

CWTe Research Retreat 2018

Opening and Introduction

Sonia Heemstra de Groot
20181010

Welcome
to the 9th CWTe
Research Retreat

CWTe Structure



Program Board Chairs



Bus. Dev.



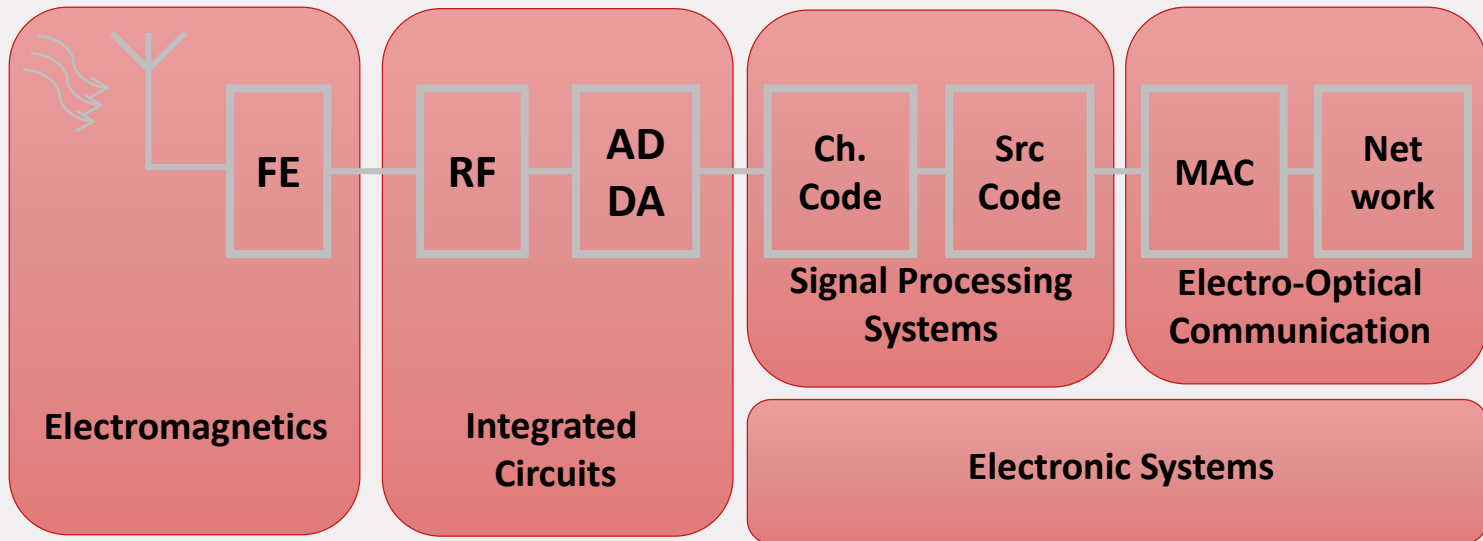
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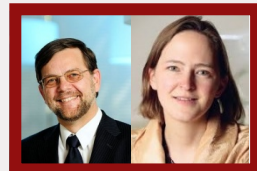
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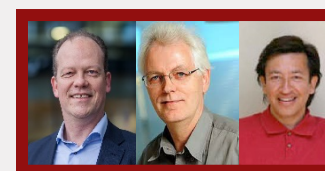
ECO



EM



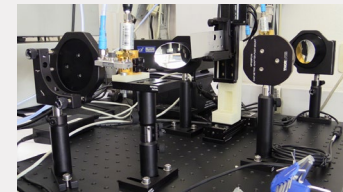
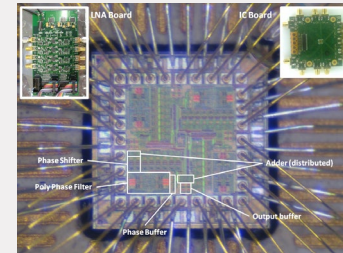
IC



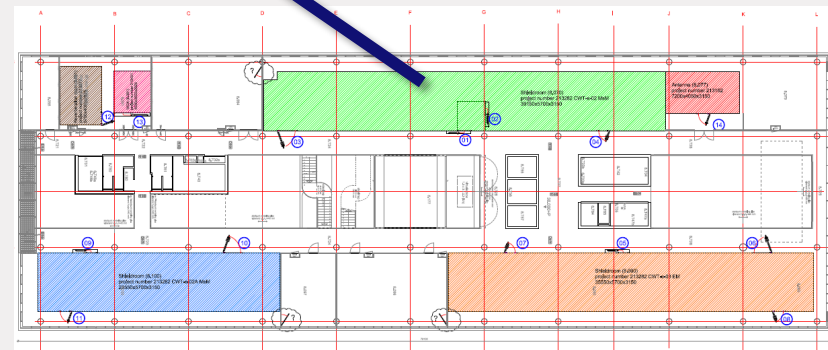
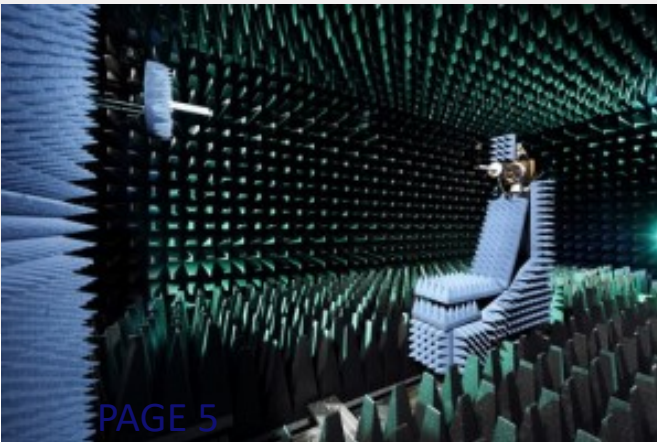
ES

CWTe Research Programs

- Ultra-high data rates
 - High Frequencies ($\geq 30\text{GHz}$)
 - Very high data rates ($>1\text{Tbps}$)
 - Beamforming with many elements @ low cost
 - Next generation RAN (RoF, M-MIMO, Dyn. Reconf.)
- Ultra-low power and IoT
 - Small ($\ll 1\text{mm}^3$), low-cost
 - Battery-less sensors/controls
 - Self-configuring networks, autonomous devices and AI
- THz Systems
 - 3D spectroscopic imaging
 - Small, low-cost short range
- Radio Astronomy
 - Next generation radio telescopes
 - Large antenna arrays
 - Low frequency ($<30\text{ MHz}$)



CWTe Labs



Highlights and Announcements

Ultra-high data rates

- EU ICT-18 project 5G Mobix (5G in cross-border corridors) granted
- EU Marie Curie SILIKA (5G Ka-band Massive MIMO)-Successful mid-term review
- NWO Take-off grant for feasibility study “FOCALPOINT” for future 5G wireless backhaul

Ultra-low power and IoT

- Deployment of GRAVELNET- distributed testing facilities for IoT HW and SW

THz systems

- Extension of the THz lab with ultra-fast spectroscopy and nanophotonic lab

Radio Astronomy

- 2 Postdocs, 3 Ph.D students and 0.2 FTE UD about to start
- Inaugural lecture Prof. Mark Bentum - November 2, 2018

The image shows the interior of an anechoic chamber, characterized by a dense array of green, pyramidal-shaped electromagnetic absorbers designed to eliminate reflections. A prominent horizontal red band is superimposed across the middle of the image, containing the text 'Centre for Wireless Technology Eindhoven'. In the background, a white horn antenna is mounted on a stand, and to the right, a piece of electronic equipment is visible, also mounted on a stand. The lighting is dramatic, with strong highlights and deep shadows, emphasizing the three-dimensional structure of the absorbers.

Centre for Wireless Technology Eindhoven

CWTe Research Retreat 2018

Program



Invitation

CWTe 2018 Research Retreat

Wednesday, 10th of October 2018
De Zwarte Doos, 1st floor, TU Eindhoven

Hosted by: Centre for Wireless Technology Eindhoven

- | | | |
|-------|--|--------------------------------|
| 9.00 | - Welcome with coffee | |
| | Morning program | |
| 9.30 | Opening and introduction | Sonia Heemstra de Groot (TU/e) |
| 9.40 | Recent developments in WiFi | Richard van Nee (Qualcomm) |
| 10.15 | Seeing and thinking with the visual brain – even if the eyes don't work | Pieter Roelfsema (NIN) |
| 10.50 | - Break (incl. posters) | |
| 11.20 | Towards a smarter use of spectrum | Ingrid Moerman (UGent) |
| 11.55 | Really dense Internet of Things | George Exarchakos (TU/e) |
| | Lunch | |
| 12.30 | - Lunch (incl. posters) | |
| | Afternoon program | |
| 13.30 | Phased array feeds, a new lease of life for the Westerbork Radio Telescope | Wim van Cappellen (ASTRON) |
| 14.05 | The evolving automotive radar landscape:
waveform, system solutions and technology partitioning | Cicero Vaucher (NXP) |
| 14.40 | - Break (incl. posters) | |
| 15.10 | Focused wireless power transfer | Huib Visser (imec-nl / TU/e) |
| 15.45 | AESA radar developments at Thales Nederland BV | Gertjan Werkhoven (Thales) |
| | Closing | |
| 16.20 | Closing session | Sonia Heemstra de Groot (TU/e) |
| 16.30 | - Drinks and networking | |

For registration: see link on www.tue.nl/cwte



Centre for Wireless Technology Eindhoven