

SYMPOSIUM NM5

Frontiers in Terahertz Materials and Technology
April 20 - April 20, 2017

Symposium Organizers

Hou-Tong Chen, Los Alamos National Laboratory
Vanya Darakchieva, Linköping University
Charles Schmuttenmaer, Yale University
Ingrid Wilke, Rensselaer Polytechnic Institute

Proceedings Statement

All authors are invited to submit articles based on their 2017 MRS Spring Meeting presentations to the journals in the MRS portfolio (www.mrs.org/publications-news). Papers submitted and accepted for publication in MRS Advances (www.mrs.org/mrs-advances) will be available as symposium collections. Visit the MRS/Cambridge University Press Publications Booth #100 in the Exhibit Hall to learn more, including MRS Advances print options available at special rates during the meeting week only.

* Invited Paper

SESSION NM5.1: Terahertz Metamaterials and Devices
Session Chairs: Hou-Tong Chen and Vanya Darakchieva
Thursday Morning, April 20, 2017
PCC West, 100 Level, Room 103 A

8:00 AM *NM5.1.01

THz Ellipsometry Characterization of Spatially Confined Carrier Systems and Metamaterials [Tino Hofmann](#)^{1,2,3}; ¹University of North Carolina at Charlotte, United States; ²Linköping University, Sweden; ³University of Nebraska-Lincoln, United States.

8:30 AM NM5.1.02

High-Performance Terahertz Metasurface Flat Lenses [Chun-Chieh Chang](#); Los Alamos National Laboratory, United States.

8:45 AM NM5.1.03

Metasurfaces for Terahertz Antireflection Coatings [Beibei Zeng](#); Los Alamos National Laboratory, United States.

9:00 AM *NM5.1.04

Advanced Modulation Techniques with Metamaterials for Single Pixel Terahertz Imaging [Christian Nadell](#); Duke University, United States.

9:30 AM *NM5.1.05

Generic Graphene Based Components and Circuits for Millimeter Wave High Datarate Communication Systems [Herbert Zirath](#); Chalmers University of Technology, Sweden.

10:00 AM BREAK

SESSION NM5.2: Materials for Terahertz Technologies
Session Chairs: Charles Schmuttenmaer and Ingrid Wilke
Thursday Morning, April 20, 2017
PCC West, 100 Level, Room 103 A

10:30 AM *NM5.2.01

Recent Progress on THz Technologies Based on 2D Electron Systems [Huili G. Xing](#); Cornell University, United States.

11:00 AM NM5.2.02

Terahertz Cavity-Enhanced Optical Hall Effect Reveals Anisotropic Mobility in Epitaxial Graphene [Nerijus Armakavicius](#); Linköping University, Sweden.

11:15 AM NM5.2.03

Terahertz Quantum Well Infrared Photodetectors Based on Semi-Polar GaN/AlGaIn Heterostructures [Habibe Durmaz](#)^{1,2}; ¹Boston University, United States; ²Recep Tayyip Erdogan University, Turkey.

11:30 AM *NM5.2.04

III-V MOSFETs for THz Applications [Lars-Erik M. Wernersson](#); Lund University, Sweden.

SESSION NM5.3: Terahertz Spectroscopy and Material Properties
Session Chairs: Hou-Tong Chen and Vanya Darakchieva
Thursday Afternoon, April 20, 2017
PCC West, 100 Level, Room 103 A

1:30 PM *NM5.3.01

Long-Range and High-Speed Electron and Spin Transport at GaAs/AlGaAs Interface [Petr Kuzel](#); Institute of Physics, Czech Academy of Sciences, Czech Republic.

2:00 PM NM5.3.02

Charge Transport in TiO₂ Nanotubes Studied by Terahertz Spectroscopy [Hynek Nemeč](#); Czech Academy of Sciences, Czech Republic.

2:15 PM NM5.3.03

Advances in Terahertz Spectroscopy of Clay Minerals [Ingrid Wilke](#); Rensselaer Polytechnic Institute, United States.

2:30 PM *NM5.3.04

Understanding Ultrafast Charge Carrier Dynamics in Solar Cell Materials Using Time Resolved Terahertz Spectroscopy [Carlito S. Ponseca](#); Lund University, Sweden.

3:00 PM BREAK

SESSION NM5.4: New Terahertz Methods
Session Chairs: Charles Schmuttenmaer and Ingrid Wilke
Thursday Afternoon, April 20, 2017
PCC West, 100 Level, Room 103 A

3:30 PM NM5.4.01

THz Nano-Spectroscopy with 25 nm Spatial and 10 fs Time Resolution [Tobias Gokus](#); neaspec GmbH, Germany.

3:45 PM *NM5.4.02

Using Ultrafast Terahertz Spectroscopy to Study Low Energy Excitations in Quantum Materials [Rohit Prasankumar](#); Los Alamos National Lab, United States.

4:15 PM NM5.4.03

In Situ Terahertz Optical Hall Effect Measurements of Ambient Doping Effects in Epitaxial Graphene [Sean Knight](#); University of Nebraska-Lincoln, United States.

4:30 PM *NM5.4.04

Implications of High-Repetition Rate Single-Shot Terahertz Diagnostics for Materials Research [Erik Bruendermann](#); Karlsruhe Institute of Technology (KIT), Germany.

SESSION NM5.5: Poster Session: Terahertz Materials and Technology
Thursday Afternoon, April 20, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

NM5.5.01

The Influence of Stoichiometry on the Index of Refraction of Cobalt Ferrite Samples at Terahertz Frequencies [Ingrid Wilke](#); Rensselaer Polytechnic Institute, United States.

NM5.5.02

A Mechanical Analogy for Heat Transfer in Surface Films with Transformations [Rahul Basu](#)^{1,2}; ¹VTU, India; ²Adarsha Institute of Technology, India.

NM5.5.03

Ultra-Broadband, Solid State Terahertz Phase Modulator Based on Graphene [Xudong Liu](#); CUHK, China.

NM5.5.04

Fabrication of NiO Based Metal-Insulator-Metal Diode Using Langmuir-Blodgett Technique for Infrared Detection [Ibrahim Azad](#); University of South Florida, United States.