



**Programme of
ECS Thailand Summer School
(ECSiTH) 2024**

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Unveiling Sustainable Energy

13 – 17 July 2024

Bangkok, THAILAND

Day#1 Programme: Saturday 13 July 2024 (Chulalongkorn University, Bangkok, Thailand)

Time	Programme
08.00 - 09.00	Registration @ Room 308, 3 rd floor, Building: MHMK
09.00 – 09.10	Welcoming Remarks by Prof. Anongnat Somwangthanoj, Head of Summer School
09.10 – 09.30	<ul style="list-style-type: none"> • Opening Remarks by <ul style="list-style-type: none"> – Prof. Pranut Potiyaraj, Dean of Faculty of Science – Assoc. Prof. Witaya Wannasuphprasit, Dean of Faculty of Engineering • Photo session
09.30 – 10.00	Coffee Break
10.00 – 11.30	Lecture#1 (Stanford, USA) – Prof. Turgut M. Gür <i>Topic: Overview of Electrochemical Energy Storage for Renewables</i>
11.30 – 13.00	Lunch – Meal Box
13.00 – 14.00	Lecture#2 (SNU, South Korea) – Prof. Suk Won Cha <i>Topic: Fuel Cell and Hydrogen Technology: Past and Future</i>
14.00 – 15.00	Lecture#3 (PNU, South Korea) – Prof. Joonkyung Jang <i>Topic: Computational Studies on the Energy Conversion and Storage Materials</i>
15.00 – 15.30	Coffee Break
15.30 – 16.00	Lecture#4 (CU, Thailand) – Asst. Prof. Prasit Pattananuwat <i>Topic: Technology of Supercapacitors</i>
16.00 - 17.00	Lecture#5 (KAIST, South Korea) – Prof. Tae Kyu Kim <i>Topic: Time-resolved X-ray spectroscopic studies at X-ray free electron lasers</i>
17.00 – 18.00	Free time
18.00 – 22.00	Welcome Dinner @ Mandarin Hotel

Stanford: Stanford University;

SNU: Seoul National University;

PNU: Pusan National University;

CU: Chulalongkorn University;

KAIST: Korea Advanced Institute of Science & Technology

All the lectures will be held at Room 308, 3rd floor, [Building: MHMK](#)

Day#2 Programme: Sunday 14 Sunday 2024 (Chulalongkorn University, Bangkok, Thailand)

Time	Programme
09.00 – 10.00	Lecture#6 (GNU, South Korea) – Prof. Myong Yong Choi <i>Topic: Progress in pulsed laser approaches for energy and sustainability</i>
10.00 – 10.30	Coffee Break
10.30 – 11.30	Lecture#7 (KHU, South Korea) – Prof. Jae Kyu Song <i>Topic: Optical Properties of Heterostructure Nanorod Laser</i>
11.30 – 12.30	Lecture#8 (SNU, South Korea) – Prof. Sangwook Park <i>Topic: Hydrogen Energy Value Chain - Production, Storage, and Transportation</i>
12.30 – 14.00	Lunch – Meal Box
14.00 – 15.30	Special session#1 – Nexus <i>From lab to industry: Powering business with electrochemistry</i>
15.30 – 16.00	Coffee Break
16.00 – 17.00	Special session#2 – Prof. Turgut M. Gür <i>Global Energy and Emission Challenges: Alternative Pathways to Net-Zero</i>

GNU: Gyeongsang National University;

KHU: Kyung Hee University;

SNU: Seoul National University;

CU: Chulalongkorn University

All the lectures and the special sessions will be held at Room 308, 3rd floor, [Building: MHMK](#)

Day#3 Programme: Monday 15 July 2024 (Chulalongkorn University, Bangkok, Thailand)

Time	Programme
09.00 – 10.00	Lecture#9 <online> (GNS, New Zealand) – Prof. John Kennedy <i>Topic: Surface Engineering for Sustainable Energy Generation and Storage</i>
10.00 – 10.30	Coffee Break
10.30 - 11.00	Lecture#10 (CU, Thailand) – Dr. Chanon Pornrungrroj <i>Topic: Solar utilisation for fuels</i>
11.00 – 11.30	Lecture#11 (MMRI / CU, Thailand) – Dr. Rongrong Cheacharoen <i>Topic: Solar cell technology</i>
11.30 -12.00	Lecture#12 (MMRI / CU, Thailand) – Dr. Jiaqian Qin <i>Topic: High energy density of Li-ion battery</i>
12.00 – 13.30	Lunch – Meal Box
13.30 – 17.00	Parallel Laboratory Practices, <i>Location: TBA</i> – <ul style="list-style-type: none"> • <i>Flow Battery Systems: From Electrode Fabrication to Cell Operation and Testing</i> <ul style="list-style-type: none"> ○ Assoc. Prof. Soorathep Kheawhom (Faculty of Engineering, CU) • <i>Electrochemical catalysis for Carbon dioxide conversion</i> <ul style="list-style-type: none"> ○ Prof. Patchanita Thamyongkit (Faculty of Science, CU) • <i>Primary Battery Recycle</i> <ul style="list-style-type: none"> ○ Assoc. Prof. Rojana Pornprasertsuk (Faculty of Science, CU) • <i>Supercapacitor Workshop: Synthesis, Cell fabrication, and Testing</i> <ul style="list-style-type: none"> ○ Asst. Prof. Prasit Pattanuwat (Faculty of Science, CU) • <i>Molecular Dynamics (MD) Simulations</i> <ul style="list-style-type: none"> ○ Dr. Manaswee Suttipong (Faculty of Science, CU) • <i>High-energy-density Li-ion batteries</i> <ul style="list-style-type: none"> ○ Dr. Jiaqian Qin (MMRI, CU) • <i>Porous Membranes from Electrospinning</i> <ul style="list-style-type: none"> ○ Dr. Manunya Okhawilai (MMRI, CU) • <i>In-situ XRD</i> <ul style="list-style-type: none"> ○ Dr. Rongrong Cheacharoen (MMRI, CU) • <i>Sodium-ion batteries: Biomass-derived hard carbon materials for anode</i> <ul style="list-style-type: none"> ○ Dr. Chakrit Sriprachuabwong (ENTEC)

GNS: Institute of Geological and Nuclear Sciences Limited;

SNU: Seoul National University;

MMRI: Metallurgy and Materials Science Research Institute;

CU: Chulalongkorn University

All the lectures will be held at Room 308, 3rd floor, [Building: MHMK](#)

Day#4 Programme: Tuesday 16 July 2024
(Chulalongkorn University, Bangkok, Thailand)

Time	Programme
09.00 – 10.00	Lecture#13 (CityU, China) – Prof. Ruiquin Zhang <i>Topic: Computational approaches to optimal functional materials for energy conversion and storage</i>
10.00 – 10.30	Coffee Break
10.30 – 11.00	Lecture#14 (SLRI, Thailand) – Dr. Pinit Kidkhunthod <i>Topic: Synchrotron-based XAS as An Advanced Tools for Energy Materials Characterization</i>
11.00 – 12.00	Special session#3 (NTU, Singapore) – Prof. Hong Jin Fan <i>Prepare your paper for publication</i>
12.00 – 13.30	Lunch – Meal Box
13.30 – 16.00	<p>Parallel Laboratory Practices, Location: TBA –</p> <ul style="list-style-type: none"> • <i>Flow Battery Systems: From Electrode Fabrication to Cell Operation and Testing</i> <ul style="list-style-type: none"> ○ Assoc. Prof. Soorathep Kheawhom (Faculty of Engineering, CU) • <i>Electrochemical catalysis for Carbon dioxide conversion</i> <ul style="list-style-type: none"> ○ Prof. Patchanita Thamyongkit (Faculty of Science, CU) • <i>Primary Battery Recycle</i> <ul style="list-style-type: none"> ○ Assoc. Prof. Rojana Pornprasertsuk (Faculty of Science, CU) • <i>Supercapacitor Workshop: Synthesis, Cell fabrication, and Testing</i> <ul style="list-style-type: none"> ○ Asst. Prof. Prasit Pattanauwat (Faculty of Science, CU) • <i>Molecular Dynamics (MD) Simulations</i> <ul style="list-style-type: none"> ○ Dr. Manaswee Suttipong (Faculty of Science, CU) • <i>High-energy-density Li-ion batteries</i> <ul style="list-style-type: none"> ○ Dr. Jiaqian Qin (MMRI, CU) • <i>Porous Membranes from Electrospinning</i> <ul style="list-style-type: none"> ○ Dr. Manunya Okhawilai (MMRI, CU) • <i>In-situ XRD</i> <ul style="list-style-type: none"> ○ Dr. Rongrong Cheacharoen (MMRI, CU) • <i>Sodium-ion batteries: Biomass-derived hard carbon materials for anode</i> <ul style="list-style-type: none"> ○ Dr. Chakrit Sriprachuabwong (ENTEC)
16.00 - 17.00	Lecture#15 <online> (QMUL, UK) – Prof. Ana Jorge Sobrido <i>Topic: Strategies to Engineer Efficient Electrode Structures for Application in Redox Flow Batteries: Challenges and Opportunities</i>

CityU: City University of Hongkong;

SLRI: Synchrotron Light Research Institute;

NTU: Nanyang Technological University;

QMUL: Queen Mary University of London

All the lectures and the special sessions will be held at @ Room 308, 3rd floor, [Building: MHMK](#)

**Day#5 Programme: Wednesday 17 July 2024
(Chulalongkorn University, Bangkok, Thailand)**

Time	Programme
09.00 – 10.00	Summary Presentation#1 (2 talks, 30 min each) – Participants
10.00 – 10.30	Coffee Break
10.30 – 12.00	Summary Presentation#2 (3 talks, 30 min each) – Participants
11.30 – 13.00	Lunch – Meal Box
13.00 – 14.00	Summary Presentation#3 (2 talks, 30 min each) – Participants
14.00 – 14.30	Coffee Break
14.30 – 16.00	Summary Presentation#4 (3 talks, 30 min each) – Participants
16.00 – 17.00	<ul style="list-style-type: none"> • Certificate awarding • Closing Remarks • Photo session
17.00 – 22.00	Farewell Party @ Mandarin Hotel

All the summary presentations will be held at @ Room 308, 3rd floor, [Building: MHMK](#)