



GLOBAL INITIATIVE OF ACADEMIC NETWORKS
(GIAN)

Cell Engineering for Biomedicine- Basics to Applications February 06-10, 2017

Resource Faculty: Renu WADHWA, DAILAB, AIST Japan

Host Faculty: Gurcharn KAUR- GNDU, Amritsar

Global Initiative for Academic Network Programme (MHRD, Govt of India)

Course Plan for

Cell Engineering for Biomedicine - Basics to Application

(Feb 06 – 10, 2017)

Resource Person: Dr. Renu Wadhwa, Prime Senior Research Scientist & Head, DAILAB, Biomedical Research Institute, AIST, Tsukuba Science City, Japan.

Venue: Conference Hall, Guru Nanak Bhavan, Guru Nanak Dev University, Amritsar

Date	Topic	Duration	Remarks
Feb.06,2017	Inaugural session and Mini Symposium "Herbs for Health - Bioactives, Biology & Biotechnology"	9.30 am – 1.10 pm	
	1.Introduction to Cell Engineering - Need, Seed and Solutions from the Studies on Regulation of Normal Cell Growth Controls a. Normal cell senescence markers and their manipulations b. Senescence as a tumor suppressor mechanism	3.00 pm-4.00 pm	
Feb.07.2017	2.Human Cell Culture Technologies for Senescence Research a. Senescence of human cells b. Differentiation of human cells in culture c. Induction of senescence in cancer cells – a strategy for cancer therapeutics	10.00 am-12.00 Noon	
	3.Study of Tumor Suppressor and Oncogenic Pathways and Their Relevance to Cancer Therapy a. p53 tumor suppressor b. pRb tumor suppressor c. Stress and DNA damage response	1.00 pm-3.00 pm	

Feb.08.2017	4. Molecular Linking of Stress, Aging and Cancer- Its Manifestation in Cell Culture and Cell Engineering a. Heat shock proteins as regulators of cell proliferation and stress signaling b. Heat shock protein, mortalin, in cell engineering technologies	10.00 am-12.00 Noon	
	5. Gene and Protein Overexpression and Knockdown Technologies for Cell Engineering a. Ribozymes b. RNAi (RNA interference) c. miRNA (Micro RNA) d. Antibody	1.00 pm-2.00 Noon	
Feb.09,2017	6.Cell Based Loss of Function Screenings for Gene Discovery and Characterizations and Their Implications to Cell Engineering a. siRNA library-based screenings b. Ribozyme-based screenings c. miRNA-based screenings	10.00 am-12.00 Noon	
	7. Cell Imaging and Cell Engineering a. Illumination of cells with fluorochromes and quantum dots b. Real time assays	1.00 pm-3.00pm	
Feb.10,2017	8.Training for Scientific Writing and Presentations a. Using Endnote b. Preparing and presenting data	10.00 am-11.00 am	

Highlights

*Inaugural attended by 5 senior faculty members from BMRI, AIST- Japan

*Number of students attended- 134 from different districts of Panjab

*Overall comments- Inspirational, Motivational, Excellent Materials and teaching methods, Evaluation average score 4.8/5.0.



GIAN (Global Initiatives for Academic Networking)@ GNDU, Amritsar
by Renu Wadhwa and Gurcham Kaur at GNDU (Feb 6-10, 2017)



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Success smiles upon completion of one week of GIAN!





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