Appendix I: Programme Summer School-Intelligent Agriculture

*Please note, that this programme is a draft, the lecturers, companies and timetable can change due to availability of the lecturers and companies on these dates.*

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| **Summer School Intelligent Agriculture--Tailor made for ZJU(July 15-25, 2025)** |
| **July 14 Monday** | **Registration and welcome BBQ**  | **Speaker** | **Group/Organization** |
| 16:00-17:00 | Registration | Bing Guan |  |
| 18:00-20:00 | Welcome BBQ  |  |  |
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| **July 15 Tuesday** | **Welcome and Introduction**  | **Speaker** | **Group/Organization** |
| 9:00-9:30 | Welcome and general introduction of Wageningen University and Research | Dr. Zhen Liu | Wageningen Academy |
| 9:30-10:00 | Introduction of the Summer school programme  | Dr. Zhen Liu | Wageningen Academy |
| 10:00-10:15 | *Coffee/tea break*  |  |  |
| 10:15-11:15 | Transition to a sustainable food system | Dr. Jonas House | Environmental Policy group / Consumption and Healthy Lifestyles group |
| 10:15-11:15 | Pathways towards digital transformation of food systems | Prof. Dr. Sjaak Wolfert | Wageningen Economic Research  |
| 11:15-11:30 | *Coffee/tea break*  |  |  |
| 11:30-12:30 | New trends and technology of agro robotics (tbc) | Dr. Erik Pekkeriet  | WUR, Vision + Robotics |
| 12:30-13:30 | *Lunch break* |  |  |
| 13:30-14:30  | On the Conceptualization of Digital Twins  | Prof. Ricardo de Torres | Artificial Intelligent Group |
| 14:30-16:00 | Visit to Phenomea (Vision+Robotics lab) | Dr. Miaomiao Yao | Wageningen Food & Biobased Research |
| 16:00-16:15 | *Coffee/tea break*  |  |  |
| 16:15-17:00 | Group assignment-Introduction and team up  | tba |  |
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| **July 16 Wednesday** | **Technology: Sensing, Control and Robotics I-Sensing** | **Speaker** | **Group/Organization** |
| 09:00-10:00 | Remote sensing and UAVs for agriculture applications | Prof. Lammert Kooistra | Laboratory of Geo-information Science and Remote Sensing |
| 10:00-10:10 | *Coffee/tea break*  |  |  |
| 10:10-11:00 | Soft and Biodegradable sensing technology for sustainable agriculture | Dr. Munnaf Abdul | Agricultural Biosystems Engineering Group |
| 11:00-11:10 | *Coffee/tea break*  |  |  |
| 11:10-12:00 | Sensing and computer vision for smart agriculture | Dr. João Valente | Spanish National Research Council (CSIC) |
| 12:00-13:00 | *Lunch break* |  |  |
| 13:00-14:00 | Guided visit at OnePlanet and Next generation sensors for emission and environment monitoring | Ir. Remco Suer | OnePlanet |
| 14:00-14:30 | *Coffee/tea break*  |  |  |
| 14:30-15:30 | Sensing techniques for soil erosion and nitrogen emissions | Dr. Nasem Badreldin | University of Manitoba |
| 15:30-15:40 | *Coffee/tea break*  |  |  |
| 15:40-16:10 | Using case 1-Disease detection with UAVs | Tianyi Jia | Laboratory of Geo-information Science and Remote Sensing |
| 16:10-17:00 | Group assignment-Concept development | tba |  |
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| **July 17 Thursday**  | **Technology: Sensing, Control and Robotics I-Control and Modeling** | **Speaker** | **Group/Organization** |
| 09:00-10:00 | Modelling and control for Intelligent Agriculture | Dr. Congcong Sun  | Agricultural Biosystems Engineering Group |
| 10:00-10:10 | *Coffee/tea break*  |  |  |
| 10:10-11:00 | Machine Learning for Sysmtems and Control | Dr. Azita Dabiri | TU Delft |
| 11:00-11:10 | *Coffee/tea break*  |  |  |
| 11:10-12:00 | HyperSpectral image processing and modelling | Dr. Puneet Mishra  | Wageningen Food & Biobased Research |
| 12:00-13:00 | *Lunch break* |  |  |
| 13:30-14:30 | visit Van Amerongen  |  |  |
| 14:30-15:30 | Visit local apple farm  |  |  |
| 15:30-16:30 | Wrap up of the day  |  |  |
| 16:30-17:00 | transport 🚗 |  |  |
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| **July 18 Friday**  | **Intelligent Agricultural Application-Greenhouse Horticulture** | **Speaker** | **Group/Organization** |
| 09:00-10:00 | Introduction of Plance Science Group | Dr. Yutong Qiu | Plant Science Group |
| 10:00-10:10 | *Coffee/tea break*  |  |  |
| 10:10-11:00 | The latest development of greenhouse horticulture and vertical farming  | Prof. Leo Marcelis | Horticulture and Product Physiology |
| 11:00-11:10 | *Coffee/tea break*  |  |  |
| 11:10-12:00 | Robotics and Automation in greenhouse horticulture  | Ir. Jos Ruizendaal | WPR-Greenhouse Horticulture  |
| 12:00-13:00 | *Lunch break* |  |  |
| 13:00-14:00 | Guided Tour at NPEC  |  |  |
| 14:00-15:00 | Quality breeding for high-tech greenhouse and vertical farming vegetables | Dr. Ying Liu | Horticulture and Product Physiology |
| 15:00-17:00 | Group assignment |  |  |
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| **July 21 Monday** | **Plant Breeding and food**  | **Speaker** | **Group/Organization** |
| 09:00-10:00 | Dutch seed sectoral innovation framework | Dr. Zhen Liu | Wageningen Food & Biobased Research |
| 10:00-10:10 | *Coffee/tea break*  |  |  |
| 10:10-11:00 | Introduce of WUR Plant Breeding Group and Plant breeding education in WUR   | Prof. Richard Visser  | Plant Breeding Group  |
| 11:00-11:10 | *Coffee/tea break*  |  |  |
| 11:10-12:00 | Breeding and selection methods | Prof. Richard Visser  | Plant Breeding Group  |
| 12:00-13:00 | *Lunch break* |  |  |
| 13:00-13:45 | Phytochemicals from plant waste | Dr. Wouter de Bruijn  | Food Chemistry  |
| 13:45-14:00 | *Coffee/tea break*  |  |  |
| 14:00-14:45 | Role of food safety in food waste and losses | Ir. Marko Appel  | Wageningen Food Safety Research |
| 14:45-15:00 | *Coffee/tea break*  |  |  |
| 15:00-16:00 | Using case --BABETTE, an 4D plant reconstruction platform | Johan Bucher |  |
| 16:00-17:00 | Group assignment |  |  |
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| **July 22 Tuesday** | **Excursion day 1 -Horticulture**  | **Speaker** | **Group/Organization** |
| 8:00-9:30 | *Transport*  |  |  |
| 9:30-11:00 | *guided company tour at Wageningen Greenhouse Innovation Center* |  |  |
| 11:00-11:30  | *Transport to Koppert* |  |  |
| 11:30-12:30  | *Lunch break in the bus* |  |  |
| 13:00-14:30 | *Guided tour at Koppert* |  |  |
| 14:30-14:45 | *transport to Bayer* |  |  |
| 15:00-16:30 | *Guided tour at Bayer experience cener*  |  |  |
| 16:30-18:00 | *back to Wageningen*  |  |  |
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| **July 23 Wednesday** | **Intelligent Agricultural Application-Livestock and fresh food chain** | **Speaker** | **Group/Organization** |
| 09:00-10:00 | Smart Dairy Farming -new developments  | Dr. Kees Lokhorst | Agricultural Biosystems Engineering Group |
| 10:00-10:10 | *Coffee/tea break*  |  |  |
| 10:10-11:00 | Digital pig farm management  | Ir. Bennie van der Fles | Wageningen Livestock Research  |
| 11:00-11:10 | *Coffee/tea break*  |  |  |
| 11:10-12:00 | Animal Digital Twins: perspectives and applications | Dr. Ali Youssef | Adaptation Physiology Group |
| 12:00-13:00 | *Lunch break* |  |  |
| 13:00-15:30  | Quality-controlled logistics with IoT in fresh product supply chains | Dr. Jan Verschoor | Wageningen Food & Biobased Research |
| 15:30-15:45 | *Coffee/tea break*  |  |  |
| 15:45-17:00 | Group assignment | tbd |  |
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| **July 24 Thursday** | **Excursion Day 2 - Dairy campus & Future Farm**  | **Speaker** | **Group/Organization** |
| 8:00-10:00  | driving to dairy campus |  |  |
| 10:00-12:00  | guided tour at WUR dairy campus |  |  |
| 12:00-12:45  | Lunch at Dairy Campus |  |  |
| 12:45-14:00 | driving to Lelystad |  |  |
| 14:00-17:00 | guided tour at Future Farm |  |  |
| 17:00-18:15 | driving back |  |  |
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| **July 25 Friday** | **Group assignment Presentation Day**  | **Speaker** | **Group/Organization** |
| 9:00-12:00  | Group assignment preparation/rehearsal | All participants  |  |
| 12:00-13:00 | Lunch |  |  |
| 13:30-14:00 | Introduce the final group presentation | Zhen Liu & Munnaf Abdul |  |
| 14:00-16:30 | Group presentations | All participants  |  |
| 16:30-17:00 | Certification and Wrap up  | All participants  |  |