivek Anand Sagar , Consultant, Patent Information Centre, Karnataka State Council for Science & Technology, KSCST



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Address by Smt. Prabhavathi Rao, Facilitator, Intellectual Property Initiatives and Geographical Indications Cell Visvesvaraya Trade Promotion Centre (Govt of Karnataka Centre for Export Promotion) Department of Industries & Commerce,



Valedictory address by Dr. G. T. Raju, Principal, The Oxford college of Engineering.

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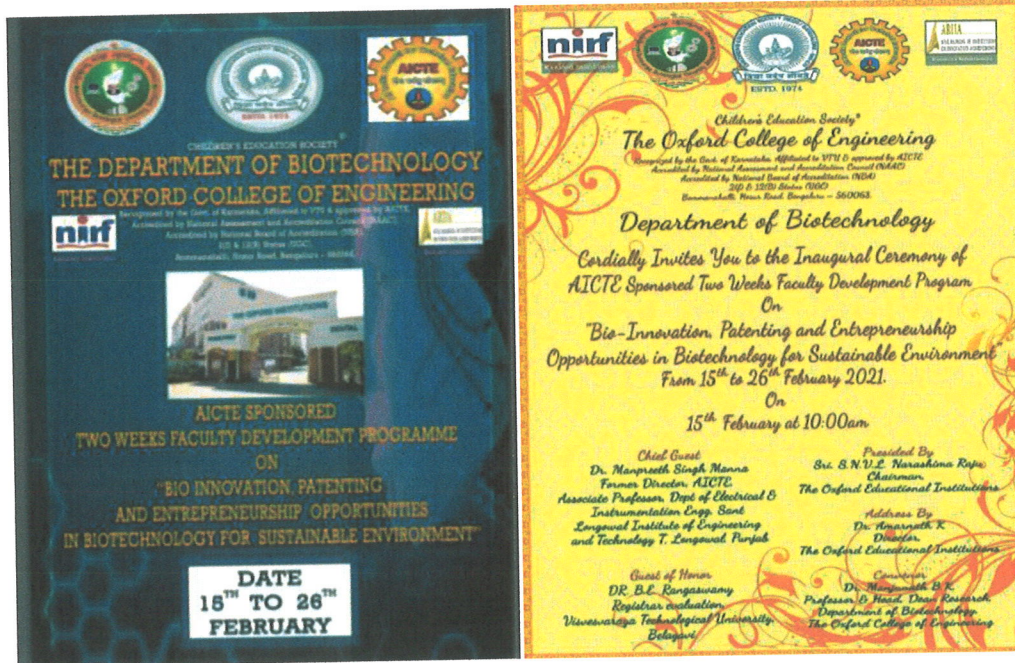
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Report on AICTE sponsored Phase 1 FDP on "Bio innovation, Patenting and entrepreneurship opportunities in Biotechnology for sustainable environment "
from 15th to 26th February 2021



The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored two weeks Faculty Development Program titled "Bioinnovation, Patenting and Entrepreneurship Opportunities in Biotechnology for Sustainable Environment" from 15th to 26th of February 2021, in association with Karnataka state Council for Science and Technology, Government of Karnataka and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members.

Day1: 15th February 2021

The FDP included a formal inaugural session compered by Mrs.Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people in the meeting were Dr. G.T. Raju, Principal TOCE, and Dr. Amarnath K, Director, The Oxford Educational Institutions, also the Chief Guest on the occasion Dr. Manpreeth Singh Manna, Former Director, Sant Longowal Institute of

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Engineering and Technology, Punjab, Dr. B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of Engineering. Guest of Honour was Smt. Dr. Rangaswamy, Registrar evaluation, Visvesvaraya Technological University. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju garu.

The welcoming speech was delivered by Dr. R.V. Praveena Gowda, Principal TOCE, who briefed about the objectives and the purpose of conducting this program. Dr. Manjunath, BT HOD of Biotechnology and the convenor of FDP spoke about the need of pedagogy in Engineering role of a teacher in igniting the young mind towards innovation through advanced teaching methods and highlighted the benefits of collaborative research, innovation and appreciated the kind support extended by VTPC in organising the FDP.

The programme progressed with the inaugural lecture by the Chief Guest, Dr. Manpreeth Singh Manna. In his talk he highlighted the R&D innovations in the perspective of Accreditation. The guest of honour, Dr. B.E. Rangaswamy, Registrar, VTU, gave the theme facilitation, where he addressed the importance of the program for the academicians. He also gave a glimpse of the activities going on in the Oxford College of Engineering. The post-lunch session was presented by Dr. Jaganath, Pasteur, Conoor, where he emphasized about vaccine development process and production.

Day 2: 16th February 2021

The second day started off with the lecture of Dr. B.K. Manjunath, BT HOD, TOCE. His talk was based on strategies for product development in the current perspective. The next lecture was given by Smt. Prabavathi Rao who talked about VTPC initiative to promote GIs, as an important tool. The programme progressed with the lecture by Dr. S. Ayyappan, Chancellor, Central Agricultural University, Imphal, in which he talked about IOT in agriculture.

Day 3: 17th February 2021



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The third day started with the lecture of Dr. R. Rajesh Kumar who talked on the integrated sustainable agriculture & rural Bio-entrepreneurship. The next lecture was given by Dr. Paramasivan, Scientist, ICMR, on the topic of vector borne disease in India and the need for options for innovation. The next talk was about intellectual property as a powerful tool to protect Biotech innovation by Mr. Vivek Anand Sagar. KSCST.

Day 4: 18th February 2021

The fourth day started with the lecture about entrepreneurship & Bio - innovation challenges & opportunities by Dr. Shridhar Hari Krishna Murthy, Scientific Advisor, VNS Enviro Biotech Pvt Ltd, Chennai. The second talk was delivered by Dr. T. Srinivas, IISC, on optical biosensors. As the last session of the day, Dr. Devaneyan, Director - Innovation & Entrepreneurship Professor - Sustainable Energy, MAHER - Meenakshi Academy of Higher Education & Research, highlighted about Bio-Innovation products and Entrepreneurial opportunities.

Day 5: 19th February 2021

The fifth day started with talk on the concepts & design intricacies of brain computer interfacing by Dr. Rama subba Reddy, IISC. The day progressed with the next lecture by Dr. Bijay Kumar Sahu, NRDC, who emphasised on IP Protection and Tools of IP. The last session was engaged by Dr. Bharath, Atrimed Pharmaceuticals Ltd, who talked on the need of bioinformatics and highlights of how to cut the cost and break the IP.

Day 6: 20th February 2021

On the sixth day, Dr. N.G. Lakshmi Narayan, NRDC, talked about NRDC – Transforming Innovative Research into Profitable Technology. In the second session, Dr. Yogamaya, Deputy Manager, Biotech Consortium India Ltd (BCIL), New Delhi, talked about aligning applied research in Biotech for enhancing commercialization success. The last session was taken over by Dr. Brinda, IP attorney Consultant, IISC, who talked on Patenting biotechnological inventions.

Day 7: 22nd February 2021



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The seventh day of the program started with the lecture by Dr.Nandhini, G.I.Expert Consultant, Foundation for revitalization for Local Health Traditions, who emphasised on the procedure of patenting. The program progressed with the next lecture by Dr. Sarasija, Tutor,Wpro & Advisory member KSCST, who talked about the prior art search related to biotechnology inventions.

Day 8: 23rd February 2021

The eighth day of the program commenced with the technical talk by Dr. Sundaresan, CMAP who gave details on medicinal and aromatic plants and about the prospects in cultivation and enterprises. The session was then taken over by Dr.Farah Deba, Former Scientist, Monsanto who emphasized on the identification of patents at the early stage of biotech inventions.

Day 9: 24th February 2021

The ninth day of the program began with the lecture by Dr.Sumitha Mishara, Amity University on the topic innovative research in thermal imaging for biomedical and agriculture applications. The second session was engaged by Dr. Padmapriya V Khurana, KSCST who discussed about Patent Drafting of Bio-Tec Inventions Techniques for biotechnology inventions.

Day 10: 25th February 2021

The tenth day of the program started with technical talk by Dr.N.Sriram, MSRIT, who explained about Bio-Innovation: MAKERSPACE-Idea to Prototype. The next talk was on the reply to examination report of patent application related to Bio-Tec Inventions by K S Dhurgesh, KSCST.

Day 11: 26th February 2021

The final day of the program started with informative lecture given by Mr. Gaurav Mishra Banana, KSCST, who emphasized on Infringement & Exceptions Under Patent Law Bio-Tec Research– Bolar exception and Bioequivalence.

This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

The Valedictory session was presided by Shri.S.N.V.L Narasimha Raju ,Chairman ,The Oxford Educational Institutions, Dr. B.K.Mnjaunath gave a detailed summary through presentation about the details of technical talks happened during the 14 days FDP



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and the participants were overwhelmed with the FDP and they expressed their happiness during the feedback session and the 14 days event was ended with the vote of thanks by Dr.K.Valarmathy, Associate Professor, Department of Biotechnology, The Oxford College of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.



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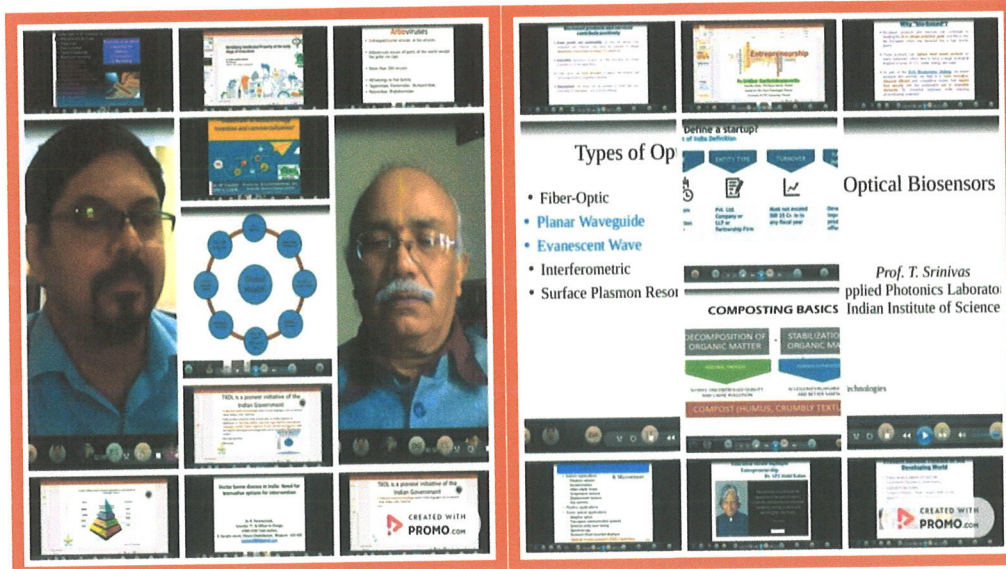
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Album of FDP event



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Report on AICTE sponsored Phase 2 FDP on "Bioinnovation, Patenting and entrepreneurship opportunities in Biotechnology for sustainable environment from 8th to 20th March 2021

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AICTE SPONSORED
TWO WEEKS FACULTY DEVELOPMENT PROGRAMME
ON
"BIO INNOVATION, PATENTING AND ENTREPRENEURSHIP OPPORTUNITIES IN BIOTECHNOLOGY FOR SUSTAINABLE ENVIRONMENT"
DATE 8TH TO 20TH MARCH

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Department of Biotechnology

Cordially Invites You to the Inaugural Ceremony of AICTE Sponsored Two Weeks Faculty Development Program (8th to 20th March 2021)
On
"Bio-Innovation, Patenting & Entrepreneurship opportunities in Biotechnology for Sustainable Environment"
On
8th March at 10:00 AM
Click on the link to join <https://bit.ly/2PBDBwF>

Presided by
Shri. S. N. V. L. Narasimha Raju, Chairman, The Oxford Educational Institutions

Chief Guest
Dr. Hiranubha Kumar, Managing Director, Bangalore Bioinformatics Center (BBC), Bangalore.

Guest of Honor
Dr. Hrishikesh Dattis, MD & CEO, Atimed Pharmaceuticals, Bangalore.

Key note Speaker
Dr. Ramasamy Rajesh Kumar, Professor, College of Agriculture and Biotechnology, Zhongshan University, China.

Address by
Dr. Amarnath K., Director, The Oxford Educational Institutions, Bangalore.

Convener
Dr. S. R. Manjunath, Dean Research, Professor & Head, Department of Biotechnology, The Oxford College of Engineering, Bangalore.

Knowledge Partners: VTPC (Govt of Karnataka), KBCST (Govt of Karnataka), Innovation Centre.

The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored two weeks Faculty Development Program titled "Bioinnovation, Patenting and Entrepreneurship Opportunities in Biotechnology for Sustainable Environment" from 8th to 20th of March 2021, in association with Karnataka state Council for Science and Technology, Government of Karnataka, Bangalore Bioinnovation centre and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members .

Day1: 8th March 2021

The FDP included a formal inaugural session compered by Mrs.Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people in the meeting were Dr. R.V. Praveena Gowda, Principal TOCE, and Dr. Amarnath K, Director, The Oxford Educational Institutions, also the Chief Guest on


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the occasion Dr. Jitendra Kumar, Managing Director, Bangalore Bioinnovation Centre (BBC), Dr. B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of Engineering. Guest of Honour was Dr. Hrishikesh Damle, MD & CEO, Atrimed Pharmaceuticals and Dr. Ramaswamy Rajesh Kumar, Professor, College of Agriculture and Biotechnology, Zhejiang University, China as Keynote speaker. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju garu.

The first talk was delivered by Dr. Jitendar Kumar on "Creating an Innovative Ecosystem in Life Science". Dr. Kumar emphasised on various factors that enhance the growth of biotechnology clusters and added a note on the services offered by Bangalore Bioinnovation Centre (BBC) in creating an innovation ecosystem.

The next session was by Dr. Hrishikesh Damle on "Starting your own company". Dr. Damle discussed in detail the qualities needed to be an entrepreneur along with the difficulties faced during the initial times of his company, Atrimed Pharmaceuticals.

Keynote speech was delivered by Dr. Ramaswamy Rajesh Kumar on "Integrated sustainable agriculture and rural bio-entrepreneurship". Dr. Kumar elaborated on the global challenges arising from various anthropological activities and the inventions related to sustainable agriculture.

Day 2: 9th March 2021

The second day started off with an interesting speech on "Plant specialized metabolism and its engineering for commercial production of high value metabolites" by Girinath G. Pillai, PhD. Sir spoke of evolution of plant genome. The next session was delivered by Dr. K.S. Jagadeesh on "Towards development of a biostimulant using forest genetic resources for use in agriculture". Dr. Jagadeesh discussed about Biostimulant, Production, Advantages of biostimulant over chemical fertilizers and their market potential. The last session of day 2 was handled by Dr. Srinivasa Mutalik on "Nanocarriers as drug delivery vehicles: overview and case studies". Dr. Mutalik gave a detailed lecture on the use of nanotechnology in drug delivery system.



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Day 3: 10th March 2021

The third day started with technical talk by Dr. N. Sriram who delivered a speech on "Bio-innovation: MAKERSPACE- Idea to prototype". Dr. Sriram spoke of different inventions in the field of health sciences and wearable electronics. Session 2 was engaged by Dr. Ramakanth from Nishant Aromas Pvt. Ltd. Sir elaborated on various MSME opportunities on aromatic plants. Session 3 was handled by Dr. Srinivas B V from Aspartika Biotech Pvt Ltd. Sr. Srinivas spoke on various innovative ideas for start-ups.

Day 4: 12th March 2021

The fourth day began with a talk on "Role of MSME in Indian economy" by Dr. Gopinath Rao from MSME Development Institute, Govt. of India. Dr. Gopinath talked us through various schemes offered by the Govt. of India along with a number of challenges faced by MSMEs. Session 2 for the day was engaged by Dr. Kailash Chandra Khulbe from CSIR- Indian Institute of Toxicology Research, on "Entrepreneurship: commercialization of scientific knowledge base". Dr. Khulbe elaborated on various probabilities to commercialize a scientific idea. Session 3 was engaged by Dr. Pradeep Kumar Verma from NMRL on "Innovations in marine biotechnology". Dr. Verma introduced the audiences to various aspects of marine biotechnology, creation of novel products from marine ecosystems and plenty of opportunities marine biotechnology has to offer to the young minds.

Day 5: 13th March 2021

The fifth day started with talk on the concept "Plant viral diseases and their management through biotechnological interventions" by Dr. Basava Prabhu L Patil. He elaborated on various plant viral diseases, their causative agents, development of disease resistant varieties. Session 2 was engaged by Dr. Nivedan on "Areca tea value added products from arecanut". Dr. Valarmathy K handled session 3 for the day on "Biotech entrepreneurship ideas and opportunities". Dr. Valarmathy talked us through various products developed and those which have successfully been commercialized



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Day 6: 15th March 2021

The sixth day started with a talk on “Hidden healthcare informatics data exploration as an entrepreneurial niche” by Dr. Vidya Niranjana. Dr. Vidya pointed out the importance of data analytics in healthcare, elements and attributes pertaining to data analytics as well as different steps of data analytical processes. Session 2 was on “Art of writing research proposal for successful funding” by Dr. Preetha Sharan. Dr. Preetha elaborated on various terminologies like H index, i-10 index and ORCID ID along with their importance and relevance in publishing research articles. Session 3 was handled by Dr. B K Manjunath on “Technologies and funding opportunities”. Dr. Manjunath spoke on various technology transfer opportunities in the field of biotechnology, production and commercialization of biopesticides and start up schemes of Govt. of India.

Day 7: 16th March 2021

The seventh day of the program started with a talk on “Isolation and characterization of anti-cancer compounds from natural sources” by Dr. Shama Prasada K. Sir discussed different cancer treatment options and different types of assays for diagnosing cancer cells. Session 2 was engaged by Dr. A Srinivas Rao on “Pesticides and their metabolites analysis: Environmental and biomarkers of human exposures and health issues”. The next session was on the topic “Biotech patent case laws defining patentability criterion in different jurisdictions” by Smt. Ekta Prasad, Patent Agent, KSCST.

Day 8: 17th March 2021

The eighth day of the program commenced with the technical talk by Dr. Sarasija, Tutor, WIPO & Advisory member, KSCST, who gave details on the topic “Hands on training –Prior art search related to Biotechnology Inventions”. The session was then taken over by Dr.C.R. Patil, Professor, University of Agricultural Sciences, Karnataka, who emphasized on the types of microbial inoculants, current status, future prospects and quality standards.



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Day 9: 18th March 2021

The ninth day of the program began with the lecture by Ms. Ankita Puranik, Innovation and Ecosystem Development Officer, BBC, on the topic "Start-up ecosystem and funding opportunities". The second session was engaged by Dr. Meher Prakash, Cofounder, VNIR Biotechnologies Pvt Ltd, who discussed about "My journey, back and forth between academics and start-up". The last session of the day was about the overview of government and non-government funding agencies for research and development by Dr. B. K. Manjunatha.

Day 10: 19th March 2021

The tenth day of the program started with technical talk about the opportunities for starting a science-driven business by Dr. Raghuv eer Ramachandra, Founder and Director, GaloreTx Pharmaceuticals Pvt Ltd. The last session was about 3D Bioprinting in India and about how it is shaping up healthcare and medicine by Mr. Piyush Padmanaban, Cofounder, Next Big Innovation labs, Bangalore.

Day 11: 20th March 2021

The eleventh day of the program started with informative lecture given by Dr. Arvind Vishwanath, CEO, Pitch Scientific, Bangalore, who emphasized on patent searching and analysis with reasons, data sources and methods. The second session was about newer avenues and skill sets for biotech entrepreneurship given by Dr. Pratima Kanderwal, Lead Facilitator. The last session of the technical talk was by Dr. Raju, Professor and Head of Department of Automobile Engineering, TOCE, on the topic "Biodiesel- a potent option for Entrepreneurship".

Day 12: 22nd March 2021

The last day of the FDP started with technical talk delivered by Dr. Nagendra, Professor & Head of the Department of Biotechnology, Sir M Visvesvaraya Institute of Technology, Bangalore, on the topic "Role of Educational Institutions in Promoting Innovations and Entrepreneurship development". The second session was on the



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topic "IOT in Agroproduction, Processing and retailing" by Dr.Manpreet Singh
Manna.

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THE DEPARTMENT OF BIOTECHNOLOGY
Cordially Invites You to the Valedictory Ceremony of Phase 2 AICTE
Sponsored Two Weeks Faculty Development Program (8th to 20th march 2021)
On
"Bio-Innovation, Patenting and Entrepreneurship
Opportunities in Biotechnology for Sustainable Environment"
On
22nd march at 11:30 am
Click on the link to join- <https://bit.ly/3qS3OUp>

Presided by
Shri.S.N.V.L.Narasimha Raju,
Chairman,
The Oxford Educational Institutions.

Chief Guest
Dr.Manpreet Singh Manna,
Former Director,AICTE Associate Professor,
Dept. of Electrical & Instrumentation Engg,
SLIET,Longowal,Punjab

Guest of Honor
Dr.H.G.Nagendra,
Professor & Head,
Department of Biotechnology,
Sir M.Visvesvaraya Institute of Technology,
Bangalore

Address by
Dr.Amarnath K,
Director,
The Oxford Educational Institutions,
Bangalore

Convener
Dr.B.K.Mnjanath,
Dean Research,
Professor & Head,
Department of Biotechnology,
The Oxford College of Engineering,
Bangalore

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Govt. of Karnataka
Innovation Centre
BIO-INNOVATION CENTRE

The Valedictory session was presided by Shri.S.N.V.L Narasimha Raju ,Chairman ,The Oxford Educational Institutions, and the Chief guest was Dr.Manpreet Singh Manna, Former Director, AICTE, Associate Professor, Department of Electrical and Instrumentation Engg, SLIET, Longowal, Punjab and Guest of Honor was Dr.H.G. Nagendra, Professor & Head ,Department of Biotechnology ,Sir M.Visveswaraya Institute of Technology. Dr.B.K.Mnjanath gave a brief presentation about the details of technical talks happened during the 14 days FDP and the participants were overwhelmed with the FDP and they expressed their happiness during the feed back session and the 14 days event was ended with the vote of thanks by Dr.K. Valarmathy, Associate Professor, Department of Biotechnology, The Oxford College



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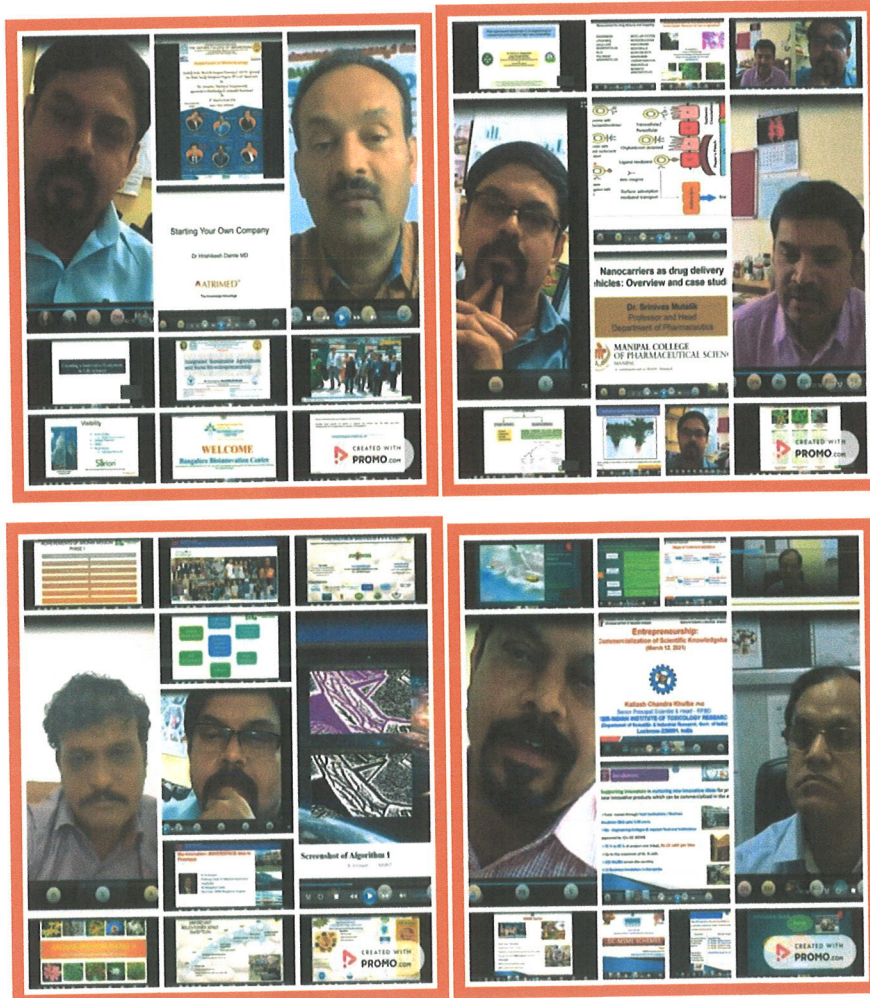
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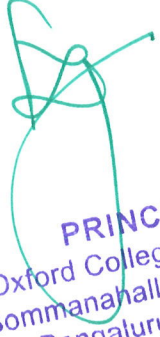
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of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

Album of FDP event




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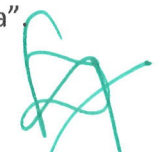
**Report on AICTE sponsored FDP on "Bioinnovation, Patenting and
entrepreneurship opportunities in Biotechnology for sustainable environment"
from 29th to 30th March 2021**

The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored two days Faculty Development Program titled "Bioinnovation, Patenting and Entrepreneurship Opportunities in Biotechnology for Sustainable Environment" from 29th March to 30th of March 2021, in association with Karnataka state Council for Science and Technology, Government of Karnataka and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members.

Day1: 29th March 2021

The FDP included a formal inaugural session compered by Mrs.Valarmathy K of Dept of Biotechnology, with invocation and a lamp lighting ceremony. The distinguished people in the meeting were Dr. R.V. Praveena Gowda, Principal TOCE, and Dr. Amarnath K, Director, The Oxford Educational Institutions, also the Chief Guest on the occasion Col. B Venkat, Director, Faculty Development cell, All India Council for Technical Education (AICTE), New Delhi, B K Manjunath, HOD, Dept of Biotechnology, The Oxford College of Engineering. The Guest of Honour was Dr. S.G.Sreekanteswara Swamy, Head & Consultant, Vision Group of Science and Technology ,Govt. Of Karnataka, Bangalore and Dr.Bijay Kumar Sahu, Chief Business Development, National Research Development Corporation, Vishakapatnam.as Keynote speaker. The session was presided by the Chairman of The Oxford Educational Institutions, Sri. S N V L Narasimha Raju garu.

The first talk was delivered by Col. B Venkat, on "NEP 2020 Way ahead". The next session was by. Dr. Bijay Kumar Sahu, on the topic "Bioinnovation Entrepreneurship and Patenting Opportunities in Biotechnology under start up India"


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The next session was by Dr. Hrishikesh Damle on "Starting your own company". Dr. Damle discussed in detail the qualities needed to be an entrepreneur along with the difficulties faced during the initial times of his company, Atrimed Pharmaceuticals. Keynote speech was delivered by Dr. Ramaswamy Rajesh Kumar on "Integrated sustainable agriculture and rural bio-entrepreneurship". Dr. Kumar elaborated on the global challenges arising from various anthropological activities and the inventions related to sustainable agriculture.

Day 2: 30th March 2021

The second day started off with an interesting speech on "Entrepreneurship in Science and Innovations" by Dr. Girinath G Pillai, Director, Zastra Innovations Pvt. Ltd., Bengaluru,. The next session was delivered by Dr. N.G. Lakshmi Narayan, NRDC, talked about NRDC towards "Transforming Innovative Research in to Profitable Technology". The last session of day 2 was handled by Dr. Pratima Khandarwal, Lead Facilitator (Pedagogy for disruptive times at HEIs) & Faculty Mentor Founder, Fly High (Educational Excellence Support Services), Bengaluru- 43 on "Pedagogical skills for developing innovative & entrepreneurial attitude in (BT) students".

This led to the end of the series of lectures in the two days programme. The program on the whole was very informative.


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REPORT ON "KNOW YOUR INTELLECTUAL PROPERTY RIGHTS" from 26th to 30th

April, 2021

AGENDA OF EVENTS

Date	Time	Topic	Resource Person
26/04/2021	10:00 AM - 11:00 AM	Launching Of Online Quiz Competition	Hosted by The Oxford College of Engineering
27/04/2021	11:00 AM - 12:00 PM	Introduction to Patents through Patent Case studies	Mr. Vivek Anand Sagar, IP Attorney and Consultant, P.K. KSCST
28/04/2021	1:00 PM to 2:00 PM	Webinar on Basic concepts of Patentability criteria and New Patented Inventions, Trade Mark, Copyrights and its application - Case Studies	Mr. Nagaraj M.G., Project Associate, VTPC-KSCST
29/04/2021	11:00 AM - 12:00 PM	Webinar On Patent Law: Legal Provision and Patenting Procedure	Mr. Mohan Kumar, Patent Agent and Attorney, Bengaluru
30/04/2021	2:00 PM to 3:00 PM	Webinar On Patent Law: Search, Analysis and Mapping For Start Up Invention Of Design And	Mr. Prasad Channarayana, Patent Agent and Patent Engineer, Channarayana & Co.
01/05/2021	2:00 PM to 3:00 PM	Webinar On IP & Research Ethics (All that you should know about it applicable)	Dr. Frank Neeves, Director and Senior IP Consultant, CNR University
02/05/2021	11:30 AM - 12:30 PM	Webinar on The Art Of Entrepreneurial Thinking In An Emerging Economy	Shri. Lakshmi Venkateshwar, Design Manager, CEO & Managing Director, International Consulting, Bengaluru

Use the below link for Registration <http://forms.gle/TC8eapWYV6gwTY6A>

FACULTY COORDINATORS
Dr. K. Valarmathy, Associate Professor
Mr. Divakara, Assistant Professor
Ms. Salma Kausar, Assistant Professor

The Oxford College of Engineering, in association with Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries and Commerce, Government of Karnataka and Karnataka State Council for Science and Technology (KSCST), has organized the Webinar Series on of "KNOW YOUR INTELLECTUAL PROPERTY RIGHTS" on the occasion of "WORLD IPR DAY" from 26th to 30th April 2021, at the Oxford Group of Institutions, hosted by DEPARTMENT OF BIOTECHNOLOGY.

The content delivered in the webinar is as follows:

Online quiz competition was launched on the first day.

The speaker of the session -1, Mr. Vivek Anand Sagar discussed about the importance of strong patent systems for the growth of industry, the basis of rejections due to non-fulfilment of patentability criteria and about compulsory licensing.

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The speaker of the session-2, Mr. Nagarjun M G, inspired the audience by lively interacting on topics such as the patentability criteria for any inventions such as novelty, non-obviousness, industrial applicability, non-patentable based on morality, public order or human rights consideration of each country. He also emphasized on the substantive examination process focusing the first examination report (FER).

The speaker of the session-3, Ms. Brinda Verma, discussed about the history of patent law in India along with detailed explanation about the procedure for grant of a patent in India including filing of application, pre-grant opposition, post-grant opposition, the different grounds of opposition, term of patent, payment and restoration, compulsory licensing, maintainability of secrecy by the Indian Patent law.

The speaker of the session-4, Ms. Parul Chaturvedi, discussed about the tips and techniques for evaluating and determining a prior art. The speaker also explained on how to perform a prior art search which requires preparing a search strategy using relevant keywords, preparing queries and executing the queries on multiple available search databases. Various aspects such as classification search, assignee search, inventor search, and keyword search also was clearly discussed.

The speaker of the session, Dr. Farah Deeba, insisted on the need for researchers to comply with strict ethical guidelines in preparing dissertations or publications. She also explained in detail about research integrity, management of research data and records and about Intellectual property rights policy.

The speaker of the session, Shri Lokesh Venkataswamy, interacted with the audience in an inspiring way by discussing about the art of systematic thinking, a step-by-step method with a complete set of tools, principles and workflows. He briefed about the role of knowledge and ideas in obtaining new levels of innovation through real life examples and situations.

The objective of the webinar was achieved. The overall session discussion benefitted the faculties and students.



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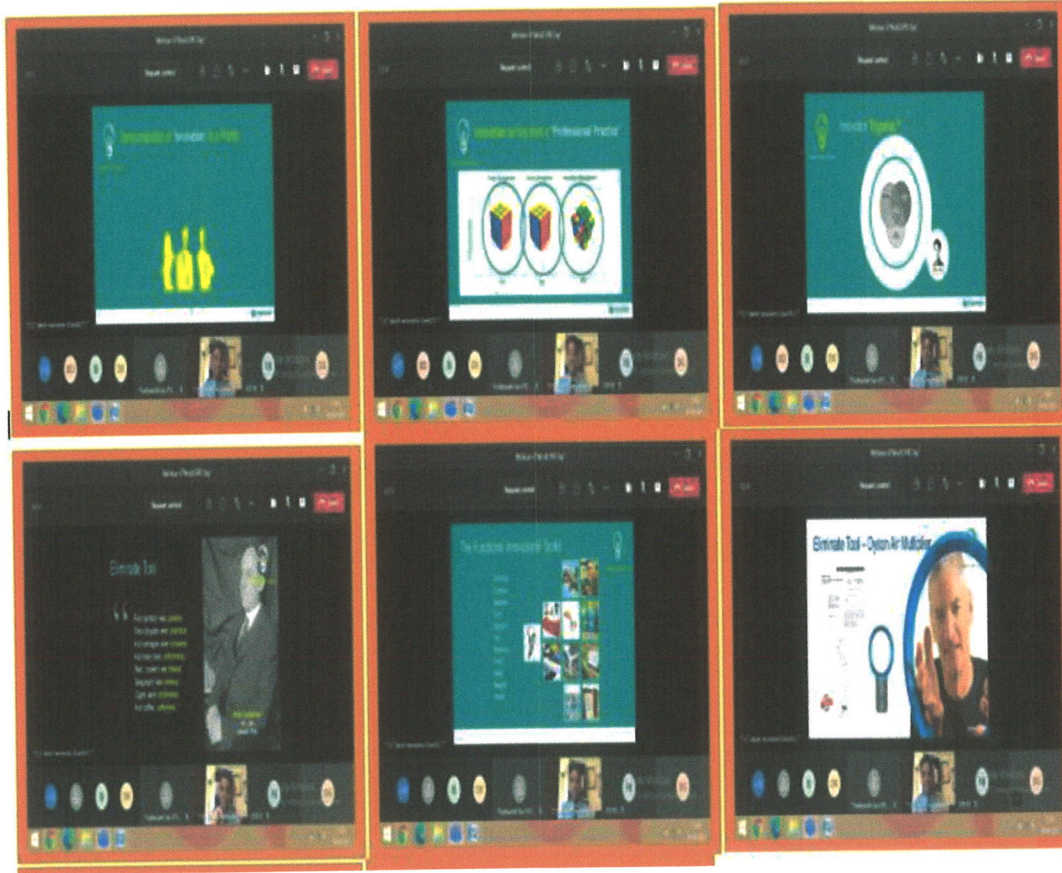
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Album of Webinar series on World IPR day



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Report on "Career Prospectus in the Context of Covid-19 Outbreak"

The Department of Biotechnology, The Oxford College of Engineering, Bangalore organized an Expert Lecture on "Career Prospectus in the Context of Covid-19 Outbreak" on 22nd May 2021, Saturday for final and pre-final year Biotech students. The objective of the guest lecture was to enlighten the students about the Career Prospectus in the Context of Covid-19 Outbreak. The speaker for the session was Dr. Girinath G Pillai, Director, Nyro Research Pvt.Ltd, Cochin.

Dr. Girinath G Pillai explained the importance of Bioinformatics and he stated that bioinformatics was one of the major focus areas for every country as the COVID-19 pandemic has developed has been getting to the bottom of what the virus really looks like with a view to finding a way to halt its progress. He explained how decoding the genome of the severe acute respiratory syndrome coronavirus 2 that is responsible for the COVID-19 disease is crucial to being able to develop a vaccine and to better understanding how it works and why it affects human beings as it does. Girinath also discussed about the various studies that are now being undertaken, driven by Bioinformatics. He concluded the session by mentioning that Bioinformatics has a key role to play in enabling researchers to develop visualization platforms that provide an opportunity to students for research and also be crucial

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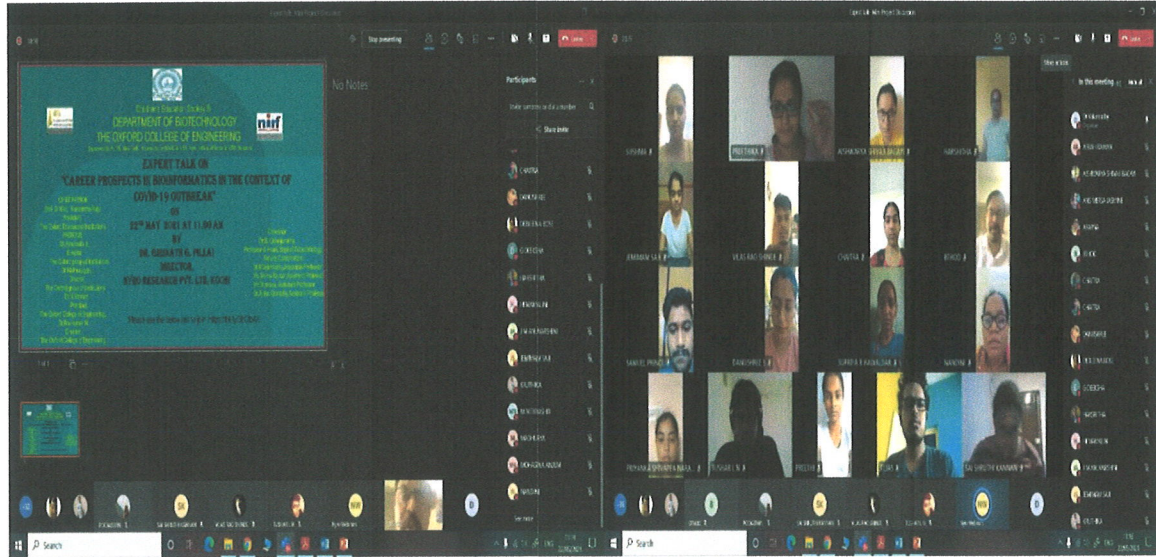
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for the future as COVID-19 evolves and starts to mutate. Further the discussion led to an interactive session with Q & A and the students realized the importance of career prospectus of Bioinformatics in the context of Covid-19 outbreak.





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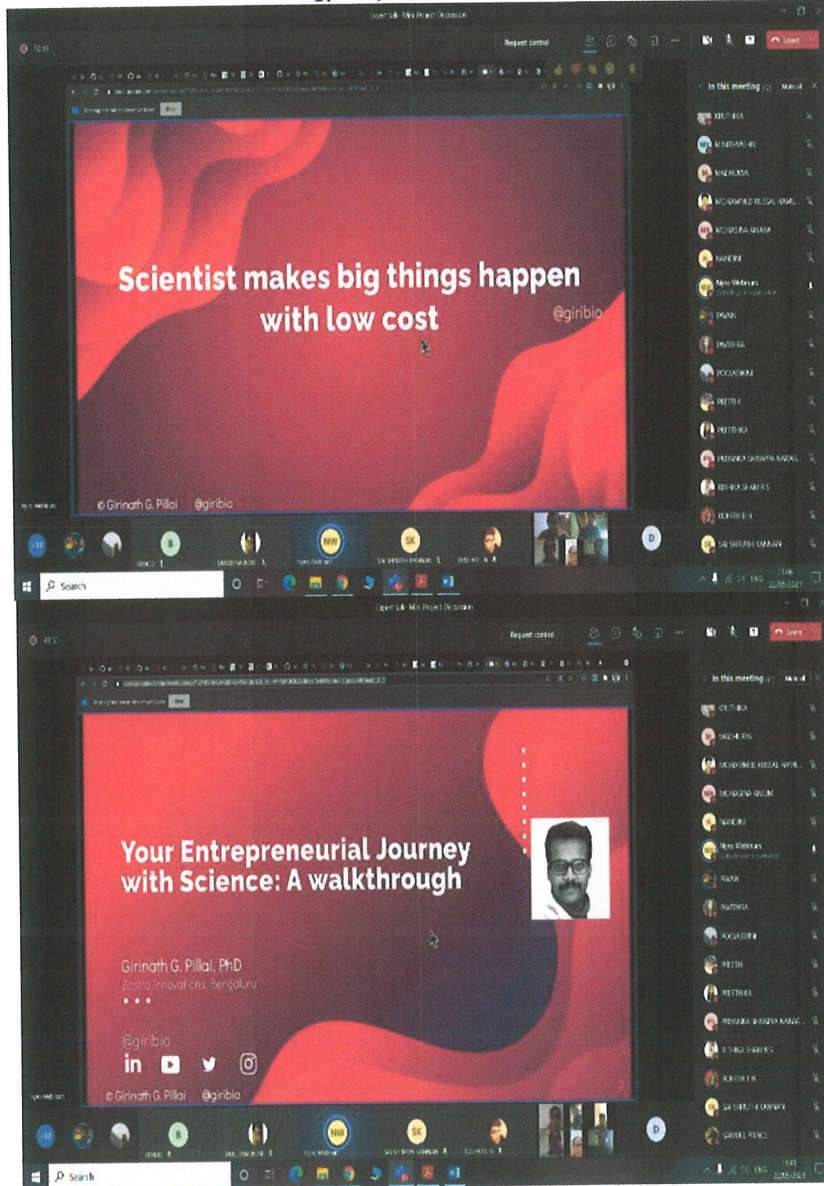
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Report on AICTE sponsored Phase 1- Short term training program (STTP) on

“Startup Driven Bioinnovation & IoT for Sustainable Agri-tech” from 23rd to 28th

August 2021

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**AICTE SPONSORED
SHORT TERM TRAINING PROGRAM
(STTP)-PHASE-1**

**STARTUP DRIVEN BIOINNOVATION
&
IOT FOR SUSTAINABLE AGRITECH**

**Date :
August 23RD
to
August 28TH 2021**

The Oxford College of Engineering
Bommanahalli, Hosur Road, Bengaluru - 560068
Department of Biotechnology
CORDIALLY INVITES YOU TO THE INAUGURAL CEREMONY
OF
Phase 1 - "AICTE SPONSORED ONE WEEK SHORT TERM TRAINING PROGRAM"
ON
"Startup Driven Bioinnovation and IOT for Sustainable Agritech"
(23rd August to 28th August 2021)

PRESIDED BY
Dr. A. K. Srinivas Reddy,
Chairman,
The Oxford Educational Institutions.

CHIEF GUEST
Dr. B. Srinivas
Secretary, Department of
Affiliated Council for Technical Education (ACTE),
New Delhi.

GUEST OF HONOUR
Dr. Anurag Prakash Singh,
Vice-Chancellor,
Ghazipur Institute of Engineering &
Technology, Meerut, India.

GUEST OF HONOUR
Dr. L. K. Anil Kumar,
Dr. K. S. Prasad,
Dr. K. S. Prasad,
Professor & Head,
Department of Biotechnology,
The Oxford College of Engineering,
Bengaluru.

PRINCIPAL
Dr. K. Srinivas,
The Oxford College of Engineering,
Bengaluru.

DIRECTOR
Dr. Anurag K. Srinivas,
The Oxford Educational Institutions,
Bengaluru.

DIRECTOR
Dr. B. Srinivas,
The Oxford Educational Institutions,
Bengaluru.

DIRECTOR
Dr. Anurag K. Srinivas,
The Oxford Educational Institutions,
Bengaluru.

CONVENOR
Dr. K. Srinivas,
Dr. Anurag K. Srinivas,
Professor & Head,
Department of Biotechnology,
The Oxford College of Engineering,
Bengaluru.

DATE : 23rd August 2021 Time : 10:00 am
Please click on the link to join: <https://bit.ly/3yQdled>

Knowledge Partners
BIOINNOVATION CENTRE
IEEE EMB
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The Department of Biotechnology of The Oxford College of Engineering organised AICTE sponsored one week **Short term training program (STTP) - Phase 1 on "Startup Driven Bioinnovation & IoT for Sustainable Agri-tech" from 23rd to 28th August 2021**, in association with Karnataka state Council for Science and Technology, Government of Karnataka, National Research Development Corporation (NRDC), Government of India, New Delhi, Bangalore Bioinnovation centre and Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries & Commerce, Government of Karnataka, as knowledge partners for the benefit of all the faculty members.

Day 1: 23rd August 2021

The STTP included a formal inaugural session compered by Dr. Valarmathy K of Dept of Biotechnology, TOCE. The distinguished people in the meeting were Directors of The Oxford Educational Institutions Dr. Amarnath K, Dr. N. Malmurugan, Dr. Ravikumar K.M., Principal TOCE Dr. N. Kannan, Dr. B K Manjunath, HOD, Dept of Biotechnology, TOCE, and also Chief Guest Col. B. Venkat, Director, Faculty Development Cell, All India Council for Technical Education (AICTE), New Delhi. Guest of Honour of the occasion were Dr. Amar Prakash Garg, Vice Chancellor, Shobhit Institute of Engineering & Technology, Meerut, India, and Dr. S. R. Rao, Vice President, Sri Balaji Vidya Peeth University, Puducherry, Former Advisor, DBT, Government of India.

Session 2 began with the talk by Dr. S. R. Rao, on the topic "Emerging Technologies – Role of Bio-incubators, Start-ups and Academia- industry interface". He gave a brief outline of emerging technologies from stone age to 21st century of nanotechnology age with the biological revolution as a focus. He gave focus on technological revolution of 21st century such as advanced materials, artificial intelligence and machine learning, advanced robotics, 3D printing, internet of things. He focused on the emerging sciences for discovery and high-level innovation in the last 3 decades such as Genomics and genome editing, RNA biology, proteomics, metabolomics, Computational biology, Bio-refineries, Artificial intelligence. He talked about types



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of innovation such as Breakthrough innovation, Frugal innovation, Sustainable innovation.

Session 3 of the day was engaged by Professor Amar P. Garg on the topic "Biotechnology in 2050". He began his talk with general information on biotechnology, techniques and application. He also explained about green, red, blue, and white biotechnology. He then focused on microbial applications, products and emphasised on the necessity of innovation and startups.

Day 2: 24th August 2021

The session 1 of day 2 was engaged by Ms. Sanskriti Pawan, Project Officer- Start-up Incubation, FIIT, IIT, Delhi on the topic "Funding Programs for Startups and innovators". She explained about the support that FIIT offers the innovators. She walked through the funding programs at FIIT IITD such as BIRAC BIG, PFIZER-IITD Innovation and IP program. She gave an idea about how preliminary idea can be transformed to proof of concept development through Biotechnology Ignition Grant (BIG). Ms. Sanskriti also gave information about Technology incubation and Development of Entrepreneurs (TIDE) which provides grants of two types namely- Idea to proof concept grant and Prototype development grant. She explained in detail about many other fellowships namely iDEX- Defence India Startups Challenge, DST NIDHI SEED Support system, BIRAC Seed support, BIRAC Leap Fund, PHD Incubator Program, BIRAC SPARSH (Social entrepreneurship- Immersion and ideation), DST CAWACH (Covid call), National Entrepreneurship programs (NEAS), Sona Comstar – Safe, clean and smart mobility.

In session 2, Dr. Sundeep Sarin, Scientist G/Advisor, Department of Biotechnology, Government of India gave a talk on "Human resource development programme". He gave an overview of the department which aims at holistic development and support for students, young researchers and scientists. He gave detailed information on different fellowships namely DBT-JRF, DBT-RA, Ramalingaswami Re-entry Fellowship, BioCARE, DBT-TWAS Fellowship programme, PhD Fellowship Programme under Indo-Australian Collaboration, DBT-WT India Alliance fellowship, BRITE Awards, training



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such as Skill Vigyan, DBT-Biotech Industrial Training Apprenticeship Programme, Khorana Programme for scholars, teaching programme such as DBT Star College scheme, outreach program such as India Bioscience – Young Investigator Meetings and Students Workshops, CTEP program.

In session 3, Dr.C.R.Patil, Professor and Head, Institute of Organic Farming, University of Agricultural Sciences, Dharwad gave a talk on “Microbial inoculants – Requirement for the mass production of Biofertilizer”. He began the session with an overview of information regarding Indian agriculture with focus on production and consumption ratio of agrochemicals. He emphasized the need of sustainability in agriculture, and also challenges such as energy crisis, labour availability, food safety. He pointed out the immense opportunities for exploiting microorganisms to be used in agriculture and industry. He then focused on all the requirements required for mass production of biofertilizers such as microbial inoculants, infrastructural requirements, skilled and trained man power, production plan.

Day 3: 25th August 2021

The session 1 was engaged by B.E Rangaswamy, Registrar, Evaluation, Visvesvaraya Technological University, Belgaum talked on the topic “Dismantling Inequalities Through Assured Innovations”. He focused on the importance of innovation which can help to dismantle inequalities in the society and the requirement of new national innovation policy. He explained about ASSURED Innovation Policy which stands for Affordable, Scalable, Sustainable, Universal, Rapid, Excellent, Distinctive. He rightly pointed out that the present innovations have missed scalability and sustainability. He explained the audience that ASSURED innovations represents affordable excellence.

The session 2 was about “Agritech and IOT” by Mr.Siddaramesh V Nara, Vice President, Infosys and Agri Entrepreneur. He explained in detail about Precision Agriculture and Precision farming. He also focused on the challenges in agriculture such as low productivity, climate changes, risk of ground water depletion, key Agritech trends in India, untapped agritech opportunity – scalable interventions.



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Day 4: 26th August 2021

The session 1 of day 4 started with Dr.Vivek Mishra, Co-Founder Director FIBROHEAL, Bengaluru who talked about "FIBROHEAL". He gave an overview of Fibroheal company which is a biotech startup working on leveraging the biomaterial property of silk proteins to develop various innovative wound management solutions catering to different stages of wound healing. He gave an overview of their product and its effectiveness and advantages. Overall, he focused on wound healing process also.

In session 2, Dr.Adarsh Natarajan, Co-founder Aindra Systems, Bengaluru gave a talk on "Artificial Intelligence" in the session 2 of day 4. He first explained the importance of artificial intelligence, and its branches and applications (healthcare, autonomous vehicles, purchase predictions, virtual assistants). Then he explained about how AI can be achieved by rule-based learning and machine learning.

The session 3 on day 4 was engaged by Dr. Lakshminarayan, Chief Business Development, National Research Development Corporation, New Delhi, "NRDC: Transforming Innovative Research in to Profitable Technology". He briefed about NRDC and its services such as project consultancy, R & D institutions, industry, IP protection, promotional programs such as Program for Development of Technologies for Commercialization (PDTC), Program for Inspiring Inventors and Innovators (PIII). He explained about the NRDC operational model which involves technology evaluation, technology development, market survey, business development, IP filling assistance, know-how document, market intelligence. He explained in detail about the process of technology transfer and the terms and conditions for licensing technologies. He briefed about the popular technologies commercialized by NRDC such as infant food, FMD vaccine, disposable blood bag system etc.



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In session 4, CoL. B. Venkat, Director, FDC, AICTE, New Delhi on the topic "NEP from higher education perspective". He talked about the dynamics of NEP 2020, and about the development of the policy from amendment. New initiatives in promotion of regional languages by NEP is Technical book writing and translation. He gave an idea of gross enrolment ratio and about how NEP helps in increasing this ratio. He emphasized on the role of NEP in creating large interaction of general and vocational education. He also focused on the establishment of National committee for integration of vocational education with the motive of integrating the vocational and general education. This committee has been mandated to form National higher education qualification framework and National skill qualification framework. He also emphasized that the committee at each level looks after the employability parameters also according to International occupational standards.

Day 5: 27th August 2021

The session 1 was on "Start-up to Scale-up through Innovations" by Dr. Basavaraj Giriyanavar, Managing Director, Criyagen, Bengaluru. He talked about agriculture ecosystem for start-up to scale-ups. He talked about Criyagen start-up at Texas. He also gave the audience a view of the important steps that is required to develop a product from idea which are product blueprint, product market fit, minimum viable product, validated learning or earning, scaling and innovation to achieve the market share. He also shared the innovation during scaling such as product, market, business model, strategy, management innovation.

The session 2 was taken over by Amitha Ganapathy, Senior Scientist, Criyagen who talked in detail about "Criyagen". She focused on Criyagen's belief of agriculture scientific information. She gave an idea of the different products from Criyagen such as biostimulants, bio-fertilizers, crop specific bio-fertilizers, sea weed extract, potash mobilizing bacteria, organic manure powder etc.

The session 3 of day 5 was on the topic "eSAP: an ICT system for Crop Health Management (Electronic solutions against Agricultural Pests)" by Dr. Prabhuraj A, Professor and Head, Department of Entomology, University of Agricultural Sciences,



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Raichur. He talked about crop health problems and also explained in detailed about eSAP workflow, main components for user management. He explained about the simple sequence of steps which can help identify problems in the field by the extension worker independently. He emphasised on the advisory given based on the intensity of the problems and also on the follow up procedures and feedback. He threw light over the expert connect options to undiagnosed situations through the expert app. He focused on other unique features of eSAP such as prescription-based farming, estimation of pest intensity, early warning, location specific management plans.

Day 6: 28th August 2021

Dr. Bijay Kumar Sahu, Regional Manager & Head, NRDC – Intellectual Property Facilitation Centre, WIPO – Technology & Innovation Support Centre, Innovation Valley, Visakhapatnam, gave a talk on the topic “Role of IPR in Bioinnovation for Entrepreneurship” during session 1 of day 6. He talked about entrepreneurship and the elements such as recover, redesign, and response. He focused on IPR which forms the bridge between academia and industry. He also highlighted about the innovation promotion & management through academia and industries collaboration. He focused on the opportunities offered by NRDC through funding. He also talked about the GI tagged important products from Mysuru. He also talked about the challenged faced in IPR such access, regulatory compliance, agreements etc. He finally talked the importance of integrating IP into institutions.

The session 2 of day 6 was engaged by Dr. M. S. Shashi Kumar, Scientist D, Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi who talked on “Startups and Bio Innovations”. He started his talk with brief overview of startup and benefits of companies recognized as STARTUP by Department for Promotion of Industry and Internal Trade (DPIIT) such as self-certification, tax exemption, easy winding up, IPR protection, relaxation in public procurement norms and funds. Then he focused on types of funding such as crowd funding, self-funding, venture capitalists, angel investment. He talked about PRISM



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scheme of DSIR, SIDBI Fund of Funds scheme, Startup India seed fund scheme, ATAL innovation mission NITI AAYOG, BIRAC – support from ideation to early stage, Students innovations for Translation & Advancement of Research Explorations, Empowering Youth for Undertaking value added innovative translational research (E-YUVA). He also briefed about technology business incubators all over the country.

The Chief guest of the Valedictory session was Dr. Bijay Kumar Sahu, Regional Manager & Head, NRDC – Intellectual Property Facilitation Centre, WIPO – Technology & Innovation Support Centre, Innovation Valley, Visakhapatnam and Guest of Honour was Dr. M. S. Shashi Kumar, Scientist D, Department of Scientific and Industrial Research, Ministry of Science and Technology, New Delhi. Dr.B.K.Manjaunath gave a brief presentation about the details of technical talks happened during the one week STTP and the participants were overwhelmed with the STTP and they expressed their happiness during the feedback session and the event was ended with the vote of thanks by Dr. K. Valarmathy, Associate Professor, Department of Biotechnology, The Oxford College of Engineering. This led to the end of the series of lectures in the two weeks programme. The program on the whole was very informative.

Album of STTP event





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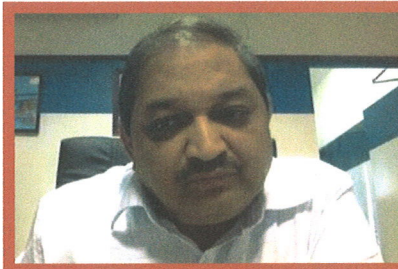
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Inaugural function of STTP



ADVANCEMENT BY IMPACTING VALUE CHAIN

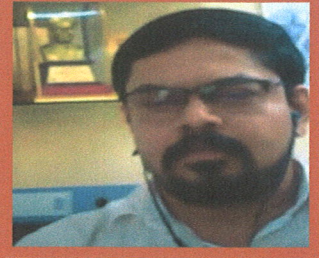
Should start and end with consumer

Participatory in nature

MOBILE FOR A TVO

Facilitate Advise Support Technology Advancement

Source: OBT (ISCR)



EMERGING TECHNOLOGIES- 10000BC---- 2020

EMERGING TECHNOLOGIES- ROLE OF BIO-INCUBATORS, START UPS AND ACADEMIA-INDUSTRY INTERFACE

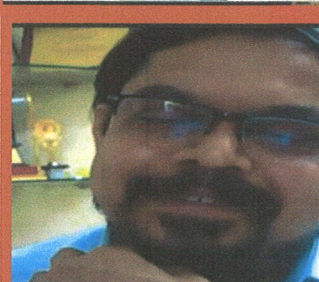
Dr.S.R. Rao,
 Vice-President
 Sri Balaji Vidyapeeth University
 Publisher,
 Former Senior Advisor
 Department of Biotechnology GOI
 Co-Founder- IPIIR
 The Global Alliance for Pandemic Preparedness & Response
 Web: <https://aparcw.org>

Technological revolution of 21st century



Solution for Increasing World Population lies in Biotechnology

Year (July 1)	Population	Yearly % Change
2020	7,794,766,739	1.10%
2025	8,184,437,460	0.98%
2030	8,548,467,400	0.87%
2035	8,887,524,213	0.78%
2040	9,198,847,240	0.69%
2045	9,481,803,274	0.61%
2050		-0.53%



Applications

- Green Biotechnology** - Agriculture revolution using artificial selection of crops, livestock and other domesticated animals.
- Red Biotechnology (Medical)** - Discovery of antibiotics, bio-molecules as new drugs, vaccine, gene therapy, gene editing (CRISPR), disease diagnosis, fertility assistance to prenatal screening, improved life expectancy.
- Blue Biotechnology (Aquatic)** - fresh and marine water, ground water technology
- White Biotechnology (Industrial)** - Production of organic and inorganic molecules using microbial processes, genetical improvements of industrial strains

BIOTECHNOLOGY IN 2050

Professor Anand K. Gang
 Vice-Chancellor,
 Mysore University of Engineering & Technology
 Mysore-577 009, Karnataka-570014
 Government of Karnataka, Government of India, Government of Karnataka
 Email: anandk@myse.edu

Chemolithotrophs in 2050 (Minerals and heavy metals, S, Fe)

Thiobacillus, *Acidithiobacillus*, *Beijerinca*, and others
Thiobacillus thiooxidans (Jaffe and Waksman 1922)

- scattered in the Proteobacteria: α, β, γ subdivisions
- acidophiles
- chemolithotrophs: energy from oxidation of reduced sulfur compounds or iron
- used in bioleaching of ores
- problems with acid mine drainage

Cyanobacteria as Food, Fertilizers

Certain cyanobacteria produce cyanotoxins including anatoxins, saxitoxins, cylindrospermopsin, domoic acid, microcystin LR, nodularin R (from *Nodularia*), or saxitoxin. Sometimes a mass multiplication of cyanobacteria results in **algal blooms**. These toxins can be hepatotoxic, neurotoxic, and endotoxic, and can be dangerous to animals and humans. Several cases of human poisoning have been documented but a lack of knowledge prevents an accurate assessment of the risks.

Cyanobacteria in plants and eukaryotic algae have evolved from cyanobacteria via **endosymbiosis**.

MICROBES ARE GOD

BRAHMA - Originator of Life
 Life has originated from microbes

VISHNU - Sustainability of Life
 Microbes provide food, shelter, clothes, air and all materials required for life, happiness of life also governed by microbes

Mahesh - Destroyer of Life
 Microbes can destroy life (COVID-19)

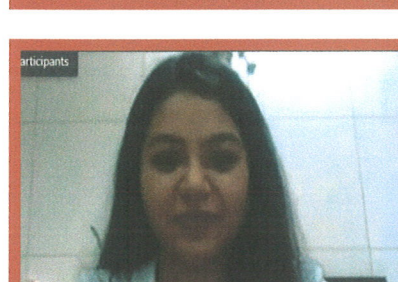
Durga - Goddess of Power
 Mitochondria are power house of Cells

Saraswati - Goddess of Intelligence
 Genes for intelligence from cytoplasm of mother

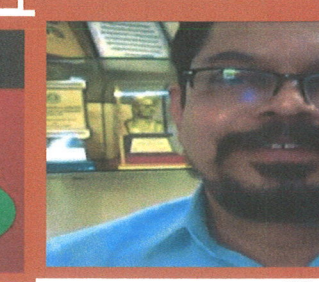
The First Systematic Application of Microbiology

Louis Pasteur (1822-1895)
 1857 Microbiology of lactic acid fermentation
 1860 Role of yeast in ethanolic fermentation
 • Advances in Applied Microbiology led to the development of Microbiology

His discoveries reduced mortality from **gangrenous fever**, and he created the first vaccine for **rabies**. He also made it important to make sure surgeries were more sterile. In 1888 he founded the Pasteur Institute and was named director. He is regarded as one of the main founders of modern microbiology, together with **Pardunnid Cohn** and **Robert Koch**.



Batch of 1969 Innovation Fellow Award





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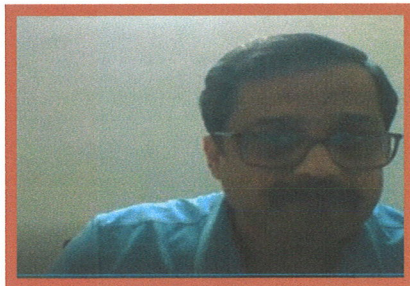
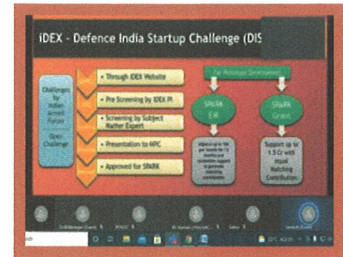
Funding Programs at FITT IITD

- BIRAC BIG**
 - For biotechnology based ideas in the fields like Drug, Electronics, Industrial biotechnology, Animal Biotechnology, Environment, Clean energy, Agriculture, etc.
 - Size of POC upto 10 lacs for 18 months milestone based projects
 - Applicant: Individual person or start-up company should not be more than 3 years from the date of the call issuance
- PFIZER-IITD Innovation & IP program**
 - Initiative in healthcare diagnostics and devices
 - Grant up to 50 lacs for 24 months incubation support
 - IP support to 10 selected applicants

Funding Programs for Startups & Innovators

Exploration for Innovation in Technology Transfer Startups at IITD

Sanchit Pawar
 Project Officer, Start-up Incubator
 FITT, IITD, Delhi

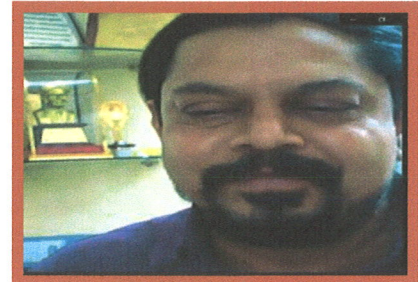


BioNEST Biocubators

5000 Incubation Spaces, 34,3219 sqft Incubation Space Capacity

20000+ Managerial Capabilities, 2000+ Patented Technologies Commercialized

2500+ Start-Ups, 1000+ Technology Acquisition Capabilities



Promoting Academic Research Conversion to Enterprise (PACE)

PACE encourages and supports academia to develop products/technologies of societal/national importance (up to POC stage) and its subsequent validation by an industrial partner

Academic Institution Research (AIR)	No. of Calls Announced: 21	Total Beneficiaries Supported: 126
Proposals Received: 1306	Technology/Innovation: 1587	Patents: 5
Grants up to Rs. 10 Lakhs	Project duration: 18 Months	

Central Research Schemes (CRS)

Total Fund Unlocked: Rs. 51 Cr	Employment Generated: 265
Academic Institutions Supported: 93	Companies Supported: 33

HUMAN RESOURCE DEVELOPMENT PROGRAMME

Dr. Sandeep Sarin, Scientist for Advisor

BioNEST Scheme

INCUBATION SPACE, EQUIPMENT, MENTORSHIP, EQUIPMENT

Industrialized support to Biotech startups to commercialize innovative ideas into products

Enables high risk research, innovation and product development

Patented, Intellectual, legal, regulatory support for building entrepreneurs

Encourage knowledge venturing among Biotech entrepreneurs

Sustained Handholding from IITD

PROTECTORSHIP, High End Equipment, Personal Support, INDUSTRY NETWORKS, PATENT/REGULATORY GUIDANCE & SUPPORT

Market

Relationship & Business Development, Technical Support

REGISTRATION, KNOWLEDGE COMMERCIALIZATION

Biotech Ignition Grant

Components of BIG Support

BIG

FUNDING: 10-50 Lakhs

DURATION: 18 Months

2 National Calls, 300-125 beneficiaries

Implemented through Partners | Mentorship | Networking | Ecosystem Connect

Requirements of an Individual Entrepreneur and Early Stage Startup are met under BIG support

HRD PROGRAMME AT A GLANCE

500	1217	63	80
75	9	90	80
50	100	600	15
5	15	5	15
10	3	5	2
15	2		

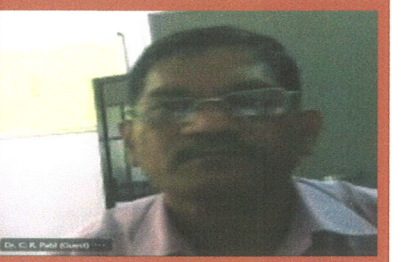
Source: Annual Report 2020-21

FELLOWSHIPS

- DBT Junior Research Fellowship (DBT-JRF) Programme
- DBT Research Associateship (DBT-RA) Programme
- Remuneration Re-entry Fellowship
- Biotechnology Career Advancement and Re-orientation Programme (BioCARP)
- DBT-TWAS Fellowship Programme
- PhD Fellowship Programme Under Indo-Australian Collaboration
- DBT-INT India Alliance Fellowship

Entomopathogenic fungi

Preparation of carrier based formulations



Soil treatment with native isolates of *Gluconacetobacter*

UNIVERSITY OF AGRICULTURAL SCIENCES DHARAWD

Microbial Inoculants - Requirement for the mass production of Biofertilizer

Dr. C. R. Patil
 Professor and Head
 Institute of Organic Farming
 UNIVERSITY OF AGRICULTURAL SCIENCES,
 DHARAWD
 E-mail: patilcr@uasd.in

Blumeneria illigii strain (D1), internal transcribed spacer 1, partial sequence; 5.8S ribosomal RNA gene, complete sequence; and internal transcribed spacer 2, partial sequence

Submitted to gene bank (NCBI) accession No. MT021712

Institute of Organic Farming, UAS, Dharwad - 45