



6G-RIC Advisory Board Meeting & Workshop

„Technology Advancements for 6G:
Where do we stand?“

September 25–26, 2023

Fraunhofer HHI, Berlin

Lanolinfabrik, Salzufer 15-16

6G-RIC Advisory Board Meeting & Workshop
Monday, September 25



19h00 JOINT DINNER
@ martas Restaurant Alvis im Hotel Albrechtshof

Albrechtstraße 8, 10117 Berlin
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[Click here for directions](#)

6G-RIC Advisory Board Meeting & Workshop, September 26



AGENDA

08h30-09h00 **REGISTRATION & WELCOME COFFEE** (6G-RIC Showroom, E-02)
09h00-09h30 **6G-RIC OVERVIEW & AGENDA PRESENTATION** (Plenary Room, E-07)

BLOCK 1

09h30-11h00 Plenary Session „6G Technologies and Applications: Where do we stand?“ (Plenary Room, E-07)
11h00-13h00 6G-RIC Demo & Research Highlights + Lunch (6G-RIC Showroom, E-02 + Integration Lab, E-01)

BLOCK 2

13h00-14h30 Parallel Session I „Microelectronics & PHY-Layer Technologies“ (Plenary Room, E-07)
13h00-14h30 Parallel Session II „Network as a Sensor & Digital Twins“ (2-01, 2nd Floor)
13h00-14h30 Parallel Session III „Semantic Communication, Embodied AI & Trends in Computing“ (6G-RIC Showroom, E-02)
13h00-14h30 Parallel Session IV „System Architecture(s), Trends in Networking & Security“ (2-11, 2nd Floor)
14h30-15h15 Coffee Break + Group Picture, 6G-RIC Demo & Research Highlights (6G-RIC Showroom, E-02 + Integration Lab, E-01)

BLOCK 3

15h15-17h00 Plenary Session „Beyond 6G-RIC“ & Wrap-Up (Plenary Room, E-07)
17h00- **Social Networking** (6G-RIC Showroom, E-02)

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09h00-09h30 **6G-RIC OVERVIEW & AGENDA PRESENTATION** (Plenary Room, E-07)
Slawomir Stanczak, Zoran Utkovski (Fraunhofer HHI, 6G-RIC)

BLOCK 1

09h30-11h00 **PLENARY SESSION “6G TECHNOLOGIES AND APPLICATIONS: WHERE DO WE STAND?”** (Plenary Room, E-07)

Session Chair

Slawomir Stanczak (Fraunhofer HHI, 6G-RIC)

09h30-10h30

TALKS

Andreas Müller (Bosch)

“Second time lucky: 6G for vertical industries“

Michael Meyer (Ericsson Research)

“Thoughts about 6G“

Ulrich Barth (Nokia Bell Labs)

“6G technologies, ready for standardization?“

David Gesbert (EURECOM)

„Connected robotics for 6G sensing and localization“

Robert Schober (Friedrich Alexander University, 6G-RIC)

„The role of IRS in 6G“

10h30-11h00

PANEL DISCUSSION

Moderator

Slawomir Stanczak (Fraunhofer HHI, 6G-RIC)

Panelists

Andreas Müller (Bosch)

Michael Meyer (Ericsson)

Ulrich Barth (Nokia Bell Labs)

David Gesbert (EURECOM)

Robert Schober (Friedrich Alexander University, 6G-RIC)

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BLOCK 2

13h00-14h30

PARALLEL SESSION I “MICROELECTRONICS & PHY-LAYER TECHNOLOGIES” (Plenary Room, E-07)

Session Chair

Corrado Carta (IHP, 6G-RIC)

13h00-14h00

TALKS

Sorin Voinigescu (University of Toronto)

“What can we expect from FinFET, FDSOI, SiGe BiCMOS and InP HBT technologies for 6G wireless communications above 100 GHz and for the supporting fibreoptics circuits?”

Christos Oikonomopoulos-Zachos (IMST)

„D-Band active array with beam reconfigurability“

Friedel Gerfers (TU Berlin, 6G-RIC)

„6G PHY challenges“

Lorenzo Miretti (Fraunhofer HHI, 6G-RIC)

“Robust cell-free sub-THz access”

Stefan Parkvall (Ericsson Research, Sweden)

„6G radio technologies“ (virtual)

14h00-14h30

PANEL DISCUSSION

Moderator

Corrado Carta (IHP, 6G-RIC)

Panelists

Sorin Voinigescu (University of Toronto)

Taro Eichler (Rohde & Schwarz)

Friedel Gerfers (TU Berlin, 6G-RIC)

Christian Wiebus (NXP) (TBD)

Stefan Parkvall (Ericsson Research, Sweden)
(virtual)

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BLOCK 2

13h00-14h30

PARALLEL SESSION II “NETWORK AS A SENSOR AND DIGITAL TWINS” (2-01, 2nd Floor)

Session Chair

Martin Kasparick (Fraunhofer HHI, 6G-RIC)

13h00-14h00

TALKS

Alexander Keller (NVIDIA)
“Tools for Digital Twins”

Patrick Agostini/Tobias Feigl
(Fraunhofer HHI, Fraunhofer IIS, 6G-RIC)
“Integration of contextual information and channel charting“

Ramez Askar (Fraunhofer HHI, 6G-RIC)
“Self-interference radio channels in full-duplex wireless communication & monostatic RF sensing”

Thorsten Wild (NOKIA Bell Labs)
“PoC architecture for JCAS” (virtual)

Giuseppe Caire (TU Berlin, 6G-RIC) (virtual)
“Signal processing and deep learning tools for JCAS“

14h00-14h30 **PANEL DISCUSSION**

Moderator

Kenan Turbic (Fraunhofer HHI, 6G-RIC)

Panelists

Alexander Keller (NVIDIA)
Ulrich Barth (Nokia Bell Labs)
Bernd Schröder (Brown-Ipos)
Dominic Schupke (Airbus)

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BLOCK 2

13h00-14h30

PARALLEL SESSION III “SEMANTIC COMMUNICATION, EMBODIED AI & TRENDS IN COMPUTING” (6G-RIC Showroom, E-02)

Session Chair

Andrea Munari (German Aerospace Center - DLR, 6G-RIC)

13h00-14h00

TALKS

Milos Krstic (IHP, 6G-RIC)

“RRAM approach for AI acceleration in edge systems”

Zoran Utkovski (Fraunhofer HHI, 6G-RIC)

“Neuromorphic processing and edge intelligence: a perfect match?”

Yulia Sandamirskaya (ZHAW Zurich University of Applied Sciences and Intel Labs Switzerland) (virtual)

“Neuromorphic computing and embodied intelligence”

Markus Mueck (Intel Germany) (virtual)

“A vision on AI- and compute-native 6G”

Petar Popovski (Aalborg University) (virtual)

“Semantics, pragmatics, and generative AI for communications”

14h00-14h30

PANEL DISCUSSION

Moderator

Andrea Munari

(German Aerospace Center - DLR, 6G-RIC)

Panelists

Andreas Eisenblätter (atesio)

Bernhard Kloiber (Siemens) (TBD)

Milos Krstic (IHP/6G-RIC)

Petar Popovski (Aalborg University)

Zoran Utkovski (Fraunhofer HHI, 6G-RIC)

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BLOCK 2

13h00-14h30

PARALLEL SESSION IV “SYSTEM ARCHITECTURE(S), TRENDS IN NETWORKING, SECURITY” (2-11, 2nd Floor)

Session Chair

Admela Jukan (TU Braunschweig, 6G-RIC)

13h00-14h00

TALKS

Andre Drummond/Admela Jukan (TU Braunschweig, 6G-RIC)
“Control plane aspects of 6G technologies & O-RAN evolution”

Jörg-Peter Elbers (Adtran Networks)
“Challenges and opportunities in Open-RAN based Campus Networks”

Isaac Sackey (Fraunhofer HHI, 6G-RIC)
“Reservoir computing for optical networks”

Igor Bjelakovic/Stefan Katzenbeisser (6G-RIC)
“Integration of PHY-layer security”

Carla Fabiana Chiasserini (Politecnico di Torino)
„A crowdsourcing approach to ML-driven radio interface configuration“ (virtual)

14h00-14h30

PANEL DISCUSSION

Moderator

Admela Jukan (TU Braunschweig, 6G-RIC)

Panelists

Oliver Holschke (Deutsche Telekom)
Mariam Kaynia (Telefonica)
Jörg-Peter Elbers (Adtran Networks)
Stefan Katzenbeisser (University of Passau),
Jorg Lieberherr (University of Toronto)

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BLOCK 3

15h15-17h00

PLENARY SESSION “BEYOND 6G-RIC” (Plenary Room, E-07)

Session Chair

Johannes Dommel (Fraunhofer HHI, 6G-RIC)

Knowledge Transfer & Start-Up Incubator

Overview Start-Up Incubator

Start-Up Pitches

6G-RIC Perpetuation & 6G for Health

Introduction by Prof. Slawomir Stanczak (Fraunhofer HHI, 6G-RIC)

Talk by Prof. Sascha Treskatsch (Charité - Universitätsmedizin Berlin)

Talk by Prof. Friedrich Köhler (Charité - Universitätsmedizin Berlin)

Wrap-Up

17h00-

Social Networking (6G-RIC Showroom, E-02)

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11h00-13h00
14h30-15h15

DEMO, RESEARCH HIGHLIGHTS & LAB TOUR (6G-RIC Showroom, E-02 + Integration Lab, E-01)

Session Coordinators

Leszek Raschkowski, Martin Kasparick, Zoran Utkovski (Fraunhofer HHI, 6G-RIC)

Demos (6G-RIC Showroom, E-02)

S01: D-band TRx with beamsteering (short range) and/or lens (short range)

S02: SDM-PON using multi core fibre and ethernet P2MP

S03: Back-to-back MAC for 20 Gbps (4 channels at 5 Gbps each)

S04: Direction-resolved Sub-THz channel sounding in D-Band

S05: D-Band mobile backhaul/access link with integrated beamforming transceiver

S06: InP-on-BiCMOS hetero-integrated chip for D-band transceiver

S07: Semantic-aware demonstrator

S08: Intent-based networking for self-optimizing network management

S09: Measurement-based ISAC demo

S10: Smart monitoring of optical modulation formats using neuromorphic computing

S11: RRAM: The technology enabler for high performance and energy efficient systems

S12: ML-assisted link-capacity adjustment in optical access-metro aggregation networks

IHP

Fraunhofer HHI-PN

IHP

Fraunhofer HHI-WN

Fraunhofer HHI-WN

FBH, IHP

DLR

Fraunhofer FOKUS, TUBS-KN

Fraunhofer IIS

TUB-PKS, Fraunhofer HHI-PN

IHP

Fraunhofer HHI-PN

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11h00-13h00
14h30-15h15

DEMO, RESEARCH HIGHLIGHTS & LAB TOUR (6G-RIC Showroom, E-02 + Integration Lab, E-01)

Research Highlights (6G-RIC Showroom, E-02)

TIA1 Sub-THz communication
TIA2 Intelligent reflecting surfaces
TIA3 Network as a sensor
TIA4 6G Connectivity & semantic communication
TIA5 Security by design
TIA6 Autonomous convergent networks

TIA1 Representatives
TIA2 Representatives
TIA3 Representatives
TIA4 Representatives
TIA5 Representatives
TIA6 Representatives

Demos (Integration Lab, E-01)

Time slots for lab tours (30 min per slot)
Start: 11h00 / 11h40 / 12h20 / 14h30

Open source Open-RAN testbed
PoC Architecture for neuromorphic wireless cognition
IRS for coverage extension at 28 GHz + visualisation
MOCZ: A novel waveform for ISAC
V2V Sidelink evaluation with channel emulator

Fraunhofer HHI-WN
Fraunhofer HHI-WN
Fraunhofer HHI-WN
MOXZ (Start-Up)
Fraunhofer HHI-WN

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FLOORPLAN 6G-RIC SHOWROOM

