

NiteLidar Summer School 03 @TU/e

Most activities take place at the TU/e campus. Locations are specified as building name, floor and room number. Times and planning are indicative and not finalized.

Wednesday 19/8 (TU/e)

12:00-13:00 Arrival and lunch (TU/e, De Zwarte Doos)
13:00 Welcome, Martijn Heck (TU/e, Atlas 1.654)
13:10 Recap: overview of the project, Hao Hu
13:30 DC1: FMCW LiDAR on-chip for high speed and robust 3D imaging, Patra Pritam
14:00 DC2: FMCW LiDAR for CO₂ gas sensing – fence line monitoring and drone implementation, Giacomo Zanetti
14:30 DC3: Integrated FMCW laser, Yancan Wu
15:00 Coffee break
15:20 DC4: Integrated electronic circuits for laser driving and control, Haocun Wang
15:50 DC5: Full FMCW LiDAR chip on SiN/SOI with OPA, receiver and on-chip mixing, new DC or Marcus
16:30-18:00 SB meeting
19:00 Dinner (Downtown Eindhoven, T.B.D.)

Thursday 20/8 (TU/e)

9:00 NiteLiDAR (TU/e, Atlas 1.654)
9:10 DC6: Integrated electronic circuits for FMCW receiver, Yangyi Zhang
9:40 DC7: Multichannel Dispersive Optical Phased Arrays, Davide Micheli
10:10 DC8: Slab grating based OPA, Yang Han
10:40 Coffee break
11:00 DC9: Integrated 2D FPA, Aldi Wista Fadhila
11:30 DC10: Array of unit Digital-to-Analog Converters interfaced to hundreds of optical phase shifters, Zhenan Xu
12:00 Lunch (TU/e, De Zwarte Doos)
13:00 Discussion for opportunities and collaborations
14:00 Lab visits for interested participants (TU/e, Flux floor 8 -10)
15:00 End
Afternoon and dinner on your own

Friday 21/8 (TU/e, Qubit 1.014 – entrance from the Flux building¹)

09:00 – 11:30 Workshop "Grant Writing and CV development" by Research Support Office TU/e
11:30 – 12:00 Exercise: write a narrative evidence-based cv – part 1
12:00 – 13:00 Lunch (Flux canteen)
13:00 – 14:00 Exercise: write a narrative evidence-based cv – part 2
14:00 – 15:00 Lectures by prof. Martijn Heck and postdoc dr. XX about career paths

¹ Enter the Flux building, take the stairs on your right to the first floor. There take the corridor at the left side of the canteen, take the first door left to pedestrian bridge and enter the Qubit building. The room 1.014 is immediately at your left.

Weekend

Free time for touristy activities... likely outside Eindhoven ;-)

Monday 24/8 (TU/e, Flux 1.02, shared with Eindhoven Semicon Summer School - ESSS)

- 08:30 – 09:00 Welcome coffee
- 09:15 – 09:30 Opening Ceremony, Welcome note, Aida Todri-Sanial, ESSS Scientific Director
- 09:30 – 09:50 TU/e Opening note, Koen Janssen, President TU/e
- 09:50 – 10:00 Keynote speaker, Christophe Fouquet, CEO ASML
- 10:00 – 10:30 Title: Heterogeneous Large Scale Integration (HLSI) driving logic scaling towards CMOS 2.0, Julien Ryckaert, IMEC
- 10:30 – 11:00 TSMC Technologies Leadership, Glavine Yeh, TSMC Europe
- 11:00 – 11:30 Coffee break
- 11:30 – 12:00 Building the future monolayer by monolayer, Daniele Piumi, ASM
- 12:00 – 12:20 Entrepreneurship in Semiconductors, Michael Machold, TUM Venture Lab
- 12:20 – 13:30 Lunch break, Vide (FLUX)
- 13:30 – 14:00 Semiconductor Materials, Klaas-Jan Tielrooij, TU/e
- 14:00 – 14:30 From rigid silicon to skin-conforming devices — how nanoscale building blocks make electronics bend, stretch, and fold, Abhishek Singh Dahiya, TU/e
- 14:30 – 15:00 Diana Leitao, TU/e
- 15:00 – 15:30 Break
- 15:30 – 18:00 Time for case study preparation
- 18:00 – 19:00 Optional: campus tour – by NiteLidar hosts

Tuesday 25/8 – dedicated in-depth NiteLidar session (TU/e, Flux 2.251)

- 9:00 – 10 :45 Prof. Johan Bauwelinck (Gent University): Electro.nics for Photonic ICs and optical transceiver essentials (2x 45 minutes)
- 11:00 – 12:45 Prof. Pieter Harpe (TU/e): Fundamentals of Analog to Digital Converter ICs (2x 45 minutes)
- 12:45 -14:15 Lunch (Flux canteen)
- 14:15 – 15:00 Prof. Georgi Radulov (TU/e): Application example – a photonic receiver IC for a computational PIC

Wednesday 26/8 (High Tech Campus, HTC Building 34, shared with ESSS)

- 08:30 – 09:00 Welcome coffee High Tech Campus, Building HTC 34 (Philips)
- 09:00 – 09:15 HTC intro, High Tech Campus history
- 09:15 – 09:45 Electronics for Photonics, Johan Bauwelinck, Ghent University/IMEC
- 09:45 – 10:15 From Single Chip to System: Multi-die systems with Photonic ICs, Francesc Vila, Synopsys
- 10:15 – 10:45 Coffee break
- 10:45 – 11:15 InP PIC Technology and ITLA Development at EFFECT Photonics, Sjoerd van der Heide, Effect Photonics
- 11:30 – 12:00 THz sensing, Shihab Al-Daffaie, TU/e
- 12:00 – 12:30 Experience center Tour, Philips
- 12:30 – 13:30 Lunch break, HTC Lounge, The Strip
- 13:30 – 14:00 Photonic Integrated Circuits, Martijn Heck, TU Eindhoven
- 14:00 – 14:30 Manufacturing of photonic integrated circuits – a pure play foundry model, Luc Augustin, CTO Smart Photonics
- 14:30 End of NiteLidar program – time for case preparation and reading



Thursday 27/8 – NiteLidar case study (TU/e, Flux 4.251)

Details to be determined. Set up by Yancan and Haocun.

Friday 28/8 – (TU/e, Auditorium building, Blauwe Zaal, shared with ESSS)

09:30 – 10:00 Energy efficient computing for edge AI, Bram Ernst Verhoef, Axelera AI
10:00 – 10:30 Neuromorphic computing, Federico Corradi, TU Eindhoven
10:30 – 11:00 Coffee break
11:00 – 11:30 Physical computing, Aïda Todri-Sanial, TU Eindhoven
11:30 – 12:00 In-memory compute, Speaker: tbd, IBM Zurich
12:00 – 12:10 Transfer, walk to Matrix building
12:10 – 13:20 Lunch break; presentation on TUe Innovation Space, by Alfons Brueker
13:00 End of NiteLidar program

