Biopharmaceuticals are medical drugs produced using biotechnology. They are proteins (including antibodies), nucleic acids (DNA, RNA or antisense oligonucleotides) used for therapeutic purposes. With exponential market growth of the industry globally, the major challenges in biopharmaceutical manufacturing are to achieve product quality, stability with high process yields and low cost.

**SYMPOSIUM HIGHLIGHTS**

**Process Technologies**
- Biopharmaceutical drug design and development
- Analytical characterization of biopharmaceuticals
- Biopharmaceutical regulatory affairs
- Cell culture media and process optimization
- Biopharmaceuticals: Downstream process and in process analytics
- Biopharmaceuticals: Formulation and stability

**Product Applications**
- Monoclonal antibodies, antibody drug conjugates
- Proteins and enzymes, fusion proteins and conjugates
- Vaccines and VLPs, peptides and oligonucleotides
- Natural products

This first of its kind symposium organized for the biopharmaceutical community consists of lectures and panel discussions on cell culture development, process engineering and optimization along with formulation, stability and analytical characterization for proteins and biopharmaceuticals. The comprehensive program will introduce the latest in research and technological developments in the industry.

**WHO SHOULD ATTEND**
- Personnel involved in biopharmaceutical drug design and development
- Analytical characterization of biopharmaceuticals
- Biopharmaceutical regulatory affairs
- Cell culture media and process optimization
- Biopharmaceuticals: Downstream process and in process analytics
- Biopharmaceuticals: Formulation and stability
- Monoclonal antibodies, antibody drug conjugates
- Proteins and enzymes, fusion proteins and conjugates
- Vaccines and VLPs, peptides and oligonucleotides
- Natural products

**CONFIRMED SPEAKERS**

**Dr. Effendi Widjaja**
Principal Scientist
Merck Sharpe & Dohme | Singapore

**Dr. Daniel Wills**
Senior Research Expert
Roquette | France

**Dr. Kean Chong Loh**
Biopharma process and GMP consultant | Singapore

**Dr. Peter M. Inhat**
Principal Scientist
AbbVie | United States of America

**Dr. Say Kong Ng**
Senior Scientist
Bioprocessing Technology Institute | Singapore

**Dr. Niki Wong**
Principal Scientist
AbbVie | Singapore

**Dr. Sachin V. Jangam**
Senior Lecturer
NUS | Singapore

**Dr. Sandeep B. Kale**
Assistant Professor
Institute of Chemical Technology | India

**Dr. Yogesh Kumar Mishra**
Research Manager
Roquette | Singapore

**Dr. Chi Zhang**
Senior Scientist
Roquette | Singapore

More to come...

For more details & registration, visit [www.geanus.nus.edu.sg](http://www.geanus.nus.edu.sg)
WHO WE ARE
The Organizers

Roquette

Roquette is a global leader in plant-based ingredients and a pioneer of new vegetal proteins. In collaboration with its customers and partners, the Group addresses current and future societal challenges by unlocking the potential of Nature to offer the best ingredients for Food, Nutrition and Health markets. Roquette currently operates in over 100 countries, has a turnover of around 3.3 billion euros and employs 8,400 people worldwide.

Roquette also produces pharmaceutical and biopharmaceutical excipients, offering multi-compendial grade materials for both upstream and downstream applications. The Roquette Biopharma portfolio brings new solutions anchored by technical expertise, enabling the company to stand out as a premier partner in applications related to cell culture, downstream processes and improving the stability of therapeutic proteins.

GEA-NUS Pharmaceutical Processing Research Laboratory

GEA-NUS Pharmaceutical Processing Research Laboratory was established in April 1997 in the Department of Pharmacy, National University of Singapore under the auspices and support of the National Science and Technology Board (predecessor of A*STAR), National University of Singapore and GEA. Since 1997, GEA-NUS has progressed into a renowned pharmaceutical technology research centre and continues to host individuals who are dedicated to advancing pharmaceutical science and technology, nurturing many competent professionals and assisting pharmaceutical companies to maintain or improve their competitive edge in the global market.

ABOUT THE VENUE

Singapore is one of only 3 city states in the world, with a population of nearly 5.8 million. More than 6,000 skilled workers are employed in 8 of the top 10 pharmaceutical companies here.

Please note: Information provided is only a guide for the symposium. Contents may be modified, in cases of unforeseen circumstances.