



UNIVERSITAS GADJAH MADA

**FREE** REGISTRATION FEE

**Application Form**

<https://admission.ugm.ac.id/registration/>



# INTERNATIONAL SUMMER COURSE ON HUMANITARIAN ENGINEERING:

## THE ROLE OF ENGINEERS AND SCIENTISTS DURING PANDEMIC ERA

**5-17 July 2021**

The lectures will be held virtually using Zoom

### Course Description

This summer course is targeted for Undergraduate and Graduate Students who have background or encouraging their enthusiasm in the study of engineering (in all departments/subjects) and scientists, especially those who are interested in the role of engineers during pandemic era of COVID-19. In addition, students who willing to broaden their window of knowledge into cross-discipline and inter-discipline in terms of humanitarian engineering are also welcome. Working people/ practitioner who are interested to participate in the event are very most welcome. The course will be transferable and equivalent to 3 credit units. Thus, all of participants are required to attend minimum 80% of courses, and to take the assessment (quiz) of each courses to get the certificate of attendance.



**Prof. Georgina Kremmyda**  
(University of Warwick, UK)  
Challenges and opportunities in Engineering Higher Education in the pandemic era



**Prof. Takayuki Suzuki**  
(Yokohama National University, Japan)  
Cross-shore Sediment Transport in the Nearshore Zone



**Prof. Juliana Sutanto**  
(Lancaster University, UK)  
Interdisciplinary Collaborations with Engineers to Create Impact



**Dr. Marfiah binti Ab.Wahid**  
(Universiti Teknologi MARA, Malaysia)  
Sustainable Solid Waste Management in Malaysia



**Dr. Wolfgang Bruestle**  
(Professional, Germany)  
Seismology and Earthquake Hazard



**Dr. Hazrina Mansor**  
(Universiti Teknologi MARA, Malaysia)  
The impact of COVID-19: How engineers are making a difference?



**Assoc. Prof. Kunn Hadinoto Ong**  
(NTU, Singapore)  
Inhaled Therapy for Superinfection in Covid-19 Patients (keywords: lung infection, pulmonary drug delivery)



**Dr. Danang Sri Hadmoko**  
(Universitas Gadjah Mada, Indonesia)  
Indonesia As Volcanic Islands: Hazards In Tropical Paradise



**Dr. Effendi Wijaya**  
(MNC Pharmaceutical, Singapore)  
Working From Home As A Scientist Or Engineer During Covid-19 Pandemic



**Assoc. Prof. Dr.-Ing Masria Mustafa**  
(Universiti Teknologi MARA, Malaysia)  
Woman and Mobility: Mind the Gap!



**Prof. Muhammad Aziz**  
(Tokyo University, Japan)  
Blessing in Disguise: Accelerating Innovative and Adaptive Ideas in Energy Sector Following COVID-19



**Ir. Dr. Julian Lee**  
(Cinntek International, New Zealand)  
The Impacts of COVID-19 Pandemic on the Construction Industries and Acceleration of Digitalization



**Dr. Vu Van Nghi**  
(Ho Chi Minh University of Transport, Vietnam)  
Challenges and Opportunities for engineers post COVID-19



**Prof. Djoko Legono**  
(Universitas Gadjah Mada, Indonesia)  
A Perception On Roles And Activities Of Indonesian Engineers During Covid-19 Pandemic



**Dr. Iria Nurika**  
(Universitas Brawijaya, Indonesia)  
Integrated Biorefineries for Circular Green Economy



**Engr. Mohd Rizal Ahmad**  
(Reinforced Earth Malaysia SDN BHD)  
Current Practice for Crossing, Retainment & Protection of Slopes



**Prof. Radianta Triatmadja**  
(Universitas Gadjah Mada, Indonesia)  
Improving Tsunami Preparedness In Indonesia



**Assoc. Prof. Chan Chee Ming**  
(Universiti Tun Hussein Onn Malaysia)  
Application of Dredged Marine Soil for a Sustainable Construction



**N.V. Kumaran**  
(Bina Initiatives Sdn Bhd, Malaysia)  
BIM Integration For Post Pandemic Construction



**Dr. Eko Agus Suyono**  
(Universitas Gadjah Mada, Indonesia)  
Microalgae Biorefinery For Sustainable Development



**Dr. Issam Qamhia**  
(University Of Illinois, USA)  
New Advancements And Challenges In Pavement Engineering



**Assoc Prof Dr Muhammad Hussain Ismail**  
(Universiti Teknologi MARA, Malaysia)  
Reimagining Plastic During Pandemic COVID 19: The Story of UTM Faceshield



**Prof. Kuwat Triyana**  
(Universitas Gadjah Mada, Indonesia)  
Invention of GeNose to detect Covid-19 in Indonesia



**Dr. Iskandar Halim**  
(Institute of Chemical and Engineering Sciences, Singapore)  
Sustainable COVID-19 Vaccine Supply Chain?



**Prof. Krishna Suryanto Pribadi**  
(Institut Teknologi Bandung, Indonesia)  
Post Disaster Housing Reconstruction during Covid-19 Pandemic



**Assoc. Prof. Dr. Norshuhaila Mohamed Sunar**  
(Universiti Tun Hussein Onn Malaysia)  
Bioremediation technology for wastewater treatment: Phycoremediation strategies and potentials



**Dr. Angzaz Sari Mohd Kassim**  
(Universiti Tun Hussein Onn Malaysia)  
Human Engineering: 'Mind' Your Mind



**Ts. Dr. Nur Hashimah Alias**  
(Universiti Teknologi MARA, Malaysia)  
Exploring the potential of photocatalytic nanofiber in the treatment of wastewater

### Learning Outcome

After completing the summer course, students are expected to be able to:

1. Understand basic knowledge on how to manage health service and public activities during pandemic era from engineers/scientists point of view.
2. Understand and analyze technical information and evaluating.
3. Identify the response on pandemic, trauma healing, and post-pandemic era from engineers/scientists point of view.
4. Understand social condition, economy and culture of the society during pandemic era, then able to assess the future challenges post-pandemic era.
5. Have the capabilities to collaborate cross-disciplinary and inter-disciplinary in the background of humanitarian engineering.
6. Some of the courses may not be related to the pandemic but contribute to fulfill the overall learning outcome.

### Method and Output

The Summer Course is held with the combination several activities:

1. Online lectures and quiz.
2. Asynchronous activity by group discussion.
3. Group presentation after completing the lectures.
4. Students are able to have further correspondence with professors and supervisors for their own-project, joint-research, thesis supervision and or joint publication.

### Partner Organizations:



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[scenhance.ft@ugm.ac.id](mailto:scenhance.ft@ugm.ac.id)

Shinta Ayu

+62 857 2958 6086