

# IFTM University Alumni Association, Moradabad

In Collaboration With  
School of Biotechnology  
Organized

## WEBINAR: IMMUNOINFORMATICS APPROACH TO DESIGN PEPTIDE BASED VACCINE AGAINST MICROORGANISMS

September 28, 2021

For M.Tech,  
B.Tech, M.Sc  
B.Sc. Final  
Year,  
M. Pharm and  
B. Pharm  
Students



**IFTM UNIVERSITY  
ALUMNI ASSOCIATION (IUAA)**  
In collaboration with  
**School of Biotechnology**  
Is organizing Webinar On

**TOPIC: IMMUNOINFORMATICS APPROACH TO DESIGN  
PEPTIDE BASED VACCINE AGAINST MICROORGANISMS**

28.09.2021  
3:00-4:00 pm



Google Meet  
Registration Link:  
<https://forms.gle/ntyEjE1j7hw6M3BZ8>

Dr. Vikas Kaushik,  
Associate Professor  
Department of Bioinformatics  
LPU, Jalandhar (Punjab)  
Alumni B.Tech (Biotechnology)  
Batch: 2004-2008  
E-mail: vikas31bt@gmail.com

Alumni Co-ordinator : **Dr. Nabeel Ahmad**

**Organizing Committee :**

Mr. Ankit Kumar Asstt. Prof. SBT, IFTMU (Convener)	Ms. Kanchan Lakhera Asstt. Prof. SBT, IFTMU (Organizing Secretary)	Dr. Tanzeel Ahmad Director SBT, IFTMU (Chairperson)
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## **About Resource Person:**

Dr. Vikas Kaushik, Ph.D. (Bioinformatics) Lovely Professional University, Jalandhar (Punjab), working as Associate Professor in the Department of Bioinformatics LPU, Jalandhar.

Dr. Vikas Kaushik has an outstanding academic and research background. He completed his B. Tech in Biotechnology from IFTM Moradabad in 2008 and M.Tech in Bioinformatics from IITA in 2010. Afterwards he joined LPU, Jalandhar as an Assistant Professor in 2010 and earned his Ph.D. Degree as well from LPU itself in the year 2018.

His broad area of research is Computational Biology which involves the study and manipulation of biological information, to build computer-based formulas in order to improve the understanding of diseases. He has published more than 50 articles in various international and national journals and 8 book chapters.

He has completed multiple certification courses from international universities and has also been a part of many national and international conferences where he has presented his research work in front of the pioneers of computational biology. He has also received the best paper presentation award from International Conference on Engineering, Applied Sciences, and Technology (ICEAST), Phuket, in the year 2018.

## **Details of the Event:**

The webinar was focused on the research field of Immunoinformatics. During this webinar, Dr. Vikas Kaushik shared the basic concepts of vaccine development. He enlightened the participants with the information on immunoinformatics tools and techniques used for the designing of Vaccines against critical diseases and a few examples of epitope based vaccine were also shared with the participants. He also discussed the potential of designing vaccine against Coronavirus using immunoinformatics tools.

For this Webinar, registration link was created using Google forms. The link for the meeting was created from Google meet and was circulated among the participants. There were a total of 90 participants in the webinar from various schools of IFTM University.

At the beginning, Ms. Kanchan Lakhera, Assistant Professor, SBT, IFTM University, gave a welcome address to the participants at 3:00P.M. by welcoming Honourable Chancellor, Mr.

Rajiv Kothiwal, Pro Chancellor, Mr. Abhinav Kothiwal, Vice- Chancellor, Prof. M.P. Pandey, Pro Vice Chancellor, Prof. Rahul Mishra, Registrar Prof. Sanjeev Agrawal, COE & President of IUAA Prof. Anuj Srivastava, Eminent Speaker & Alumnus Dr. Vikas Kaushik and all the participants. After the presentation Mr. Ankit Kumar, Assistant Professor , SBT, IFTM University, delivered the vote of thanks.

In the Webinar, the resource person delivered the topic brilliantly and provided an insightful information to the participants. This program was accomplished successfully with the support of all the faculty members of School of Biotechnology.

## Glimpses of the Event:

The screenshot displays a Zoom webinar interface. At the top, a status bar indicates "Vikas Kaushik is presenting". The main content area shows a presentation slide with the following details:

- Logos:** Lovely Professional University (LPU) and Vin EduTech Solutions.
- Title:** Immunoinformatics
- Presenter:** By: Dr. Vikas Kaushik
- Position:** Associate Professor, Lovely Professional University, Punjab
- LinkedIn:** <https://www.linkedin.com/in/dr-vikas-kaushik/>

On the right side, a grid of participant video feeds is visible, including:

- Vikas Kaushik (the presenter)
- Kanchan Lakhe...
- Er.YESHU KHAT...
- Ghausiya Reh...
- Rashmi Rajput
- Nadeem Ahmad
- Sweta Sharma
- 12 others
- You (the user viewing the screen)

A notification at the bottom right states: "Sweta Sharma (outside IFTM University) joined". The bottom status bar shows the time as 3:02 PM and the event as a Webinar, along with standard Zoom controls like microphone, video, chat, and a red end call button.





← → ↻ meet.google.com/qkq-ixkk-ejy?authuser=0 WhatsApp web.whatsapp.com

Vikas Kaushik is presenting

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graph TD
    A[SARS-CoV-2] --> B[Selection of the virulent protein  
Glycoprotein FASTA sequence retrieved from PDB  
Phylogenetic analysis of the selected protein]
    B --> C1[CTL, HTL, and TH-γ epitope prediction]
    B --> C2[Multi Epitope vaccine construction]
    B --> C3[B cell epitope prediction within the vaccine construct]
    B --> C4[Prediction of binding of CTL, HTL, and TH epitopes to MHC I and II alleles]
    C1 --> D1[Allergenicity and antigenicity predictions of vaccine]
    C2 --> D2[Physicochemical property predictions of the vaccine]
    C3 --> D3[Tertiary structure predictions]
    C4 --> D4[Tertiary structure validation]
    D1 --> E[Molecular docking with TLR 2, TLR 4, MHC I and MHC II receptors]
    D2 --> E
    D3 --> E
    D4 --> E
    E --> F[Molecular dynamics simulation of the vaccine construct]
    F --> G[Reverse Translation and codon optimization]
    G --> H[In silico cloning of the vaccine expression and immune simulation]
  
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Nadeem Ahmad has left the meeting

3:24 PM | Webinar

Vikas Kaushik, vishal kum..., VIPIN GANGW..., Kanchan Lakhe..., Er.YESHU KHAT..., Ritik Ujjainwal, VINAY KUMAR, 28 others, You

## Media Coverage:

**इम्युनोइंफॉर्मेटिक्स एप्रोच टू डिजाइन पेप्टाइड बेस्ड वैक्सीन अगेंस्ट माइक्रोऑर्गेनिज्म्स पर भी वेबिनार**

**Dr. Vikas Kaushik,**

मुरादाबाद (विधान केसरी)। आईएफटीएम विश्वविद्यालय में एलुमनाई एसोसिएशन एवं स्कूल ऑफ बायोटेक्नोलॉजी द्वारा मंगलवार को इम्युनोइंफॉर्मेटिक्स एप्रोच टू डिजाइन पेप्टाइड बेस्ड वैक्सीन अगेंस्ट माइक्रोऑर्गेनिज्म्स विषय पर वेबिनार का आयोजन किया गया। आईएफटीएम यूनिवर्सिटी के पूर्व छात्र एवं लवली प्रोफेशनल यूनिवर्सिटी, जालंधर (पंजाब) के एसोसिएट प्रोफेसर, डॉ. विकास कौशिक ने मुख्य वक्ता के रूप में अपने वक्तव्य में सभी प्रतिभागियों को पेप्टाइड वैक्सीन डिजाइन करने के लिए इम्युनोइंफॉर्मेटिक्स टूल्स की उपयोगिता के संबंध में प्रकाश डाला। विश्वविद्यालय के कुलसचिव प्रो. संजीव अग्रवाल ने डॉ. कौशिक द्वारा उपलब्ध कराई गई महत्वपूर्ण जानकारियों हेतु उनकी सराहना की। प्रो. अग्रवाल ने यह भी कहा कि सभी विद्यार्थी डॉ. कौशिक के अनुभव का भरपूर लाभ उठाएं और उनके सुझाव को आत्मसात करें। स्कूल के निदेशक डॉ. तंजील अहमद कार्यक्रम के अध्यक्ष व असिस्टेंट प्रोफेसर मिस. कंचन लखेरा वेबिनार की आयोजन सचिव रही। इस वेबिनार में भाग लेने हेतु 90 प्रतिभागियों ने पंजीकरण करवाया। वेबिनार के सफल आयोजन में डॉ. अहमद, अपर निदेशक के.के. बंसल तथा विभागाध्यक्ष एवं एलुमनाई समन्वयक डॉ. नबील अहमद का महत्वपूर्ण योगदान रहा। कार्यक्रम के अंत में वेबिनार के संयोजक व स्कूल के असिस्टेंट प्रोफेसर श्री अंकित कुमार ने सभी के प्रति आभार प्रकट किया।