



JSS Academy of Higher Education & Research, Mysuru
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JSS COLLEGE OF PHARMACY, OOTACAMUND
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A Report on
JSS AHER, Mysuru, sponsored one day Virtual Conference
on
“Green Approaches in Medicinal Chemistry for Sustainable Drug Design and
Synthesis”
(9th April 2021)

Organized by
Department of Pharmaceutical Chemistry
JSS College of Pharmacy, Ooty

Submitted By
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JSS College of Pharmacy, Ooty

Department of Pharmaceutical Chemistry, JSS College of Pharmacy, Ooty, has organized JSS Academy of Higher Education & Research, Mysuru Sponsored one day Virtual Conference on **“Green Approaches in Medicinal Chemistry for Sustainable Drug Design and Synthesis”** during 9th April 2021

IMPORTANCE OF CONFERENCE

Green Chemistry in Medicinal Chemistry and Drug Design and synthesis seminar is attracting Medicinal Chemistry Scientists and Experts, online visitors ranging from Researchers, Academicians and Business professionals, who are working in this field. This unique opportunity that we extend to our speakers and attendees is not being offered by any other conference organizers. Through this the abstracts and research profiles of our speakers and organizing committee members getting global visibility which is an additional feature that you would be receiving in addition to networking opportunities before, during and after the conference. The conference has been designed to provide the theoretical background as well as a hands-on approach to address these challenges in a broad unique manner, the latest developments across the broad and diverse fields of Green and Sustainable Chemistry. etc.

Green chemistry is very helpful in prevention of pollution at the molecular level, it gives innovative scientific solutions, it reduces the negative impacts of chemical products on human and the environment health. Green chemistry is a rapidly developing field providing an avenue for the sustainable development of future science and technology. It offers enhanced chemical process economics, concomitant with a reduced environmental burden. It can be applied to design environmentally benign synthetic protocols to deliver life-saving medicines, while minimizing environmental impact. It is expected that chemists and chemical engineers should produce greener and more sustainable chemical processes for drug design, and it is likely that this trend will continue to grow over the next few decades. This seminar summarizes environmentally benign protocols for the synthesis of some FDA (Food and Drug Administration) approved drugs which are in high volume demand coupled with their requirements of high chemical and optical purity utilizing the principles of green chemistry.

Green chemistry is getting extended in many researches and industry areas. Not only pharmaceutical companies but also the other chemical industries started to take a step for green chemistry due to its advantages such as decreasing of waste and cost. With this respect, we have already witnessed that pharmaceutical companies searched out for green protocol when manufactured the pharmaceuticals. Green chemistry strategies can be seen in solvents,

catalysts, and the others. So, we will discuss in detail about green solvents and nano catalysts in this seminar. We hope that this seminar will highlight the importance of green chemistry.

Solvents and stoichiometric reagents are the most important parameters to be considered for greener strategies and these parameters are under investigation in detail by many pharmaceutical companies. It is suggested that conventional solvents such as halogenated, petroleum-based should be converted into greener solvents such as glycerol, ethyl lactate, and water. A catalyst is another crucial parameter which reduce the amount of inorganic salts and/or reagents. Green alternative for consuming of stoichiometric salts and reagents is to use a catalyst and this issue has been considered by pharmaceutical companies. However, demanding of the least expensive reagents has limited the applying of catalysts to be used widely.

Future perspective of green chemistry will be extended more seriously in many research areas. Product and environment should be considered together and it should be remembered that this planet needs a balance of nature. Every attempt to heart this balance will come across more serious effects. That is why we need greener strategies and greener thinking. In this seminar we will discuss the importance of solvents and catalysts for synthetic strategy at pharmaceutical chemistry. The progress and advantages about green solvents and bio- and organic-catalysts will be discussed in detail and we hope that whole of this knowledge will be a hand for both medicinal scientists and pharmaceutical industries.

The seminar would give an insight to young researchers to choose the thrust area for research, based on the need of the hour and young scientists, from across the country would benefit from the disseminations of experienced mentors as it would also be a one-to-one interaction with eminent personalities in the field.

Inauguration

One day virtual conference was inaugurated by Dr. S.P. Dhanabal, Principal, JSS College of Pharmacy, Ooty, and all faculties of the department of Pharmaceutical chemistry were present. Dr. B. Gowramma, Organizing secretary, welcomed the gathering and Dr. Md. Afzal Azam, Convener, briefed about the genesis of the conference. Dr. S.P. Dhanabal, Principal, delivered his presidential address and highlighted the activities of JSS College of Pharmacy, Ooty, during this pandemic situation. He also stressed about the importance of the symposium in worldwide scenario.

SCIENTIFIC SESSION

Session I: 09.30-11.00 AM

Title: Not so green, but effective vaccines for COVID-19

Speaker: Dr. Manas Mandal, Fulbright Specialist, Associate Professor, Roseman University of Health Sciences, USA

Session 2: 11.15 AM-12.30 PM

Title: Green chemistry coupled with computational and AI approaches in developing new broad spectrum anticancer compounds.

Speaker: Dr. Ravikumar M, Senior Scientist & Founder, Immunocure, Hyderabad

Session 3: 12.30 – 1.30 PM

Title: Understanding chemical reactions using computers

Speaker: Dr. Sudarsan Pandiyan, Senior Scientist, Schrodinger, Bangalore

E-Presentation Session: 2.00 PM – 5.30 PM

We have received about 28 abstracts from over all India, based on the merit and two stage screening 28 abstracts were categorized and have been shortlisted for e- presentation. The following evaluators have been nominated for poster presentation under pharmaceutical science category including Insilico drug design, phytochemistry, pharmaceutical method development, pharmacology, and formulation development.

The e-presentation evaluation team was composed of all the subject experts in it. External experts were also included in the panel to confirm the fair evaluation.

Valedictory Function: 4.30 PM – 5.00 PM

The evaluator's details are as follows.

S.NO	NAME OF THE EVALUATOR	CATEGORY
1	DR. V. MURUGAN Professor & Dean College of Pharmaceutical Sciences, Dayananda Sagar University, Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru, Karnataka 560078	Pharmaceutical sciences (15 presentations)
2.	Dr R. Kalirajan, Assistant Professor, Dept. of Pharmaceutical Chemistry, JSS College of Pharmacy, Ooty	
3.	Dr. S. N. Meyyanathan, Professor, Dept. of Pharmaceutical Analysis, JSS College of Pharmacy, Ooty	Pharmaceutical sciences (15 presentations)
4.	Dr. Md. Afzal Azam, Professor, Dept. of Pharmaceutical Chemistry, JSS College of Pharmacy, Ooty	

The e-Presentation results are as follows,

S. No	Name of the Presenter and Institute	Category
1	Ms. Shalini K SRM College Of Pharmacy, SRM Ist, Kattankulathur, Chengalpattu.	Phytochemistry & Analytical method development
2	Mr. Praveen S Swamy Vivekanandha College of Pharmacy, Tiruchengod, Namakkal.	<i>In silico</i> drug design & development
3	Mr. L. Kaviarasan JSS College of Pharmacy, Ooty	<i>In silico</i> drug design & development

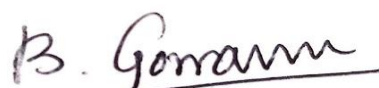
LIST OF PARTICIPANTS

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68.	Efficiency Myrsing	Student	Assam Down Town University
69.	Lutfiya Molabaccus	Student	JSS AHER Mauritius
70.	Sanjib Chakraborty	Student	JSSCPO

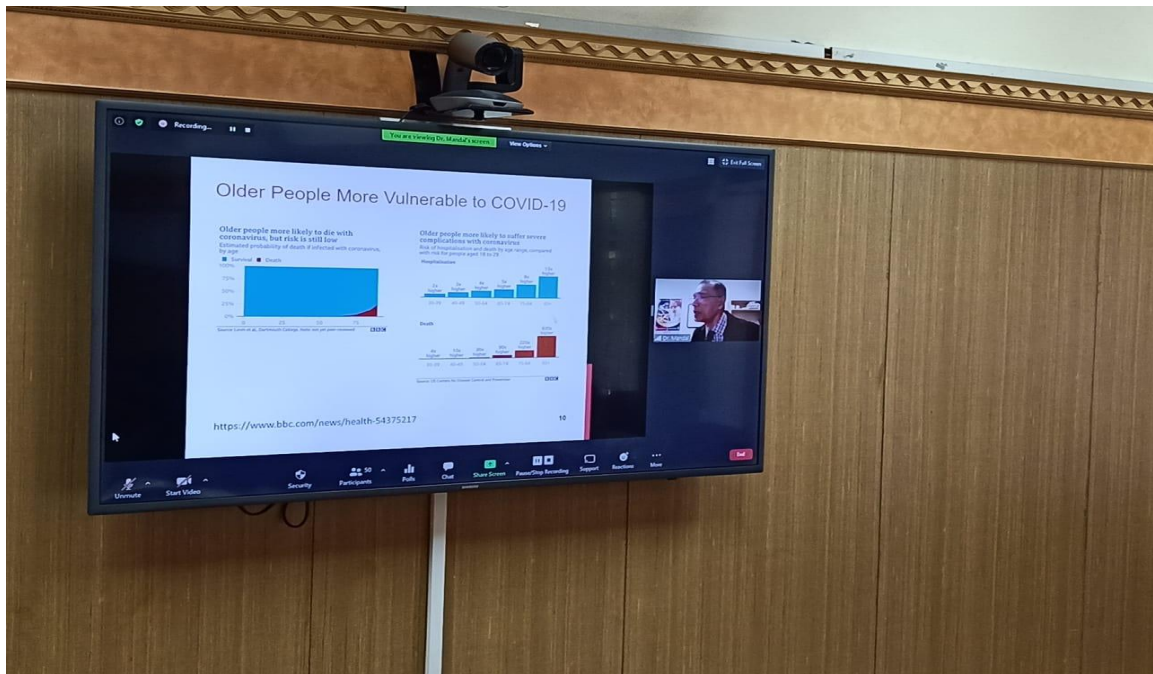
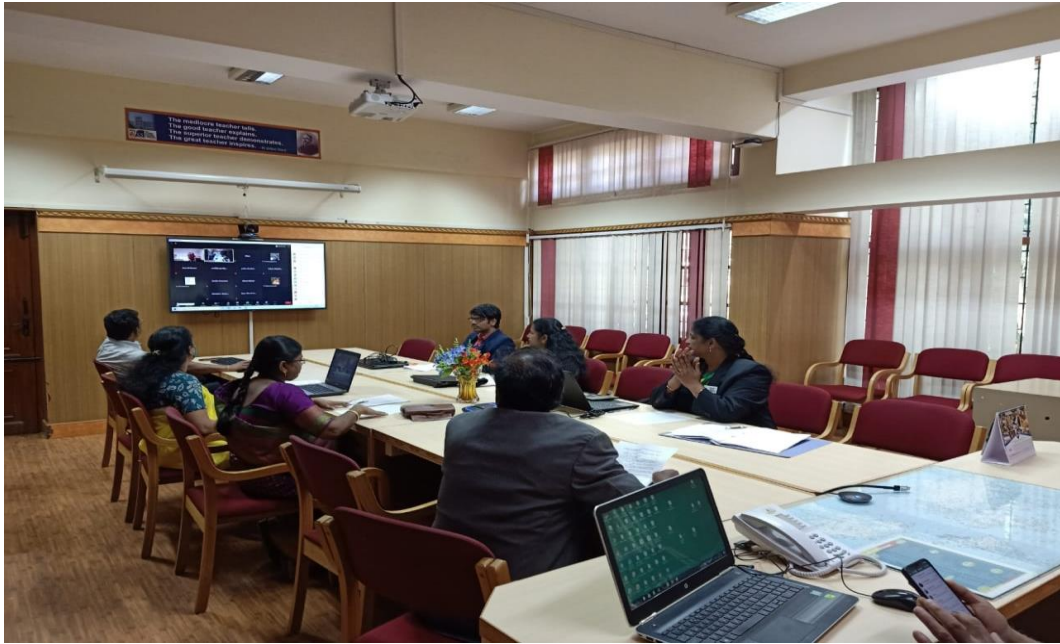
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My Humble Pranams to the lotus feet of His Holiness Swamiji, for his blessings. As an organizing Secretary of this symposium, Firstly, I would like to extend my heartfelt thanks to JSS Academy of Higher Education & Research, Mysuru, for their continuous support and sponsoring a seminar grant of Rs. 1,00, 000/- to conduct this symposium in a smoother way. I take this opportunity to express my special thanks to all the resource persons and all the participants. I sincerely thank our beloved Principal, Dr S P Dhanabal, Dr Md.Afzal Azam, Convener, for their moral support. In addition, my thanks to Administrative officer, Mr C Jayakumar, Asst Professor and Mr Gautham, System Analyst and Mr Mahesha, Grant Section. Last but not the least, I thank all the teaching and supportive staff of Department of Pharmaceutical Chemistry for their valuable support throughout the symposium.



Dr. B. Gowramma
Organizing Secretary

GLIMPSES OF THE CONFERENCE





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SARS-CoV-2 Life Cycle, Structures and Vaccine Target

(A) **Life Cycle:**

- 1. Virus attachment and entry into the cell.
- 2. Uncoating and release of viral RNA.
- 3. RNA replication and transcription.
- 4. Protein synthesis and assembly of new virus particles.
- 5. Release of new virus particles.

(B) **Vaccine Targets:**

- (a) Neutralization: Antibodies block the virus from binding to the ACE2 receptor.
- (b) Inhibition of viral replication: Antibodies block the viral RNA polymerase.

11

Dr. Mandal

End