

AURORA'S DEGREE & PG COLLEGE

(Accredited by 'NAAC' with B++ grade)



Department of Biochemistry & Genetics

Two-day National Level Faculty Development Programme

on

AI & ML BASED TECHNOLOGIES IN BIOLOGY



Prof. Mukesh Doble
Department of Biotechnology
Indian Institute of Technology (IIT), Madras
Founding Director,
Theevanam Additives and Nutraceuticals P Ltd



Prof. I. Arnold Emerson
Bioinformatics Programming Laboratory
Vellore Institute of Technology
Vellore, Tamilnadu

Date : 22 & 23 October 2021
Time: 10 am - 12 pm
02:00 pm - 04:00 pm

Platform : MS Teams

Dr S Ravi Kiran
(Head)
(Department of Biochemistry & Genetics)

Faculty Co-ordinators:
Mrs. V Nagavani (9100001638)
&
Ms. P S Mokshavi (9100001634)

Registration Link: <https://forms.gle/Cz9NB7hbmXJrJhZx5>

Aurora's Degree & PG College
(ACCREDITED BY NAAC WITH 'B++' GRADE)
Chikkadpally, Hyderabad 500020



EVENT / ACTIVITY DETAILED REPORT

| | |
|--|--|
| NAME OF THE EVENT / ACTIVITY | FDP-Faculty Development Program |
| TYPE OR TITLE OF EVENT / ACTIVITY | Departmental Event |
| FACULTY INCHARGE | Dr. V. Nagavani & P. Sangha Mokshavi |
| DEPARTMENT/CELL/COMMITTEE/CLUB | Biochemistry & Genetics |
| DATE | 22nd & 23rd October 2021 |
| VENUE | Online on Microsoft Teams (10 AM to 12 PM) |
| TARGET AUDIENCE | Faculty and Research Scholars |

1. PROGRAM SCHEDULE

Every day 10 am to 12.00 pm

Detail Report on: "AI&ML Based Technologies in Biology"

In connection with the college development activities, with the constant support and encouragement of the management and our dynamic principal Dr. Viswanatham Bulusu, The Department of Biochemistry organised FDP a 2-day lecture series on **"AI&ML Based Technologies in Biology"** for the benefit of the Students, Research scholars, Faculty and other Participants from various parts of the country from 22nd & 23rd October 2021.

Day- I

The Session was started by an introduction speech by Dr. V. Nagavani, Sr. Assistant Professor of Biochemistry. Further a brief introduction was given about the speaker by Dr. V. Nagavani, Sr. Assistant Professor of Biochemistry. Following that, the speaker Prof. Arnold I Emerson from Vellore Institute of Technology, Vellore, Tamilnadu started the session. Being an expert in teachers training, Prof. Arnold I Emerson has engaged the online attendees in an interactive session. He has focused on Critical thinking & how do we need to implement it in our work area. Prof. Arnold I Emerson has also highlighted the various steps involved in the research process including structural bioinformatics, computational biology and complex network

analysis. etc. He also explained about the algorithms. This was also been made as an activity in between the session on this day. Many listeners have come up with a new way to create their own questions based on a wide range of topics and restricted topics. Finally, this is an informative and interactive meeting by Prof. Arnold I Emerson, which has taken the audience into the new world of the research era.

The session progressed smoothly for more than an hour with more than 30 participants. At the end of the session the speaker interacted with the participants, clarified their doubts with his commendable expertise.

The session was concluded after extending the vote of thanks. Then the feedback form was issued to receive the suggestions from the participants which would help us to assess our session.

Day -II

In continuation of the lecture series, the Day – II session was started with the introduction speech by P. Sangha Mokshavi, Assistant Professor of Genetics. The speaker started the session by reviewing the topics of day before. Mukesh Doble, Professor in the Department of Biotechnology at IIT Madras was the key speaker on day two of FDP i.e on the 23rd October 2021. Prof. Mukesh Doble emphasized on advances on Drug design, Biomaterials, Bioreactors and Bioremediation. The talk primarily focused on algorithms and neural networking. Prof. Mukesh Doble elaborated how neural networking is applied into different aspects of drug discovery and explained various drug relative studies.

Later the session was concluded by extending a vote of thanks. Then the feedback form was issued to receive the suggestions from the participants which would help us to assess our session.

The session was informative and more explorative in nature.

2. LIST OF FACULTY COORDINATORS (DEPARTMENT)

| S.No | Name of the faculty | Department |
|-------------|----------------------------|-------------------|
| 1 | Dr. V. Nagavani | Biochemistry |
| 2 | P. Sangha Mokshavi | Genetics |

3. LIST OF THE STUDENT COORDINATORS (NAME , ROLL NO, CLASS & SECTION): Nil

4. LIST OF THE PARTICIPANTS (NAME , ROLL NO, CLASS & SECTION, NO OF GIRLS, BOYS, CASTE)

Participants list

DAY-1

| S.No | Name | Designation | Affiliation |
|-------------|--------------------------|--------------------|--------------------|
| 1 | Mr. Avinash Kumar Mishra | Consultant | Freelancer |

| | | | |
|----|-------------------------------|---------------------|---|
| 2 | Miss. Koneru Jahnavi | Research Scholar | Osmania University |
| 3 | Prof. Prashant Adsule | Professor | Ajeenkya D Y Patil University- School of Hotel Management, Pune |
| 4 | Dr Smriti Bajpai | Assistant Professor | Bhavans Vivekananda College, Hyderabad |
| 5 | Mr.Gireesh Kumar.K.M | Assistant Professor | Mahe institute of Dental sciences |
| 6 | Dr. Stanly S | Assistant Professor | Sri Venkateswara College of Engineering |
| 7 | Mrs. Sona. Valsaraj | Assistant Professor | Mahe Institute Of Dental Sciences And Hospital |
| 8 | Ms. Sneha Adsule | | |
| 9 | Dr.SHAIK KAREEMULLA | Assistant Professor | P. Rami Reddy Memorial College of Pharmacy |
| 10 | Dr. Sirisha | Associate Professor | LOYOLA ACADEMY |
| 11 | Dr R Ranjani | Associate Professor | Sri Venkateswara University |
| 12 | E.R.Sirisha | Lecturer | Smt.A.Shyamala Devi Degree college for women |
| 13 | K Geetha Rani | Lecturer | TSWRDCW KARIMNAGAR |
| 14 | A. Chandra mohan | Associate Professor | Bishop Heber College |
| 15 | Dr.G.Paul Devadanam | Assistant Professor | MVS Government Arts &Science College.MBNR |
| 16 | Prof Pardhasaradhi | Professor | St Piius x PG MBA College for women |
| 17 | Sai Surya Nikitha Upadhyayula | Research Scholar | JSS College of Pharmacy, Ooty |
| 18 | Dr Mamta sharma | Assistant professor | Raj Rishi government college alwar Rajasthan |
| 19 | C.Vanisree | Assistant professor | St.Pious X Degree &PG college for women |
| 20 | Dr. Sinha Ashutosh Kumar | Professor | Bharat Pharmaceutical Technology |
| 21 | M Mamatha | Assistant professor | Gokaraju Rangaraju College of pharmacy |
| 22 | Shalini singh | Research Scholar | Dr. Rammanohar Lohia Avadh University |
| 23 | Prerna Singh | JRF | King George's Medical University |

| | | | |
|----|-----------------------|---------------------|--|
| 24 | Dr. B. Swapna | Academic Consultant | Vikrama Simhapuri University P. G. Centre, Kavali. |
| 25 | Mrs. Sunitha G | Associate Professor | Aurora's Degree and PG College |
| 26 | Mrs. Bindu G | Associate Professor | Aurora's Degree and PG College |
| 27 | Ms. Akhila Patel | Assistant professor | Aurora's Degree and PG College |
| 28 | Mrs. Hiranmayee G | Assistant professor | Aurora's Degree and PG College |
| 29 | Mr. Ashwin Kumar PSS | Assistant professor | Aurora's Degree and PG College |
| 30 | Dr. Leelamani Bathina | Associate Professor | Aurora's Degree and PG College |

5. PARAGRAPH ABOUT THE PROCEEDINGS (TILL THE END OF THE EVENT)

The event was spread across three days systematically to teach and discuss various steps involved in Artificial intelligence thought processing. Both the speakers Prof. Arnold I Emerson and Prof. Mukesh Doble had enlightened us about the recent advances that have been done in the field of drug discovery with the artificial intelligence with the help of machines like drones, IBM Watson and clever bot etc., and also enlightened about the neural networking of the brain and also about various technologies which are being implemented now a days like CAMM Methodology. The importance of this in research area was also attached with some interesting real-life implementations. The event was very interactive as well; everyday attendees got to interact with the speaker, in turn gaining more knowledge and getting their doubts clarified. More than 30 participants took part in the event, making it a phenomenal success on both the ends.

6. INCOME AND EXPENDITURE: nil

7. EVENT PHOTOS (MIN 2 MAX 4):

FDP DAY 1 RECO... Search results - vari... My Drive - Google Dr... Biochemistry Two-D... Biochemistry Two-D... List of Webinars org... FDP 16 & 17 Aug 20... 23:23 04-12-2021

mail.google.com/mail/u/0/#search/fdp/KtbxLvhZhmDnRRvsQCPZFwCtvmXbDPRgq?projector=1

AI & ML based technologies in Bio ... 1022_101043-Meeting Recording.mp4 Open with Anyfile Notepad

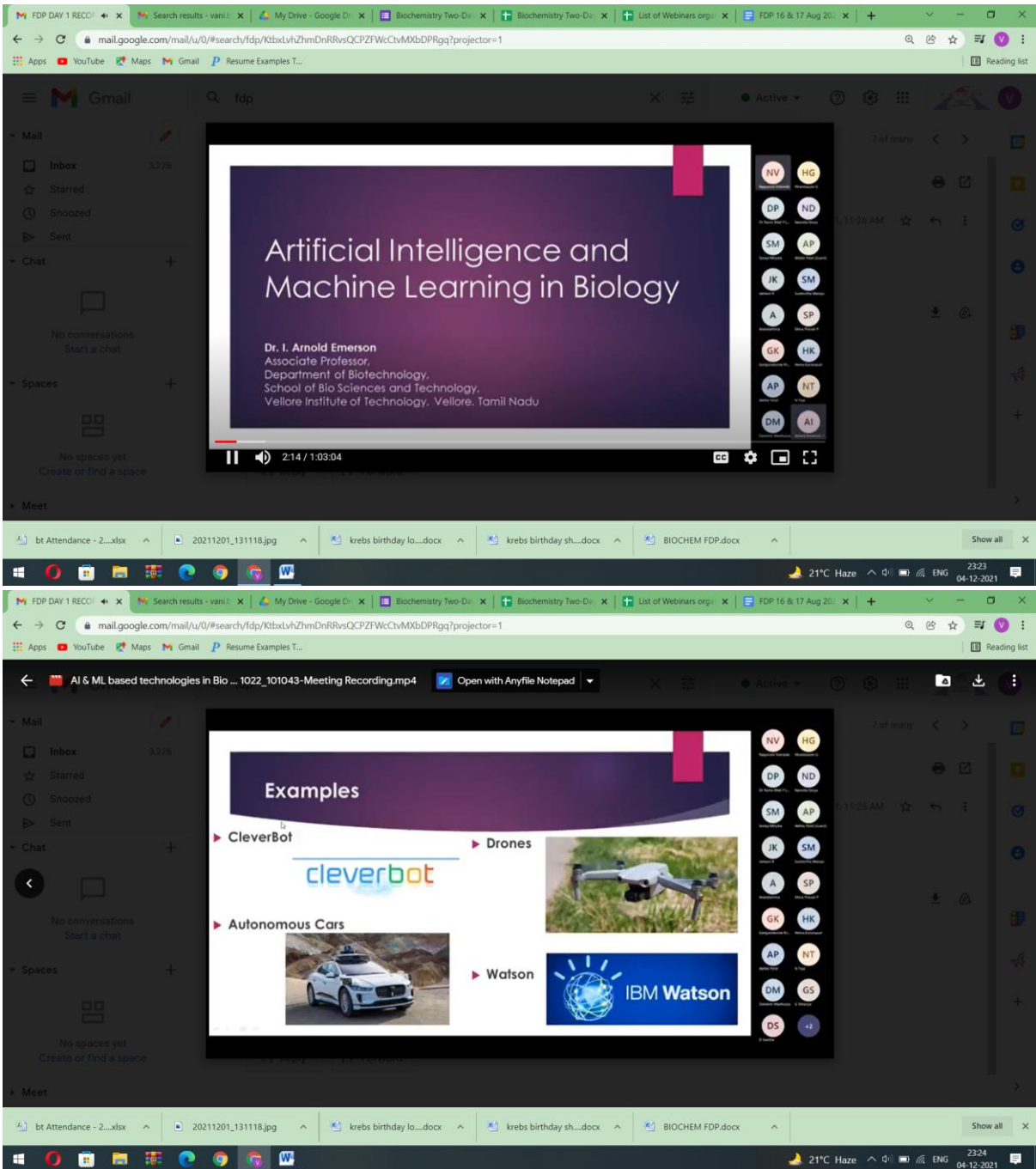
Artificial Intelligence and Machine Learning in Biology

Dr. I. Arnold Emerson
Associate Professor,
Department of Biotechnology,
School of Bio Sciences and Technology,
Vellore Institute of Technology, Vellore, Tamil Nadu

2:14 / 1:03:04

Examples

- CleverBot
- Autonomous Cars
- Drones
- Watson



The screenshot shows a Zoom meeting window with a presentation slide. The slide title is "Applications of Neural network in Drug discovery" by Mukesh Doble, Department of Biotechnology, Indian Institute of Technology Madras, Chennai, 600036, India. The slide includes a diagram of a neural network and a list of participants on the right side of the screen. The meeting ID is 1023_100535.

The screenshot shows a Zoom meeting window with a presentation slide titled "CAMM METHODOLOGY(II)". The slide contains the following text:

- Generate structures of interacting drug and polymer and adjust conformation to minimize energy levels

 Below the text are three molecular models:

- Gliclazide with Sodium alginate
- Gliclazide with Eudrafit
- Gliclazide with Gantrez

 A legend at the bottom of the slide indicates: D-DRUG, P-POLYMER, O-RED, C-GREEN, B-NITROGEN, W-HYDROGEN. The slide also shows a video player interface with a progress bar at 37:46 / 1:34:36.

8. GUEST PROFILE (IF ANY)

Prof. Mukesh Doble

Mukesh Doble is a Professor in the Department of Biotechnology at IIT Madras. He has previously worked for 20 years in Imperial Chemical Industries (ICI) and General Electric (GE) Technology centres. His areas of interest are Drug design, Biomaterials, Bioreactors and Bioremediation. He holds B. Tech and M. Tech degrees in Chemical Engineering from IIT,

Madras and a Ph. D. from University of Aston, Birmingham, UK and postdoctoral from University of Cambridge, U.K., and Texas A&M, U.S.A.

He is a fellow of Royal Society of Chemistry, London and a recipient of Herdillia Award for “Excellence in Basic Research” from Indian Institute of Chemical Engineers and The Dow Professor M.M. Sharma Distinguished Visiting Professorship in Chemical Engineering” at Institute of Chemical Technology, Mumbai. He is in the editorial board of the journal CHEMICAL ENGINEERING (McGraw Hill publ) and Phytomedicine and a member of the American and Indian Institute of Chemical engineers.

He has authored and coauthored 500+ research papers, eight books and around 15 patents. He is a founding director of Theevanam Additives and Neutraceuticals p ltd.

Prof. Arnold I Emerson

Arnold Emerson Isaac is a senior associate professor at VIT University, Tamil Nadu. He has 15+ years of experience in teaching and academic research. He has received his PhD from the School of Bio Sciences and Technology at the VIT University, India. He obtained his post-doctoral studies at the Weill Cornell Medical College, Qatar.

He has more than 30 publications in reputed national and international journals. His core areas of work include structural bioinformatics, computational biology and complex network analysis.

9. **FEED BACK IF ANY:** As it on line session the participants given their opinion in the program and appreciated the organizing team

**10. ATTACHMENTS:
EVENT/ACTIVITY PROPOSAL**

Aurora's Degree and PG College

(ACCREDITED BY NAAC WITH 'B++' GRADE)

Chikkadpally, Hyderabad 500020

Department of Biochemistry and Genetics

EVENT PROPOSAL

for

Faculty Development Program



Event/Activity Name: Faculty Development Program

Event/Activity Title: AIML Based Technologies in Biology

Faculty coordinators: Ms. P. Sangha Mokshavi and Dr. V. Nagavani

Departments: Biochemistry and Genetics

Date: 22/10/2021 and 23/10/2021

Venue: Aurora's Degree and PG College, Chikkadpally, Hyderabad

Target audience: Faculty

Platform: Online- Microsoft Teams

Level: National

Objective:

- To create awareness about the applications of AIML in Biological Research and motivate them to take up research projects
- To enlighten faculty about the role of AIML in enhancing the speed, precision and effectiveness of human efforts.

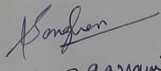
Guest/Speaker details:

Prof. Mukesh Doble
Department of Biotechnology
Indian Institute of Technology (IIT), Madras
Chennai
Founding Director, Theevanam Additives and Nutraceuticals P Ltd

Prof. I. Arnold Emerson
Bioinformatics Programming Laboratory
Vellore Institute of Technology
Vellore
Tamilnadu

Prof. R. Srivatsan
Data Analytics and Systems Biology
Institute of Bioinformatics and Applied Biotechnology
Bengaluru

Budget: Nil


V. Nagavani
Faculty Coordinators

Ms. P. Sangha Mokshavi

Dr. V. Nagavani


S. Ravi Kiran
IQAC Coordinator

Dr. S. Ravi Kiran


Principal

Dr. Viswanadham Bulusu

EVENT / ACTIVITY NOTICE

Dear All,

Greetings for the day!

We from the Department of Biochemistry invite you all for the Two-Day FDP scheduled on 22nd & 23rd october-2021 .

For further information, go through the attachment.

Thank you for your cooperation and support.

Regards,

Dr. V. Nagavani

Sr. Assistant Professor

Dept.of Biochemistry
Aurora's Degree & PG College,
Chikadpally, Hyderabad.

Dear Sir/Madam,

Department of Biochemistry invites faculty and Research Scholars to a Two Day Faculty Development Programme on
"AI & ML Based Technologies in Biology"

Date: 22 & 23 October, 2021

Time: 10:00 am to 12:00pm

Connect @ MICROSOFT TEAMS

Kindly join and make the programme successful.

Link of the event:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_NTE5NTVkJmMtZTAzMy00YWViLTg1YmUtODQ2ZTZiNzZhOTRi%40thread.v2/0?context=%7b%22Tid%22%3a%22c54c03a8-3df1-4ce2-b222-d5e74874db70%22%2c%22Oid%22%3a%22c731119c-5519-4d76-ae4-f267850aef6c%22%7d

For any further queries contact the coordinators.

Coordinators:

Dr V Nagavani - 9100001638

P Sangha Mokshavi - 91000001634

Thank You

RECEIPTS (IF ANY): nil

CERTIFICATES (IF ANY)

LETTERS OF COMMUNICATION (IF ANY)

FDP RECORDINGS LINKS:

Day 1:

[https://doc-0k-1k-](https://doc-0k-1k-docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/v0q27nvo90nbm52icbpop7r6hmq593f/1638646050000/07506646662051026966/07506646662051026966/1C519qx-fqFzht04zUCz13LEqeuvUKKd?e=download&authuser=0)

[docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/v0q27nvo90nbm52icbpop7r6hmq593f/1638646050000/07506646662051026966/07506646662051026966/1C519qx-fqFzht04zUCz13LEqeuvUKKd?e=download&authuser=0](https://doc-0k-1k-docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/v0q27nvo90nbm52icbpop7r6hmq593f/1638646050000/07506646662051026966/07506646662051026966/1C519qx-fqFzht04zUCz13LEqeuvUKKd?e=download&authuser=0)

Day 2:

[https://doc-04-1k-](https://doc-04-1k-docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/7evm2l2u)

[docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/7evm2l2u](https://doc-04-1k-docs.googleusercontent.com/docs/securesc/29q7ktqge7r9suds994keq77s41ugjci/7evm2l2u)

[95l44773ankp0948iv6nm1et/1638646125000/07506646662051026966/07506646662051026966/1FwjgIPIb26DAxGIMLzCWwsZgrTcLBJvM?e=download&authuser=0](https://www.ankp0948iv6nm1et/1638646125000/07506646662051026966/07506646662051026966/1FwjgIPIb26DAxGIMLzCWwsZgrTcLBJvM?e=download&authuser=0)