SCIENCE ACADEMIES LECTURE WORKSHOP
ON
"PROTEIN ENGINEERING AND APPLICATIONS"
20th – 21st January
Organized by Department of Biotechnology
GIS, GITAM University

Department of Biotechnology, GITAM Institute of Science, GITAM University is organizing a
two day Science academies sponsored lecture workshop program. This is for the first time in the
history of Visakhapatnam that such a lecture program is organized.

In this era we have witnessed tremendous growth in protein chemistry. We have seen
breakthroughs we thought impossible. A new world of Proteomics and Protein Engineering
emerged which is now wide open for research and development. Keep in view this current trend
the present lecture program is organized on "Protein Engineering and its Applications"

The two day lecture workshop included four scientific sessions. Eminent scientists like Dr.
Shekhar Mande, senior scientist, Centre for DNA Fingerprinting and Diagnostics (CDFD), Prof.
T.M. Radhakrishnan, Andhra University, Dr. Rajan Sankaranarayanan, senior scientist, Centre for
Cellular and Molecular Biology (CCMB), Prof. T. Shekhar, GITAM University, Dr. Sharmistha
Banerjee, University of Hyderabad and Dr. T. Srinivasan, GITAM University have given talks in
this program.

The main aim of this workshop is to develop interest for science among young students. The
workshop gives ample scope for the students to interact directly with the leading scientists in the
field. The lecture workshop also aims to create awareness about the potential of modern biology to
the young graduate and postgraduate students. The seminar will not only help us keep abreast of
the cutting edge research in this field, but will enable us to develop good scientific temper.
DAY-1 (20.01.2011)

The inaugural function of the science academies lecture workshop went on nicely. The program started with a prayer song to lord Ganesha followed by lighting of the lamp by the dignitaries.

Around 260 Students from various degree Colleges like Aditya, PRISM, Presidency, Visakha Womens Degree College etc in Visakhapatnam attended the lecture workshop. As the lecture workshop is sponsored by Science Academies, students were given free registration material and two day lunch along with tea and snacks.

Prof. G. Subrahmanyam Hon’ble Vice chancellor felicitated the chief guest Dr. Shekhar Mande, Senior Scientist, CDFD and Guest of Honour Prof. T.M. Radhakrishnan, Andhra University.

Dignitaries like Prof. G. Subrahmanyam, Vice Chancellor, GITAM University, Dr. Shekhar Mande, senior scientist, Centre for DNA Fingerprinting and Diagnostics (CDFD), Prof. T.M. Radhakrishnan, Andhra University, Prof. Laxmana Das, Principal, GITAM Institute of Science, gave stimulating and electrifying speeches on the lecture programme.

Prof. G. Subrahmanyam Vice Chancellor, GITAM University told about the importance of scientific research in reducing food prices and engineering proteins for common man.

Dr. Shekhar Mande, told about the importance of pure sciences and in particular the role of students in this process. He also mentioned about the various activities Science Academies are initiating to promote and nurture scientific interests among young students. In his key note talk he told about the importance of physics in biology.

The Inaugural function ended with Miss. Pavani Bulusu’s vote of thanks.
DAY-2 (21.01.2011)

The second of the two day lecture program started with the key note lecture by Dr. Sankaranarayanan, Senior scientist from Centre for Cellular and Molecular Biology, Hyderabad. His talk highlighted how the existing stable folds can be used for multiple functions. A few examples from ongoing structure-function studies on proteins from *Mycobacterium tuberculosis* that are involved in lipid synthesis and on virulence factors of a rice pathogenic bacteria, *Xanthomonas oryzae pv. oryzae* (Xoo) from his lab were presented. Finally he concluded how such unique strategies employed in the context of pathogenic bacteria could also be used for inhibitor design that can possibly be developed as drug candidates.

The above talk is followed by Prof. Shekhar Talluri’s talk on Protein engineering and thermal stability. His talk focused on how proteins with increased thermal stability for both industrial and analytical applications can be made by various techniques. A number of methods are discussed which are now available to predict the thermal stability of an engineered protein.

The final talk of the second day post lunch session was on protein engineering in plants. The ever-changing biotic and abiotic environment of the plants always challenges their existence. The plants modify or evolve new proteins to sustain themselves. Proteins engineered for improving the plants and their products are presented in detail in his talk.

The second day concluded with the valedictory function. Dignitaries like Prof. D. Harinarayana, Pro-VC GITAM University, Prof. Laxmana Das, Principal, GITAM Institute of Science, Dr. Sharmistha Banerjee, Associate Professor, University of Hyderabad, Dr. M. Anitha, Assistant Professor, GITAM Institute of Science, GITAM University gave motivating speeches to young graduate students.
Science academies lecture workshop
20th – 21st January
Program schedule
Day-1 (20th January 2011)

9.00AM-10.00AM  Registration

10.00AM-10.45AM Inaugural function

10.45AM-11.00AM TEA BREAK

11.00AM-12.15PM Lecture by Dr. Shekhar Mande
Senior Scientist, Centre for DNA Finger Printing and Diagnostics (CDFD).
“Networks in Biology: Interface of Physics and Biology”

12.15PM-1.30PM Lecture by Prof. T.M. Radhakrishnan
Professor, Department of Biochemistry, Andhra University
“Protein structure and enzyme engineering”

1.30PM-2.30PM LUNCH BREAK

2.30PM-3.30PM Lecture by Dr. Sharmistha Banerjee
Assistant Professor, Department of Biochemistry, University of Hyderabad.
“Tuberculosis: the challenges ahead”

3.30PM-4.00PM TEA BREAK
Science academies lecture workshop
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Program schedule
Day-2 (21st January 2011)

10.30AM-11.30AM
*Lecture by Dr. R. Sankaranarayanan*

Senior Scientist and Group Leader, Centre for Cellular and Molecular Biology (CCMB)

“Evolution of virulence properties from common folds in pathogenic bacteria”

11.30AM—12.30PM
*Lecture by Prof. S. Talluri*

Professor, Department of Biotechnology, GIT, GITAM University

“Protein Engineering and Thermal Stability”

12.30PM-1.30PM
LUNCH BREAK

2.00PM-3.00PM
*Lecture by Dr. T. Srinivasan*

Assistant Professor, Department of Biotechnology, GIS, GITAM University

“Protein engineering in plants”

3.00PM-3.30PM
TEA BREAK

3.30PM-4.00PM
Valedictory function

4.00PM-4.30PM
Distribution of attendance certificates