



Program SEEEP High Level Summer School

"Energy storage and flexibility"

Summer school for PhD Candidates
Stockholm & Eindhoven
August 20 – August 31 2018

Set up Program

Week 1: Royal Institute of Technology (KTH) Stockholm, Sweden

Monday, 20 August, Room Q2, Q-building, group work room Lounge, Dept. Sustainable Development, Science & Engineering

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| 09.00-9.30 | Registrations & Practical information | |
| 9.30-10.30 | Welcome by KTH & TU/e | Vice President KTH |
| 10.30-11.00 | Practical information | |
| 11.00-12.00 | Opening Key note | |
| 12.00-13.00 | Lunch | |
| 13.00-15.00 | Presentation of the tasks, group work and group formation | "Format Per Alvfors" |
| 15.00-18.00 | Establishment of the project groups in their office area and work with group projects | |
| From 18.00 | Welcome reception including Dinner | Chinese Embassy |

Tuesday, 21 August, Room Q2, Q-building, group work room Lounge, Dept. Sustainable Development, Science & Engineering

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| 09.00-10.00 | Lecture : Production, Transmission and Balancing | Prof Lennart Söder (KTH) |
| 10.00-11.00 | Lecture: | Prof Zitao Yu (ZJU) |
| 11.00-12.00 | Lecture: Heat and Cold Storage in the Energy System | Prof Viktoria Martin (KTH) |
| 12.00-13.00 | Lunch | |
| 13.00-14.00 | Lecture: | Prof Xuezhi Liu |
| 13.00-17.30 | Work with group projects | |
| 17.30-19.00 | Poster presentations | |

Wednesday, 22 August, Room Q2, Q-building, group work room Lounge, Dept. Sustainable Development, Science & Engineering

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| 09.00-10.00 | Lecture : The Role of Buildings for Storage and a Flexible Energy System | Prof Björn Palm (KTH) |
| 10.00-11.00 | Lecture | Prof. Ruzhu Wang (SJTU) |
| 11.00-12.00 | Lecture: Battery Storage for a Flexible Energy System | Prof Göran Lindbergh (KTH) |
| 12.00-13.00 | Lunch | |
| 13.00-17.30 | Work with group projects | |



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| 17.30 | Poster presentations | |
| 19:00 | Professor's Dinner | |

Thursday, 23 August, Room Q2, Q-building, group work room Lounge, Dept. Sustainable Development, Science & Engineering

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| 09.00-10.00 | Lecture: The Role of IT/IoT for a Flexible Energy System | Prof Lars Nordström (KTH) |
| 10.00-11.00 | Lecture: The Role of the built environment in the energy transition | Prof David Smeulders (TUE) |
| 11.00-12.00 | Lecture on Energy modeling in the built environment | Prof Jan Hensen (TUE) |
| 12.00-13.00 | Lunch | |
| 13.00-17.30 | Work with group projects | |
| 17.30-19.00 | Poster presentations | |

Friday, 24 August, Field trips

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| 09.00-12.00 | Excursion | |
| 12.00-13.00 | Lunch | |
| 13.00-17.30 | Excursion continuation | |

Saturday, 25 August

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| 10.00-18.00 | Free day Stockholm | |
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Sunday, 26 August

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| | Travel Day (Stockholm-Eindhoven) | |
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Week 2: Eindhoven University of Technology (TU/e), Eindhoven, Netherlands

Monday, 27 August Lectures Traverse Building, van Trier Room. Group work Gemini Building OGO Rooms 9-18

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|-------------|------------------------------------|---------------------------|
| 09.00-10.00 | Lecture on electricity grids | Prof Guus Pemen (TUE) |
| 10.00-11.00 | Lecture | Prof Menglian Zheng (ZJU) |
| 11.00-12.00 | Lecture | Prof Per Alvfors (KTH) |
| 12.00-14.00 | Lunch restaurant Traverse | |
| 14.00-15.00 | Lecture | Prof Tianshu Ge (SJTU) |
| 15.00-18.00 | Group work | |
| 18.00 | Welcome reception including Dinner | Trafalgar Pub |

Tuesday, 28 August, Field trips

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| 09:00 - 12:00 | Excursion 1 | ASML |
| 12:00 - 13:00 | Lunch | ASML |
| 13:00 - 17:00 | Excursion 2 | Prodrive Technologies |



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Wednesday, 29 August Lectures Traverse Building, van Trier Room.
Group work Gemini Building OGO Rooms 9-18

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|-------------|---------------|--------------------------|
| 09.00-10.00 | Lecture | Prof Björn Laumert (KTH) |
| 10.00-11.00 | Lecture | Prof. Yong Li (SJTU) |
| 11.00-12.00 | Lecture Shell | Dr. Ewald Breunese |
| 12.00-13.00 | Lunch boxes | |
| 13.00-14.00 | Lecture | Prof Reinders (TUE) |
| 14.00-18.00 | Group work | |

Thursday, 30 August Group work Gemini Building OGO Rooms 9-18

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|-------------|------------------------------|-------------|
| 09.00-12.00 | Group work | |
| 12.00-13.00 | Lunch restaurant Gemini Zuid | |
| 13.00-15.30 | Group work | |
| 15:30-18.00 | Excursion PSV soccer stadium | |
| 18:00 | Professor's Diner | Avant Garde |

Friday, 31 August Traverse Building, van Trier Room.

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| 09.00-12.00 | Final presentations <i>With representative from KTH and TU/e boards of directors</i> <i>Hand-out of certificates</i> |
| 12.00-13.00 | Lunch |
| 14.00-16.00 | Free time and departure |
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Participating Professors

KTH Royal Institute of Technology

- Prof Per Alvfors (lecture at TUE)
- Prof Lars Nordström (lecture at KTH)
- Prof Göran Lindbergh (lecture at KTH)
- Prof Viktoria Martin (lecture at KTH)
- Prof Lennart Söder (lecture at KTH)
- Prof Björn Palm (lecture at KTH)

TU/e Eindhoven University of Technology

- Prof. David Smeulders (lecture at KTH)
- Prof. Guus Pemen (lecture at TUE)
- Prof. Jan Hensen (lecture at KTH)
- Prof. Angele Reinders (lecture at TUE)

Zhejiang University

- Prof. Zitao Yu (lecture at KTH)
- Prof. Menglian Zheng (lecture at TUE)

Shanghai Jiao Tong University

- Prof. Ruzhu Wang (lecture at KTH)
- Prof. Yong Li (lecture at TUE)
- Prof. Tianshu Ge (lecture at TUE)
- Prof. Xuezhi Liu (lecture at KTH)
- Jin Wang (program coordinator)
- Xinyu Huang (program coordinator)