



Since 1951

PG AND RESEARCH DEPARTMENT OF CHEMISTRY
JAMAL MOHAMED COLLEGE (Autonomous)

College with Potential for Excellence
Accredited (3rd Cycle) with 'A' Grade by NAAC
DBT Star College Scheme & DST-FIST Funded
(Affiliated to Bharathidasan University)
TIRUCHIRAPPALLI – 620 020

JMC CHEM WEBINAR SERIES 2021-2022

Report of a Webinar on

Drug Discovery

held on

6th July 2021





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PG and Research Department of Chemistry Organises

06.07.2021
11.00 a.m.

JMC CHEM WEBINAR SERIES 2021-22

Webinar-I

“Drug Delivery”

Resource Person

Dr. V. RAJ

Professor and Head
Department of Chemistry
Periyar University, Salem

Organising Chairperson

Dr. S. Ismail Mohideen
Principal

Conveners

Dr. M. Mohamed Sihabudeen
Additional Vice-Principal & Head

Dr. M. Seeni Mubarak
Associate Professor

Dr. A. Jafar Ahamed
Associate Professor

Co-ordinators

Dr. M. Syed Ali Padusha
Associate Professor

Organising Secretaries

Dr. A.N. Jamal Abdul Nasser
Assistant Professor

Dr. N. Mujafarkani
Assistant Professor

No Registration Fee
E-Certificate will be provided
Click to Register: <https://forms.gle/qAhTQ7373hBAbGwZA>
Mode of the Platform: Google meet

For further queries, Contact: 98655 60226, 97897 05337 nm@jmc.edu



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JMC CHEM WEBINAR SERIES 2021-2022

Webinar-I "Drug Delivery"

AGENDA

Date: 06.07.2021 (Tuesday)

Time: 11.00 a.m.

Via: Zoom cloud meeting - Online Mode

- | | |
|---|---|
| 11.00 am - Qirath | : Dr. R. Abdul Vahith
<i>Assistant Professor</i> |
| 11.02 am - Welcome Address | : Dr. M. Mohamed Sihabudeen
<i>Additional Vice-Principal & Head</i> |
| 11.10 am - Presidential Address | : Dr. S. Ismail Mohideen
<i>Principal</i> |
| 11.20 am - Introduction of the
Chief Guest | : Dr. A. Jafar Ahamed
<i>Associate Professor</i> |
| 11.25 am Invited Talk | : Dr. V. RAJ
Professor & Head
Department of Chemistry
Periyar University, Salem |
| 12.25 pm - Vote of Thanks | : Dr. N. Mujafarkani
Assistant Professor |



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PG AND RESEARCH DEPARTMENT OF CHEMISTRY

JMC CHEM WEBINAR SERIES 2021-22

Webinar-I "Drug Discovery" (6th July 2021)

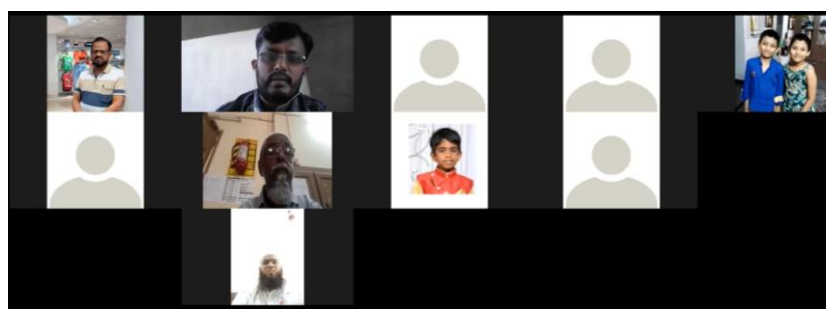
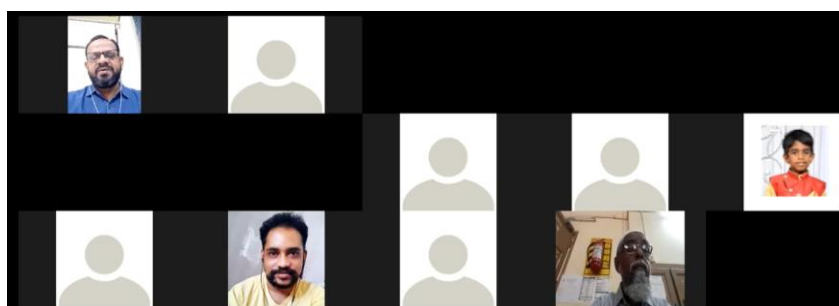
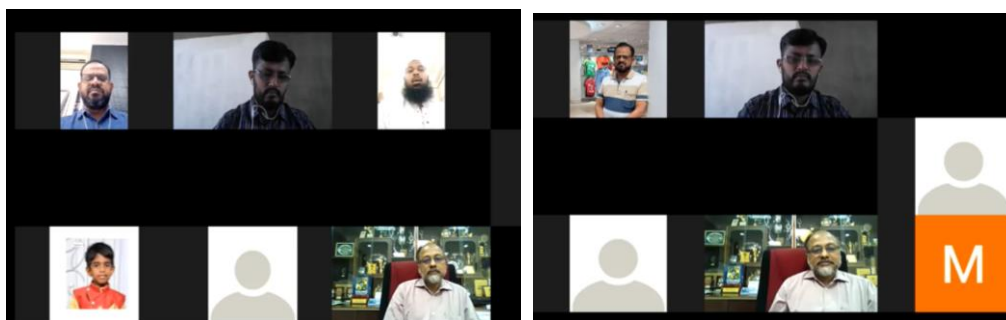
REPORT

PG and Research Department of Chemistry, Jamal Mohamed College (Autonomous) organised a JMC Chem Webinar Series 2021-22 titled "Drug Delivery" (Webinar-I) on 6th July 2021 at 11.00 am through zoom cloud meeting for the benefit of the budding chemists. Around 437 participants registered, and 185 participants participated in the programme. Earlier Dr. R. Abdul Vahith, Assistant Professor of Chemistry, recited a few verses from the Holy Quran. Dr. M. Mohamed Sihabudeen, Additional Vice-Principal and Head of the Department of Chemistry welcomed the gathering. Dr. S. Ismail Mohideen, Principal, delivered the presidential address. Dr. A. Jafar Ahamed, Coordinator of Webinar series, introduced the resource person. **Dr. V. Raj, Professor and Head**, Department of Chemistry, Periyar University, Salem, delivered a special lecture on **"Drug Delivery"**. The session was very informative manner. All the participants got enlightened in the field of drug delivery and multi functionality of biopolymers. At the end of the session, we posted the feedback link in the chat box of zoom cloud meeting. All the participants received their participation e-certificates. The success of the programme was revealed by participants feedback. Dr. N. Mujafarkani, organising secretary, proposed a vote of thanks and acted as a moderator throughout the session.

We thank our magnanimous Management Committee Members Dr. A.K. Khaja Nazeemudeen, Secretary and Correspondent, Hajee M.J. Jamal Mohamed, Treasurer, Dr. K. Abdus Samad, Assistant Secretary, Dr. K.N. Abdul Kader Nihal, Member and Honorary Director and our vibrant Administrators Dr. S. Ismail

Mohideen, Principal, Dr. A. Mohamed Ibraheem, Vice-Principal, Dr. K.N. Mohamed Fazil, Director-Hostel Administration and Ms. J. Hajira Fathima, Director-Hostel Administration (Women) for all their support and encouragement. Special thanks to Dr. M. Seeni Mubarak, Covener, Dr. A. Jafar Ahamed and Dr. M. Syed Ali Padusha, Coordinators, Dr. A. Jamal Abdul Nasser, Organising Secretary, who was instrumental in arranging for such programme.

JMC CHEM WEBINAR SERIES 2021-22
Webinar-I “Drug Discovery” (06.07.2021)



A screenshot of a presentation slide titled "Drug delivery". The slide features a purple header with the title in white. Below the title, there is a central image of a glass vial with a blue liquid being poured into it. To the right of the vial, there is a red circle containing the text "Dr. V. RAJ", "Professor & Head", "Department of Chemistry", "Periyar University", and "Salem-11". To the right of the red circle, there is a decorative border of orange and yellow pills. The slide is displayed in a window titled "JMC Chem Webinar Series 2021-22". On the right side of the window, there is a vertical list of participant icons. At the bottom right of the window, the date and time "2021-07-06 11:26:21" are displayed.

ROUTES OF DRUG ADMINISTRATION

ORAL

Advantages
Most convenient and lowest cost

Disadvantages
Some cause gastrointestinal tract irritation
Delayed release

TOPICAL

Advantages
Directly to the site of action
Risk of systemic side effects is reduced

2021-07-06 11:34:58

Multifunctionality of Biopolymers

Apart from their basic function, they have additional properties

Sensitivity to stimuli





Temperature, pH, ultrasounds, light, electric fields, chemical stimuli (e.g. pH, ionic strength), biological stimuli (e.g., enzymes and biomolecules) and mechanical stress

eg., carboxyl group remains non-ionized and keeps the drug in the carrier structure in the acid-pH stomach environment

In the alkaline or neutral environment of the small intestine these groups get ionized, and the polymer swells due to their electrostatic repulsion while simultaneously releasing the drug to the environment.

2021-07-06 12:03:37

Various shapes of nanocarriers used in drug delivery

S. no	Nano carrier	Description	Image Structures	Application
1	Nano Tubes	They are hollow cylinder made of carbon, atoms which can be filled and sealed for potential drug delivery		Cellular scale needle for attaching drug molecule to cancer cells. As an electrode in thermo cells.
2	Nano wires	the nanowire pinpoint damage from injury and stroke, localize the cause of seizures, and detect the presence of tumors and other brain abnormalities		Technique has potential as a treatment for Parkinson's and similar diseases.
3	Nanoshells	Nanoshells are hollow silica spheres covered with gold. Scientists can attach antibodies to their surfaces, enabling the shells to target certain cells, such as cancer cells		Technique has potential for targeting cancerous drug.
4	Quantum dots	Quantum dots are minuscule semiconductor particles that can serve as sign posts of certain types of cells or molecules in the body.		Technique has potential for targeting cancerous drug.

2021-07-06 12:10:56

Atomic force microscopy (AFM) analysis

♦ spherical shape with a smooth surface and average diameter 156 nm, 195 nm, and 274 nm

♦ The average height 24.7 nm, 27.4 nm and 61.7 nm

♦

2021-07-06 12:45:19



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Certificate

This is to certify that **Name of the Participant, Designation, Name of the College and Address** actively participated in webinar on “**Drug Delivery**” organized by the PG and Research Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli-620 020, Tamilnadu, on 6th July 2021.

Dr. A. Jamal Abdul Nasser

Dr. N. Mujafarkani
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