



# FOOD FOR A HEALTHY PLANET

2-7 April 2018



Global Initiative of Academic Networks (GIAN)

# OVERVIEW



Food is essential for life. At its most basic level, food is necessary for survival. Millions of people all over the world also rely on food production for their livelihood.

There are a number of challenges facing local and global food systems. Close to 800 million people go to bed hungry every night and children are dying from undernutrition and infectious diseases. At the same time obesity, with its associated overnutrition and micronutrient deficiencies, is now considered an epidemic. Consequently, many countries such as India are facing what has been termed the 'triple burden of malnutrition'. Combating the issue requires reforming food policies and reshaping food systems for the promotion of adequate and healthy diets and sustainable and equitable food systems.

In 2050, the food system will need to accommodate a growing population that is predicted to reach 10 billion people. This needs to be achieved with the added pressures of climate change and the competition for arable land with biofuel production.

The context of food in society is also undergoing constant change. Globalization, free trade agreements, rising incomes and changing dietary preferences are all impacting on the food system. Furthermore, consumer concerns for animal welfare and the introduction of genetically modified crops mean that the food system needs to continually adapt. It is a commonly held belief that a new food paradigm is required to meet these challenges and to achieve global food security and sustainability.

This course will educate students, the scientific community, policymakers, industry representatives, community leaders and the general public on the connections between global challenges, food production and human health in order to foster healthy solutions for a sustainable future.



# OBJECTIVES

## Upon completion of the course, participants will:

- Understand the connections between the natural environment, food production, energy choices and human health, as well as understand the pressures that are being placed on the global food system (i.e. population growth, lack of equity, climate change, resource depletion).
- Have a cross disciplinary understanding of the food system in order to provide broad expertise and contribute to innovation that meets the needs of industry and society.
- Build on society's knowledge about the food-environment-health nexus, and be able to critically evaluate government policies that relate to food production and health, as well as participate in policy debate.
- Be empowered to make informed decisions about technologies such as genetic modification as well as digital and remote sensing technologies in relation to food production systems.



## Who should Attend?

- Students (all levels) and faculty from recognized academic and technical institutions.
- Executives, engineers and researchers from manufacturing, services and government organizations including R&D laboratories.

# SCHEDULE

The course will be run over 5 days with 7 hours of lectures and 5 hours of tutorials.

DATE	LECTURE
<b>Lecture 1</b> <b>Date &amp; Time:</b>	Human dietary needs: energy, protein and vitamins; 2nd April, 2018, 11 AM
<b>Lecture 2</b> <b>Date &amp; Time:</b>	Food consumption trends: relationships with demographic and lifestyle changes; 2nd April, 2018, 2:30 PM (Lecture + Tutorial)
<b>Lecture 3</b> <b>Date &amp; Time:</b>	Food Security and climate change; 3rd April, 2018, 10:00 AM (Lecture + Tutorial)
<b>Lecture 4</b> <b>Date &amp; Time:</b>	Food, nutrition and Health nexus; 4th April, 2018, 10:00 AM (Lecture + Tutorial)
<b>Lecture 5</b> <b>Date &amp; Time:</b>	New imperatives to improve the nutritional quality of foods; 5th April, 2018, 10:00 AM (Lecture + Tutorial)
<b>Lecture 6</b> <b>Date &amp; Time:</b>	Functional' foods through agricultural and food processing innovations: 6th April, 2018, 10:00 AM (Lecture + Tutorial)
<b>Lecture 7</b> <b>Date &amp; Time:</b>	Challenges and opportunities for food security in India 7th April, 2018, 10:00 AM (Lecture + Examination)

# REGISTRATION

Prior registration is mandatory for ALL students as per the procedure provided on the GIAN web portal.

JNU M.Sc. And M.A. students	: Free
JNU research students (M.Phil. And Ph.D.)	: Rs. 1000
JNU Faculty	: Rs. 1000
Other Institutions (research students)	: Rs. 2000
Other Institutions (faculty)	: Rs. 4000
Other government institutions	: Rs. 10000
Industry and private institutions	: Rs. 10000
Participants from outside India	: Rs. 10000

Accommodation is the sole responsibility of the participant. A small number of rooms may be available on request.

**Venue:** SLS, JNU, New Dehli (new campus)

**Register at:** <http://www.gian.iitkgp.ac.in/GREGN/index>

**GIAN Website:** <http://www.jnu.ac.in/GIAN/>

# FACULTY

**Professor Mohan B Singh** is Professor of Agriculture Biotechnology and Head of the School of Agriculture and Food at the University of Melbourne, the number one ranked Australian University. His teaching roles at the University of Melbourne include development and co-ordination of 'Food for a Healthy Planet', a highly acclaimed series of interdisciplinary undergraduate subjects that cover topics relating to global food security and environmental sustainability. Professor Singh has published more than 180 papers in international refereed journals and 50 book chapters. The breadth of his scholarly contributions to research are evident from his contributions, at the highest level, to plant reproductive biology, crop biotechnology and molecular allergology.

**Professor Ashwani Pareek** is Professor at School of Life Sciences, Jawaharlal Nehru University, New Delhi. He is also adjunct Professor at University of Western Australia. He has been teaching Plant Physiology and Plant Biotechnology at masters and PhD level since past two decades. His lab is one of the well known lab for his pioneering work on abiotic stresses, such as salinity, drought and high temperature. Using the tools of forward and reverse genetics, his group has generated several genotypes of rice with improved stress tolerance. He has been granted patents in USA, China, Europe, Philippines and other countries on the discovery of 'osmosensors' and their use in improving tolerance to multiple abiotic stresses. In addition, he has published more than 100 papers in international refereed journals and 40 book chapters.

**Dr. Rajbeer Singh** is an Assistant Professor at the Center for Studies in Science Policy, School of Social Sciences at Jawaharlal Nehru University, New Delhi. He offers a Masters level course titled 'Perspectives on Food Science, Technology and Innovation Policy'. His expertise are in Renewable Energy Resources and Technologies, Food Policy and Security, Science, Technology and Innovation Policy, Entrepreneurship and E-mobility. He has pioneered responsible Innovation approach for creating innovations based on new emerging technologies with accountability. His expertise and experiences reflects intersectionality of academia, industry and government



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