OTST 2011

Here you will find all the information you need for the International Workshop on Optical Terahertz Science and Technology, 2011 held in Santa Barbara, CA March 13-17. The aim of this workshop is to foster discussion on the newest and most exciting research in the development and applications of terahertz instrumentation based on optical sources. In addition to the presentation of peer reviewed papers, we have added activities for students and newcomers, including a tutorial session immediately before the conference begins. Please see the paper submission page for information on abstract submission. The deadline for abstracts is Oct. 15, 2010. We will emphasize sources and applications at wavelengths between 30 and 3000 microns (0.1-10 THz).

Contemporary scientific topics will be highlighted in areas such as:

- **Terahertz pulse generation and detection**
- **Terahertz time-domain spectroscopy**
- **THz imaging and nondestructive evaluation**
- **THz near-field microscopy: developments and applications**
- **Nanotechnology impact on terahertz instrumentation**
- **Terahertz characterization of nanomaterials**
- **Time-resolved terahertz spectroscopy**
- **Probing ultrafast carrier dynamics and transport in materials**
- **Metamaterials and plasmonics**
- **Applications to molecular, biomolecular, and liquid phase spectroscopy**
- **Portal security applications**
- **Quantum cascade lasers**
- **Sources based on telecom pumps**
- **Emerging laser technology for use in optical THz sources and detectors**
- **Terahertz communications**
- **Terahertz waveguides**
- **LIDAR/DIAL systems**

Location

We are very happy to announce that OTST 2011 will again be held at the Fess Parker Doubletree right on the beach in Santa Barbara. This beautiful location is also very close to the University of California Santa Barbara which includes the Institute for Terahertz Science and Technology, which houses the UCSB free electron laser, and the California Nanosystems Institute.

Speakers

Banquet Speaker:

David Auston
University of California, Santa Barbara
The Energy Crisis: Opportunities and Challenges for Science and Engineering Research

Plenary Speakers:

Jerome Faist
ETH Zurich
Terahertz Generation in Quantum Cascade Lasers, Circuits, and Antennas: Physics and Applications

Xi-Cheng Zhang
Rensselaer Polytechnic Institute
Recent Progress in the Science and Technology of THz Air Photonics

Tutorial Speakers:

Rupert Huber
University of Konstanz
Faster Than a Cycle of Light: Physics with Broadband and Intense THz Pulses

Willie Padilla
Boston
College
Controlling THz Surface Electromagnetic Waves with Metamaterials

Paul Planken
University of Technology, Delft
The THz Electromagnetic Near-Field

Mark Sherwin
University of California, Santa Barbara
Pulsed Electric and Magnetic Resonance at Terahertz Frequencies

Invited Speakers:

Richard Averitt
Boston University
Structurally Responsive Metamaterials at Terahertz Frequencies

Stefano Barbieri
University of Paris Diderot
Phase-Locking of THz Qantum Cascade Lasers to a fs-Fiber Laser for Coherent Detection and Frequency Synthesis

Mischa Bonn
FOM-Institute AMOLF
THz Studies of Water Dynamics Around Protons and Ions

Thomas Dekorsy
University of Konstanz
Terahertz Emission from the Lateral Photo-Dember Effect

Kaori Fukunaga
NICT, Tokyo
THz Technology for Analysis of Artworks -Advances and Prospects

Frank Hegmann
University of Alberta
High Power THz Pulses and Nonlinear THz Dynamics

Matthias Hoffmann
University of Hamburg
Inducing and Controlling Superconductivity with Strong THz Fields

Robert Kaindl
Lawrence Berkeley National Lab
Ultrafast Thz and Mid-IR Spectroscopy of Carbon Nanomaterials

Kodo Kawase
Nagoya University / RIKEN
Nonlinear Optical THz Generation and Real Life Applications

Andrea Markelz
University at Buffalo
Evidence of Correlated Protein Motions in THz Response

Ben Murdin
University of Surrey
Use of THz Pulses for Quantum Information Operations on Hydrogen-like Impurity States in Silicon

Jaime Gomez Rivas
FOM-Institute AMOLF
Active Plasmonic Surfaces and Antennas at THz Frequencies

Koichiro Tanaka
Kyoto University
Nonlinear Terahertz Spectroscopy in Molecular Crystals

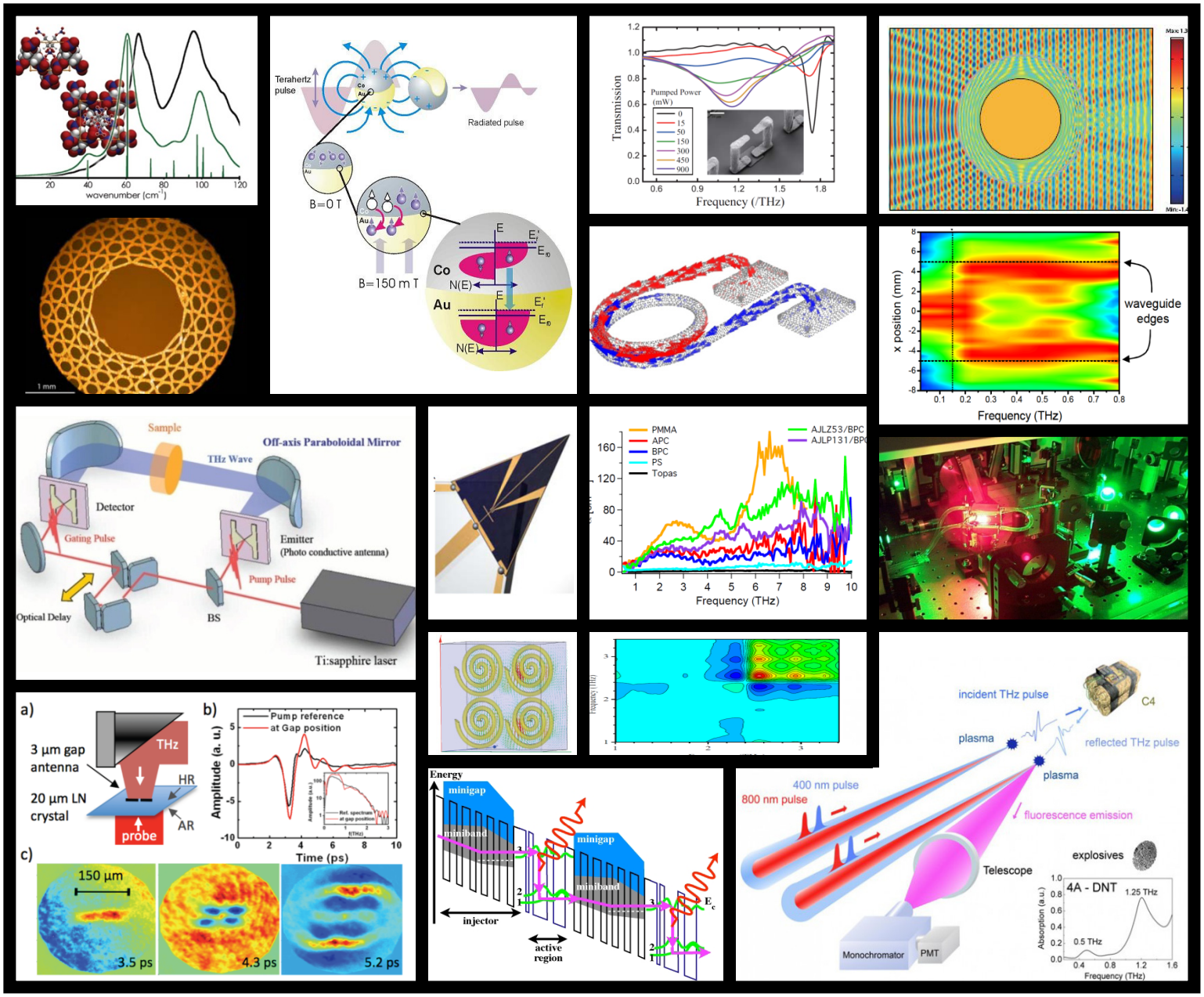
International Workshop on Optical Terahertz Science and Technology

OTST 2011

Workshop Program

ITST
INSTITUTE FOR TERAHERTZ SCIENCE AND TECHNOLOGY

Fess Parker's Doubletree Resort
Santa Barbara, California
March 13-17, 2011



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International Program Committee

We thank the International Program Committee members for their contributions to an exciting program. We especially thank the members of the local organizing committee who worked tirelessly to schedule the many events.

Conference Chairs:

Ajay Nahata	University of Utah, USA
Charles Schmuttenmaer	Yale University, USA

International Program Committee:

Tahsin Akalin	University of Lille, France
Rene Beigang	Fraunhofer IPM, Germany
Igal Brener	Sandia National Labs, USA
Larry Carr	Brookhaven National Labs, USA
Enrique Castro-Camus	Centro de Investigaciones en Óptica, Mexico
David Cook	PSI Corp. USA
David Cooke	McGill University, Canada
Mona Jarrahi	University of Michigan, USA
Juraj Darmo	Vienna University of Technology, Austria
Susan Dexheimer	Washington State University, USA
Abdul Elezzabi	University of Alberta, Canada
Janos Hebling	University of Pecs, Hungary
Euan Hendry	University of Exeter, UK
Qing Hu	MIT, USA
Hiromasa Ito	RIKEN Sendai, Japan
Peter Jepsen	Technical University of Denmark, Denmark
Michael Johnston	Oxford University, UK
Martin Koch	Philipps University, Marburg, Germany
Alfred Leitenstorfer	University of Konstanz, Germany
Daniel Mittleman	Rice University, USA
Hynek Nemec	Academy of Sciences of the Czech Republic
Taiichi Otsuji	Tohoku University, Japan
Mark Sherwin	UC - Santa Barbara, USA
Toni Taylor	Los Alamos National Laboratory, USA
Masa Tonouchi	Osaka University, Japan
David Zimdars	Picometrix, USA

Local Organizing Committee (UCSB):

Mark Sherwin
Marlene Rifkin
Elizabeth Strait

We would like to express our appreciation to our break sponsors

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Zomega Terahertz Corporation
Troy, NY USA

Optical Terahertz Science and Technology 2011 Program

• Sunday, March 13, 2011 •

Registration Desk Open
12:00 p.m.–5:00 p.m.
San Rafael Foyer
5:15 p.m. – 7:00 p.m.
Fiesta Room Foyer (3rd Floor)

SuA • Tutorials
1:00 p.m. – 5:30 p.m.
Sierra Madre North

SuA1 • 1:00 p.m.
The THz Electromagnetic Near-Field
Paul Planken
Delft University of Technology, Netherlands

SuA2 • 2:00 p.m.
Pulsed Electric and Magnetic Resonance at Terahertz Frequencies
Mark Sherwin
University of California Santa Barbara, USA
3:00 p.m.–3:30 p.m.
Coffee Break

SuA3 • 3:30 p.m.
Controlling THz Surface Electromagnetic Waves with Metamaterials
Willie Padilla
Boston College, USA

SuA4 • 4:30 p.m.
Faster Than a Cycle of Light: Physics with Broadband and Intense THz Pulses
Rupert Huber
University of Konstanz, Germany

Welcome Reception

Rotunda (3rd Floor Outside)
5:30 - 7:00 p.m.

• Monday March 14, 2011 •

Registration Desk Open
7:00 a.m. – 5:00 p.m.
San Rafael Foyer

Exhibits Open
9:00 a.m. -5:00 p.m.
San Rafael

Continental Breakfast
7:00 a.m. – 8:00 a.m.
San Rafael

MA • Semiconductors

Sierra Madre
8:10 a.m.–10:00 a.m.
Ajay Nahata Presiding

Welcome to OTST 2011 **8:10 a.m.**

MA1 **8:15 a.m.** **Plenary**
Terahertz Generation in Quantum Cascade Lasers, Circuits, and Antennas: Physics and Applications
Jerome Faist
ETH Zurich, *Switzerland*

MA2 **9:00 a.m.**
Terahertz Coherent Control of Many-Electron Quantum States in a Semiconductor Quantum Well
T. Arikawa[1], X. Wang[1], D. J. Hilton[2], J. L. Reno[3], W. Pan[4], and J. Kono[1]
[1]Departments of Electrical & Computer Engineering and Physics & Astronomy, Rice University, Houston, TX 77005 USA
[2]Department of Physics, University of Alabama-Birmingham, Birmingham, AL, 35294 USA
[3]Center for Integrated Nanotechnologies, Sandia National Laboratories, Albuquerque, NM 87123
[4]Sandia National Laboratories, Albuquerque, NM 87123 USA

MA3 **9:15 a.m.**
Effects Of Copper On The Carrier Dynamics In Black Silicon
H. P. Porte[1], D. Turchinovich[1], S. Persheyev[2], Y. Fan[2], M. J. Rose[2], and P. Uhd Jepsen[1]
[1]DTU Fotonik – Departement of Photonics Engineering, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark
[2]School of Engineering, Physics and Mathematics, University of Dundee, Dundee DD1 4HN, United Kingdom

MA4 **9:30 a.m.**
Time-Resolved Photoluminescence Quenching in Semiconductor Quantum Wells Using a Terahertz Free-Electron Laser
W. D. Rice[1,2], S. Zybell[1], S. Winnerl[1], H. Schneider[1], J. Kono[2] and M. Helm[1]
[1]Institute of Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, 01314 Dresden, Germany
[2]Department of Electrical and Computer Engineering, Rice University, Houston, TX 77005 USA

MA5 **9:45 a.m.**
Photoconductivity in TiO2 Nanotubes Measured by Time Resolved Terahertz Spectroscopy
Christiaan Richter[1] and Charles A. Schmuttenmaer[2]
[1]Rochester Institute of Technology, Dept. of Chemical Engineering, Rochester, NY 14623 USA
[2]Yale University, Dept. of Chemistry, CT 06520 USA

10:00 a.m.–10:30 a.m. Coffee Break
Sant Rafael

MB • Plasmonics and Metamaterials

Sierra Madre
10:30 a.m.–12:00 p.m.
Willie Padilla Presiding

MB1 **10:30 a.m.** **Invited**
Active Plasmonic Surfaces And Antennas At THz Frequencies
Jaime Gomez Rivas
FOM-Institute AMOLF, Netherlands

MB2 **11:00 a.m.**
Direct Measurement Of Field Enhancement And Visualization Of E-Field Profiles In Resonant THz Antennas
Christopher A. Werley[1], Stephanie M. Teo[1], Kebin Fan[2], Andrew C. Strikwerda[2], Richard D. Averitt[2], and Keith A. Nelson[1]

[1]*Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139 USA*
[2]*Department of Physics, Boston University, Boston, MA 02215 USA*

MB3 11:15 a.m.
Meta-Fabry-Perot Resonances Of Double-Layer Hole Arrays
Shuchang Liu[1], Tho Duc Nguyen[2], Z. Valy Vardeny[2], and Ajay Nahata[1]
[1]*Department of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT 84112 USA*
[2]*Department of Physics, University of Utah, Salt Lake City, UT 84112 USA*

MB4 11:30 a.m.
Very High THz Fields In Uniform Nano-Slit Arrays: Broadband Enhancement Of Intense THz Radiation
M. Shalaby[1, 2], M. Pecciant[1,3], L. Razzari[1], G. Sharma[1], T. Ozaki[1], R. Morandotti[1], H. Merbold[2], T. Feurer[2], A. Weber[4], L. Heyderman[4], H. Sigg[4] and B. Patterson[5]
[1]*Institut National de la Recherche Scientique (INRS-EMT), Varennes, QC J3X 1S2, Canada*
[2]*Institute of Applied Physics, University of Bern, Silderstrasse 5, CH-3012 Bern, Switzerland*
[3]*Institute for Chemical and Physical Processes, CNR, "Sapienza" University, Italy*
[4]*Laboratory for Micro- and Nanotechnology, Paul Scherrer Institut, CH-5232 Villigen, Switzerland*
[5]*SwissFEL, Paul Scherrer Institut, CH-5232 Villigen, Switzerland*

MB5 11:45 a.m.
Electromagnetic Composite-Based Reflecting Terahertz Waveplates
A. C. Strikwerda[1], K. Fan[2], G. D. Metcalfe[3], M. Wraback[3], X. Zhang[2] and Richard D. Averitt[1]
[1]*Department of Physics, Boston University, Boston, MA 02215, USA*
[2]*Department of Mechanical Engineering, Boston, MA 02215, USA*
[3]*Sensors and Electron Devices Directorate, U.S. Army Research Lab, RDRL-SEE-M, Adelphi, MD 20783, USA*

12:00 p.m.–1:15 p.m.
Lunch
Plaza Del Sol

MC • Non-Destructive Evaluation

Sierra Madre North
1:15 p.m.–3:00 p.m.
Enrique Castro-Camus Presiding

MC1 1:15 p.m. Invited
THz Technology For Analysis Of Artworks -Advances And Prospects
Kaori Fukunaga
NICT, Tokyo Japan

MC2 1:45 p.m.
Using Terahertz Time-Domain Spectroscopy To Assess III–V Nanowires For Optoelectronic Device Applications
Hannah J. Joyce[1], Patrick Parkinson[2], Qiang Gao[2], Jennifer Wong-Leung[2], H. Hoe Tan[2], C. Jagadish[2], James Lloyd-Hughes[1], Laura M. Herz[1] and Michael B. Johnston[1]
[1]*Department of Physics, University of Oxford, Oxford OX1 3PU, United Kingdom*
[2]*Department of Electronic Materials Engineering, Research School of Physics and Engineering, Australian National University, Canberra ACT 0200, Australia*

MC3 2:00 p.m.
Terahertz Imaging And Time-Domain Spectroscopy Of Large-Area Single-Layer Graphene
J. L. Tomaino[1], A. D. Jameson[1], J. W. Kevek[1], M. J. Paul[1], A. M. van der Zande[2], R. A. Barton[3], P. L. McEuen[2,4], E. D. Minot[1] and Yun-Shik Lee[1]
[1]*Department of Physics, Oregon State University, Corvallis, Oregon 97331, USA*
[2]*Laboratory of Atomic and Solid-State Physics, Cornell University, Ithaca, NY 14853, USA*
[3]*School of Applied and Engineering Physics, Cornell University, Ithaca, NY 14853, USA*
[4]*Kavli Institute at Cornell for Nanoscale Science, Cornell University, Ithaca, NY 14853, USA*

MC4 2:15 p.m.
High Resolution Characterization And Simulation Of Terahertz Vibrations Of Explosives And Related Threat Materials
Joseph S. Melinger[1], S. Sree Harsha[2], Daniel Grischkowsky[2], Keith Oppenheim[3], and Timothy M. Korter[3]
[1]*Naval Research Laboratory, Code 6812, Washington, DC 20375 USA*
[2]*School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, OK 74078 USA*
[3]*Department of Chemistry, Syracuse University, Syracuse, NY 13244 USA*

MC5 2:45 p.m.
Generation Of Intense, Broadband, High-Field THz Pulses Via Coherent Transition Radiation At The Linac Coherent Light Source
D. Daranciang[1], J. Goodfellow[2], S. Ghimire[3], H. Loos[3], D. Reis[3], A. S. Fisher[3] and A. M. Lindenberg[2,3]
[1]*Department of Chemistry, Stanford University, Stanford, CA 94305*
[2]*Department of Materials Science and Engineering, Stanford University, Stanford, CA 94305*
[3]*SLAC National Accelerator Laboratory, Menlo Park, CA 94025*

3:00 p.m.–3:30 p.m.
Coffee Break
San Rafael

MD • Quantum Cascade Structures

Sierra Madre South
1:15 p.m.–3:00 p.m.
Matthias Hoffman Presiding

MD1 1:15 p.m.
Anomalous Autler-Townes Splitting In Terahertz-Driven Quantum Wells: Interplay Of Coulomb Interactions, Non-Rotating Wave Effects And Stark Shifts
Benjamin Zaks[1], Dominik Stehr[1,2], Tuan-Anh Truong[3], Pierre M. Petroff[3], Stephen Hughes[4] and Mark S. Sherwin[1]
[1]*Institute for Terahertz Science and Technology and Physics Department, University of California at Santa Barbara, Santa Barbara, CA 93106 USA*
[2]*Institute for Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, P.O. Box 510119 01314 Dresden, Germany*
[3]*Materials Department, University of California at Santa Barbara, Santa Barbara, CA 93106 USA*
[4]*Physics Department, Queens University, Kingston, Ontario, K7L 3N6 Canada*

MD2 1:30 p.m.
Phase Seeding Of A Terahertz Quantum Cascade Laser
N Jukam[1], D. Oustinov[1], R. Rungsawang[1], J. Madéo[1], J. Maysonnave[1], P. Cavalié[1],
J. Tignon[1], and S.S. Dhillon[1], S. Barbieri[2], P. Filloux[2], and C. Sirtori[2] and X. Marcadet[3]
[1]*Laboratoire Pierre Aigrain, Ecole Normale Supérieure, Université D. Diderot, 75231 Paris Cedex 05 France*

[2]*Matériaux et Phénomènes Quantiques, Université D. Diderot, 75251 Paris Cedex 05 France*
[3]*Alcatel-Thales 3-5 Lab, Route Départementale 128, F-91767 Palaiseau Cedex France*

MD3 1:45 p.m.
InGaAs/GaAsSb Terahertz Quantum Cascade Lasers Operating Up To 135 K
C. Deutsch[1], A. Benz[1], H. Detz[2], M. Nobile[2], A. M. Andrews[2], P. Klang[2], W. Schrenk[2], G. Strasser[2] and K. Unterrainer[1]
[1]*Photonics Institute and Center for Micro- and Nanostructures, Vienna University of Technology, 1040 Vienna Austria*
[2]*Institute for Solid-State Electronics and Center for Micro- and Nanostructures, Vienna University of Technology, 1040 Vienna Austria*

MD4 2:00 p.m.
Time-Resolved Mid-Infrared Pump, Terahertz-Probe Spectroscopy Of Type-II Strained Layer Superlattices
P. C. Upadhya[1], K. M. Dani[1], S. D. Mukherjee[2,3], N. Gautam[3], A. Gin[2,4], M. Cich[2], J. Kim[2], S. Krishna[3], A. J. Taylor[1], and R. P. Prasankumar[1]
[1]*Center for Integrated Nanotechnologies, Los Alamos National Laboratory, Los Alamos, NM 87545 USA*
[2]*Sandia National Laboratories, Albuquerque, NM 87185 USA*
[3]*Center for High Technology Materials, University of New Mexico, Albuquerque, NM 87106 USA*
[4]*Center for Integrated Nanotechnologies, Sandia National Laboratories, Albuquerque, NM 87185 USA*

MD5 2:15 p.m.
Terahertz Time Domain Spectroscopy Of Metal-Metal THz Quantum Cascade Lasers
M. Martl[1], J. Darmo[1], C. Deutsch[1], M. Brandstetter[1], A. M. Andrews[2], P. Klang[3], G. Strasser[2,3] and K. Unterrainer[1]
[1]*Photonics Institute, Vienna University of Technology, Gusshausstrasse 29, 1040 Vienna, Austria*
[2]*Photonics Institute and Center for Micro- and Nanostructures, Vienna Univ. of Technology, Gusshausstrasse 29, 1040 Vienna, Austria*
[3]*Institute of Solid-State Electronics, Vienna University of Technology, Floragasse 7, 1040 Vienna, Austria*

MD6 2:30 p.m. Invited
Phase-Locking Of THz Qantum Cascade Lasers To A fs-Fiber Laser For Coherent Detection And Frequency Synthesis
Stefano Barbieri
University of Paris Diderot, France

3:00 p.m.–3:30 p.m.
Coffee Break
San Rafael

ME • Time-Resolved and Nonlinear Spectroscopy I

Sierra Madre
3:30 p.m.–5:00 p.m.
Hynek Nemec Presiding

ME1 3:30 p.m. Invited
Use Of THz Pulses For Quantum Information Operations On Hydrogen-Like Impurity States In Silicon
Ben Murdin
University of Surrey, Guildford, Surrey United Kingdom

ME2 4:00 p.m.
Ultrafast THz Saturable Absorption In Semiconductors
Dmitry Turchinovich[1] and Matthias C. Hoffmann[2]
[1]*DTU Fotonik, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark*
[2]*Max Planck Research Department for Structural Dynamics, University of Hamburg, Germany*

ME3 4:15 p.m.
Ultrabroadband Transient Terahertz Spectroscopy Of Silicon Nanocrystals
D.G. Cooke[1,2], L.V. Titova[3], T. Cocker[3], A. Meldrum[3], F. A. Hegmann[3] and P. Uhd Jepsen[1]
[1]*Department of Photonics Engineering, Technical University of Denmark, Kgs. Lygby, DK-2800, Denmark*
[2]*Department Of Physics, McGill University, Montreal, Québec H3A 2T5, Canada*
[3]*Department of Physics, University of Alberta, Edmonton, Alberta T6G2J1 Canada*

ME4 4:30 p.m.
Time-Resolved THz Spectroscopy Of Percolative Transport In Silicon Nanocrystal Films With Varying Silicon Filling Fractions
Lyubov V. Titova[1], Tyler L. Cocker[1], David G. Cooke[1,2], Xiongyao Wang[1,3], Al Meldrum[1,3] and Frank A. Hegmann[1]
[1]*Department of Physics, University of Alberta, Edmonton, Alberta T6G 2G7, Canada*
[2]*Department of Photonics Engineering, Technical University of Denmark, DK-2800, Kgs. Lyngby, Denmark*
[3]*National Institute for Nanotechnology, 11421 Saskatchewan Drive, Edmonton, Alberta TG6 2M9, Canada*

ME5 4:45 p.m.
Carrier Dynamics In Bulk ZnO Measured By Time-Resolved Terahertz Spectroscopy
Jason B. Baxter[1] and Charles A. Schmuttenmaer[2]
[1]*Drexel University, Dept. of Chemical and Biological Engineering, Philadelphia, PA USA*
[2]*Yale University, Dept. of Chemistry, New Haven, CT USA*

MF • Poster Session and Reception

Plaza Del Sol
5:00 – 7:30 pm

Poster presenters please place your poster on the stand marked with your number on Monday before 4:30pm.

After 6:45 pm, poster presenters are welcome to either continue to present their posters or view others. All posters must be removed immediately after the poster session ends.

Sources, Detectors and Spectrometers

MF1 Generation Of 7 µJ Tunable Multicycle THz Pulse By Optical Rectification With Chirped Pulse Interferometry
Zhao Chen, Xibin Zhou, Christopher A. Werley and Keith A. Nelson Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, USA

MF2 Excitation Wavelength Dependent THz Radiation From Nonpolar Gan
Grace D. Metcalfe[1], Hongen Shen[1], and Michael Wraback[1], Asako Hirai[2] and James S. Speck[2]
[1]*U.S. Army Research Laboratory, Sensors and Electron Devices Directorate, RDRD-SEE-M, 2800 Powder Mill Road, Adelphi, MD 20783, USA*
[2]*Materials Department, University of California, Santa Barbara, CA 93106, USA*

MF3 Monte Carlo Simulation Of Terahertz Photoconductive Receivers: The Role Of Trap Saturation

E. Castro-Camus[1], L. Fu[2], H. H. Tan[2], C. Jagadish[2], M. B. Johnston[3] and J. Lloyd-Hughes[3]
[1]Centro de Investigaciones en Óptica A.C., Lomas del Campestre, León, Guanajuato 37150, México
[2]Department of Electronic Materials Engineering, Australian National University, Canberra ACT 0200, Australia
[3]Department of Physics, University of Oxford, Clarendon Laboratory, Oxford OX1 3PU, United Kingdom

MF4 Towards Generation Of mJ-Level Ultrashort THz Pulses By Optical Rectification
J. A. Fulop, L. Pálfalvi, G. Almási, J. Hebling
University of Pécs, Department of Experimental Physics, Ifjúság ú. 6, 7624 Pécs, Hungary

MF5 Terahertz-Wave Generation From Injection Current In Bulk Znse
Zhihui Lv, Dongwen Zhang, Lin Sun, Zhaoyan Zhou, Zengxiu Zhao, Jianmin Yuan
National University of Defense Technology,Changsha, 410073, People's Republic of China

MF6 Terahertz Emission Modulated By Molecular Alignment In Two-Color Laser Mixed Plasma
Yong-Sing You, Taek Il Oh, Ki-Yong Kim
IREAP, University of Maryland, College Park, MD 20742 USA

MF7 Terahertz Detection Via Upconversion To The IR By Coherent Sum-Frequency Generation
F. Sedlmeir[1], H. G. L. Schwefel[1], D. V. Strekalov[2], S. Bauerschmidt[1], S. Preu[3,4], S. Malzer[1], G. H. Döhler[1], G. Leuchs[1]
[1]*Max-Planck Institute for the Science of Light, Gunther-Scvharowsky-Str. 1, Bldg. 24, 91058 Erlangen, Germany*
[2]*Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA USA*
[3]*Materials Department, University of California, Santa Barbara, CA USA*
[4]*Physics Dept. and Institute for Terahertz Science and Technology, University of California, Santa Barbara, CA USA*

MF8 Effect Of Optical Pulse Stretching On THz Generation From A Tilted Pulse Front Linbo3 Source
A. Ayesheshim, F. H. Su, Z. Wang, L. V. Titova, and F. A. Hegmann
Department of Physics, University of Alberta, Edmonton, Alberta T6G 2G7, Canada

MF9 Monochromatic Efficient THz Sources Based On Pulsed Fiber Lasers And External Cavity Enhancement
Wei Shi[1], Eliot B. Petersen[1, 2], Nick Moor[1, 3], Arturo Chavez-Pirson[1] and N. Peyghambarian[1, 3]
[1]*NP Photonics Inc., 9030 S. Rita Road, Tucson, AZ, 85747*
[2]*Physics Department, University of Arizona, Tucson, AZ 85721, USA.*
[3]*College of Optical Sciences, University of Arizona, Tucson, AZ 85721*

MF10 Space-Time Features Of THz Emitted From Optical Rectification Occurring In Sub-Wavelength Scales
M. Peccianti[1,2], Sze Phing Ho1[4], F. Buccheri1[3], M. Clerici[1], A. Busacca[3], T. Ozaki[1], J. Ali[4], R. Morandotti[1]
[1]*INRS-EMT, Université du Québec, Varennes, Québec J3X 1S2, Canada*
[2]*IPCF-CNR, UOS Roma, P.le A. Moro 2, I-00185 Roma, Italy*
[3]*DIEET , University of Palermo, Italy*
[4]*APSI, Universiti Teknologi Malaysia,81310 UTM Skudai, Johor, Malaysia*

MF11 Fast Scanning Terahertz Spectrometer Based On Synchronized Fiber Lasers
Dominik Stehr[1,2], Christopher M. Morris[1], Christian Schmidt[1] and Mark S. Sherwin[1]
[1]*Institute for Terahertz Science and Technology and Department of Physics, University of California Santa Barbara, Santa Barbara, 93106, CA, USA*
[2]*Institute for Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf 01314 Dresden, Germany*

MF12 Development Of Modulated Orientation Sensitive Terahertz Spectroscopy
Rohit Singh, Deepu George and Andrea Markelz
Department of Physics, University at Buffalo, SUNY, Buffalo, NY 14260 USA

MF13 Laser Noise Analysis and THz Pump-Probe Signal Detection With A DAQ Card for Pulsed Lasers With Repetition Rates Less Than 100 kHz
Christopher A. Werley, Stephanie M. Teo, and Keith A. Nelson
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139, USA

Spectroscopy

MF14 Terahertz Waveguide Spectroscopy Of TiO_2 Nanotubes
Diyar Talbayev[1], Christiaan Richter[1,2], and Charles A. Schmuttenmaer[1]
[1]*Department of Chemistry, Yale University, PO Box 208107, New Haven, CT 06520-8107 USA*
[2]*Department of Chemical Engineering, Rochester Institute of Technology, Rochester, NY 14623-5603 USA*

MF15 Developments Of Thz ESR System Using A Micro-Cantilever Up To 0.315 THz
H. Ohta[1,2], E. Ohmichi[2] and S. Hirano[2]
[1]*Molecular Photoscience Research Center, Kobe University, Kobe, 657-8501, Japan*
[2]*Faculty of Science, Kobe University, Kobe, 657-8501, Japan*

MF16 Influence Of The Electron-Cation Interaction On Electron Mobility In Dye-Sensitized Nanocrystals: A Study By Terahertz And Optical Using Ultrafast Spectroscopies
H. Němec[1], J. Rochford[2], O. Taratula[2], E. Galoppini[2], P. Kužel[1], A. Yartsev[3], and V. Sundström[3]
[1]*Institute of Physics of the Academy of Sciences of the Czech Republic, 182 21 Prague, Czech Republic*
[2]*Chemistry Department, Rutgers University, Newark, New Jersey 07102, USA*
[3]*Department of Chemical Physics, Lund University, 221 00 Lund, Sweden*

MF17 Blank

MF18 Electron Spin And Nuclear Spin-Dependent Resistivity Probed By Coherent (Sub)mm Wave Excitation At High Fields
J. van Tol[1], D.R. McCamey[2], G.W. Morley[3], S. Takahashi[4], C. Boehme[2]
[1]*National High Magnetic Field Laboratory, Florida State University,*

Physics, University of California at Santa Barbara, Santa Barbara, CA USA

MF19 Surface Carrier Recombination Of Optically Excited Silicon
K. A. Salek, K. Takayama, I. Kawayama, H. Murakami and M. Tonouchi
Institute of Laser Engineering, Osaka University, Suita, Osaka 565-0871, Japan

MF20 Terahertz Spectroscopic Reflection And Scattering Measurements Of Aligned CNT Arrays As A Function Of Carbon Nanotube Length
Satya Ganti[1], Lindsay Owens[2], Stanley Smith IV[2], Jason A. Deibel[2,3]
[1]Department of Mechanical and Materials Engineering, Wright State University, Dayton, OH 45435 USA
[2]Department of Physics, Wright State University, Dayton, OH 45435 USA
[3]Department of Electrical Engineering Wright State University, Dayton, OH 45435 USA

MF21 Application Plan Of Terahertz Wave Diagnostics For High Temperature And High-Density Plasma Experiments
T. Tokuzawa, Y. Kadoya[2], M. Hangyo[3], K. Tanaka[1], I. Yamada[1], and K. Kawahata[1]
[1]National Institute for Fusion Science,322-6 Oroshi-cho, Toki 509-5292, Japan
[2]Department of Quantum Matter, Hiroshima University, 1-3-1 Kagamiyama, Higashihiroshima, 739-8530, Japan
[3]Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita, Osaka 565-0871, Japan

Materials Characterization

MF22 Broadband Terahertz Characterization Of Linear And Electro-Optic Polymeric Materials
Paul D. Cunningham, Nestor N. Valdes, Felipe A. Vallejo, L. Michael Hayden
Department of Physics, University of Maryland Baltimore County, Baltimore, Maryland 21250, USA

MF23 Chiral Solid Discrimination And Polymorph Detection In Pharmaceuticals
Matthew D. King and Timothy M. Korter
Department of Chemistry, Syracuse University, Syracuse, NY 13244 USA

MF24 Record THz Birefringence Of Liquid Crystals
Nico Vieweg and Martin Koch
Faculty of Physics, Philipps-University of Marburg, Germany

MF25 Terahertz Spectroscopy Of Dielectric Parameters And Structural Change Of Gas Hydrates
Kei Takeya, Iwao Kawayama, Hironaru Murakami, Masayoshi Tonouchi
Institute of Laser Engineering, Osaka University, Osaka, Japan

MF26 Standoff THz Spectroscopy For Explosive Identification At Long Distances
Marc Châteauneuf, Francis Théberge, and Jacques Dubois
Defence Research & Development Canada (DRDC) Valcartier, 2459 Pie-XI Blvd North, Québec, Canada, G3J 1X5

MF27 Multilayer Thickness Measurements Of Industrial Coatings With Time-Domain THz Technology
David J. Cook[1], Douglas J. Bamford[1], Joel M. Hensley[2], Peter M. Mayer[2] and Mark G. Allen[2]
[1]Physical Sciences Incorporated, Pleasanton, California 94588
[2]Physical Sciences Incorporated, Andover, Massachusetts 01810

MF28 Research On Water Content Measuring Using Terahertz Technology In Food Industry
Xiao-Jing Gong, Jun Yang, Yan-Dong Zhang, Fei Gao and Lei Jin
[1]Shenzhen Institute of Advance Technology, Chinese Academy of Sciences, Shenzhen 518055, PR China
[2]Key Laboratory for Biomedical Informatics and Health Engineering, Chinese Academy of Sciences, Shenzhen 518055, PR China

Molecular and Time-Resolved Spectroscopy

MF29 Gene Specific Response of Mammalian Stem Cells to Terahertz Radiation
Boian S. Alexandrov[1], Kim Ø. Rasmussen[1], Alan R. Bishop[1], Ludmil B. Alexandrov[2], Anny Usheva[3], Evan D. Rosen[3], M. Elizabeth Phipps[4], Jennifer S. Martinez[4], Hou-Tong Chen[4], George Rodriguez[4]
[1]Theoretical Division, Los Alamos National Laboratory, NM 87545, USA
[2]Wellcome Trust Sanger Institute, Hinxton, Cambridge CB10 1SA, UK
[3]Harvard Medical School, Beth Israel Deaconess Medical Center, Department of Medicine, Boston, MA 02215, USA
[4]Center for Integrated Nanotechnologies, Los Alamos National Laboratory, NM 87545, USA

MF30 THz Measurements Of Molecular Solution Phase Dynamical Alignment
Deepu George[1], Rohit Singh[1], Chejin Bae[1], A. G. Markelz[1], Byungwook Ahn[2] and Kwang Oh[2]
[1]Physics Department, University at Buffalo, SUNY, Buffalo, NY 14260
[2]Electrical Engineering, University at Buffalo, SUNY, Buffalo, NY 14260

MF31 Time-Domain Terahertz Spectroscopy Applied To Molecular Organic Crystalline Materials: Theoretical Assignment Of Absorption Features
Daniele Tomerini, Graeme M. Day and J. Axel Zeitler
University of Cambridge, Cambridge UK

MF32 Ultrafast Exciton-Polariton Bleaching And Recovery In A Quantum-Well Microcavity Induced By Strong Terahertz Pulses
J. L. Tomaino[1], A. D. Jameson[1], Yun-Shik Lee[1], G. Khitrovah[2], H.M. Gibbs[2], A. Stroech[3], M. Kira[3], and S.W. Koch[3]
[1]Department of Physics, Oregon State University, Corvallis, Oregon 97331, USA
[2]Optical Sciences Center, University of Arizona, Tucson, Arizona 85721, USA
[3]Department of Physics and Material Sciences Center, Philipps-University, 35032 Marburg, Germany

MF33 Using Terahertz Spectroscopy To Study Systems With Solar Energy Applications
Rebecca L. Milot, Gary F. Moore, Robert H. Crabtree, Gary W. Brudvig, and Charles A. Schmuttenmaer
Department of Chemistry, Yale University, New Haven, CT 06520-8107 USA

MF34 THz Electro-Absorption Effect In Quantum Dots
Dmitry Turchinovich[1], Boris S. Monozon[2], Daniil Livshits[3], Edik U. Rafailov[4], and Matthias C. Hoffmann[5]
[1]DTU Fotonik, Technical University of Denmark, DK-2800 Kgs. Lyngby, Denmark
[2]Department of Physics, State Marine Technical University, St. Petersburg, Russia
[3]Innolume GmbH, Dortmund, Germany
[4]School of Engineering, Physics and Mathematics, University of Dundee, UK

[5]*Max Planck Research Department for Structural Dynamics, University of Hamburg, Germany*

MF35 Charge Transport And Localization In Nanocrystalline Cds Films Studied By Time-Resolved THz Spectroscopy
Z. Mics[1], H. Němec[1] [1], P. Kužel[1], P. M [2] and P. Němec[2]
[1]Institute of Physics of the Academy of Sciences of the Czech Republic, 182 21 Prague, Czech Republic
[2]Faculty of Mathematics and Physics, Charles University in Prague, 121 16 Prague, Czech Republic

Microscopy and Imaging

MF36 Single-Photon Counters In MIR-THz Region Developed For Near Field Passive Microscopy
Takeji Ueda
Department of Basic Science, University of Tokyo, Tokyo Japan

MF37 Single-Sided Diffuse Reflectance Time-Domain Terahertz Computed Tomography For Non-Destructive Evaluation
David A. Zimdars[1], Greg D. Fichter[1], and Gregg D. Sucha[1], Malakeh A. Musheinesh[2], Charles J. Divin[2], Jeffrey A. Fessler[2] and Theodore B. Norris[2]
[1]Picometrix, LLC., Ann Arbor, MI 48104 USA
[2]EECS Dept. and Center for Ultrafast Optical Science, Univ. of Michigan, Ann Arbor, MI 48109, USA

MF38 Development Of High-Speed THz Imaging System For 1560 nm Femtosecond Fiber Laser
K. Serita[1], S. Mizuno[1], H. Murakami[1], I. Kawayama[1], Y. Takahashi[2], M. Yoshimura[2], Y. Kitaoka[2], Y. Mori[2], J. Darmo[3], and M. Tonouchi[1]
[1]Institute of Laser Engineering, Osaka University, Osaka, Japan
[2]Graduate school of Engineering, Osaka University, Osaka, Japan
[3]Institute of Photonics, Vienna University of Technology, Vienna, Austria

Quantum Cascade Lasers and Semiconductor Devices

MF39 Superconducting Waveguides For Terahertz Quantum-Cascade Laser
A. Benz[1], M. Brandstetter[1], C. Deutsch[1], A. M. Andrews[2], P. Klang[2], W. Schrenk[2], G. Strasser[2], and K. Unterrainer[1]
[1]Photonics Institute and Center for Micro- and Nanostructures, Vienna University of Technology, Vienna, Austria
[2]Institute of Solid-State Electronics and Center for Micro- and Nanostructures, Vienna University of Technology, Vienna, Austria

MF40 Tunable Quantum Cascade Lasers For Thz Mixers
R. Ramaswamy[1], A. Muraviev[1,2], K. Wang[1], C. Deutsch[3], J.K. Choi[1], D. B. Eason[1], G. Strasser[1], M. Shur[2], A. Sergeev[1] and V. Mitin[1]
[1]University at Buffalo, the State University of New York, Amherst, NY, USA, 14260
[2]Rensselaer Polytechnic Institute, Troy, NY 12180 USA
[3]Photonics Institute, TU Vienna, Vienna Austria

MF41 Coherent And Tunable Terahertz Emission From Nano-Metric Field Effect Transistor At Room Temperature
S. Boubanga-Tombet[1], F. Teppe[2], J. Torres[2], W.Knap[2] and T. Otsuji[1,3]
[1]Tohoku University, RIEC, 2-1-1 Katahira, Aoba-ku 980-8577 Sendai Japan
[2] GES-CNRS UMR 5650, Place Eugène Bataillon, 34095 Montpellier, France
[3]Japan Science and Technology Agency, Tokyo 107-0075, Japan

MF42 1.5-Gbps Wireless Transmission Using Resonant Tunneling Diodes at 300 GHz
T. Mukai[1], M. Kawamura[2], T. Takada[2] and T. Nagatsuma[2]
[1]Rohm Co.,Ltd. 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan
[2]Osaka University, 1-3 Machikaneyama, Toyonaka, Osaka 560-8531, Japan

Waveguides, Plasmonics and Metamaterials

MF43 Slot Waveguide-Based Splitters For Broadband Terahertz Radiation
Shashank Pandey, Gagan Kumar and Ajay Nahata
Department of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT 84112 USA

MF44 Concentration Of Terahertz Radiation Through A Conically Tapered Aperture
Tho Duc Nguyen[1], Shuchang Liu[2], Z. Valy Vardeny[1], and Ajay Nahata[2]
[1]Department of Physics, University of Utah, Salt Lake City, UT 84112 USA
[2]Department of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT 84112 USA

MF45 Active Control Of THz Plasmonic Resonances
Martijn C. Schaafsma, Audrey Berrier, and Jaime Gómez Rivas
Center for Nanophotonics, FOM Institute of Atomic and Molecular Physics, AMOLF, c/o Philips Research Laboratories, 5656 AE Eindhoven, The Netherlands

MF46 Thermally Tunable Terahertz Metamaterials Using Strontium Titanate Single Crystal Substrates
Ranjan Singh, Antoinette J. Taylor, and Hou-Tong Chen
MPA-CINT, Los Alamos National Laboratory, Los Alamos, NM 87545

MF47 Terahertz Antireflection Coating Using Metamaterials
Hou-Tong Chen, Jiangfeng Zhou, John F. O'Hara, Frank Chen, Abul K. Azad, and Antoniette J. Taylor
MPA-CINT, Los Alamos National Laboratory, Los Alamos, NM 87545

MF48 Controlling THz Surface Electromagnetic Waves With Metamaterials
W. J. Padilla[1], Tahsin Akalin[2], and Wenchen Chen[1]
[1]Department of Physics, Boston College, Chestnut Hill, MA 02467 USA
[2]Institut dElectronique de Microlectronique et de Nanotechnologie, IEMN, Lille, France

MF49 New Terahertz Device Based On Three-Dimensional Woodpile $BaTiO_3$ Photonic Crystals
Xiaojing Gong[1], Jun Yang[1], Yandong Zhang[1], Fei Gao[1], Sun Jing-Bao[2], Li Bo[2], Zhou Ji[2], Anqin Wang[3], Lei Jin[1]
[1]Research Centre for Biophotonics, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055, P. R. China
[2]State Key Lab of New Ceramics and Fine Processing, Department of Materials Science and Engineering, Tsinghua University, Beijing 100084, P. R. China
[3]Dongguan Kewei Institute for Medical Instruments Research, Dongguan 523122, P. R. China

MF50 Fano Resonance Induced By Asymmetric Cut-Wire Pairs
Lin Sun, Zengxiu Zhao, Zhihui Lv, Dongwen Zhang, and Jianmin Yuan
Department of Physics, National University of Defense Technology, Changsha, China, 410073

Optics and Electron Beams

MF51 Terahertz Coherent Synchrotron Radiation Probed with Electro-Optic Sampling Method
Ikufumi Katayama[1], Hiroshi Shimosato[2], Michitaka Bito[2], Kei Furusawa[2], Masahiro Adachi[3,4], Miho Shimada[5], Heishun Zen[3,4], Shin-ichi Kimura[3,4], Naoto Yamamoto[6], Masahito Hosaka[6], Masahiro Katoh[3,4], and Masaaki Ashida[2,7]
[1]Interdisciplinary Research Center, Yokohama National University, Yokohama 240-8501 Japan
[2]Graduate School of Engineering Science, Osaka University, Osaka, 560-8531 Japan
[3]Institute of Molecular Science (IMS), UVSOR, Okazaki, 444-8585 Japan
[4]SOKENDAI, Okazaki, 444-8585 Japan
[5]High Energy Accelerator Research Organization, Tsukuba, 305-0801 Japan
[6]Nagoya University, Nagoya, 464-8603 Japan
[7]PRESTO, Japan Science and Technology Agency, Tokyo, 102-0075 Japan

MF52 FEL Radiation Use For Large Biomacromolecules And Nano-objects Ablation
S.E. Peltek[1], T.N. Goryachkovskaya[1], E.A.Demidov[1], I.A. Mesheryakova[1], Kolchanov N.A.[1], V.M. Popik[2], G.N. Kulipanov[2], M.A. Scheglov[2], N.A. Vinokurov[2] and A.K. Petrov[3]
[1] ICG, Novosibirs, Russia
[2]Budker INP, Novosibirs, Russia
[3]ICKC, Novosibirs, Russia

MF53 Optical Manipulation Of Relativistic Electron Beams Using THz Radiation
C. Tőke, L. Pálfalvi, and J. Hebling
Institute of Physics, University of Pécs, 7624 Pécs, Hungary

Astrophysics

MF54 Fundamental Limitations On Observing Terahertz Galaxies
Sean Denny, Jonathan Y. Suen, Philip M. Lubin
Department of Physics, University of California, Santa Barbara, CA 93106 USA

• Tuesday, March 15, 2011 •

Registration Desk Open
7:00 a.m. – 5:00 p.m.
San Rafael Foyer

Exhibits Open
9:00 a.m. -5:00 p.m.
San Rafael

Continental Breakfast
7:00 a.m. – 8:00 a.m.
San Rafael

TuA • Sources and Detectors I
Sierra Madre
8:15 a.m.–10:00 a.m.
Jason Deibel Presiding

TuA1 8:15 a.m. Invited
Terahertz Emission From The Lateral Photo-Dember Effect
Thomas Dekorsy
University of Konstanz, Konstanz, Germany

TuA2 8:45 a.m.
Intracavity Generation Of High Power Continuous Wave Terahertz Radiation
Maik Scheller[1,2], Joe M. Yarborough[1,3], Jerome V. Moloney[1,3], Mahmoud Fallahi[1,3], Martin Koch[1,2], and Stephan W. Koch[1,2]
[1]Desert Beam Technologies LLC, Tucson, AZ 85705 USA
[2]Faculty of Physics, Philipps-University of Marburg, Germany
[3]College of Optical Sciences, University of Arizona, Tucson, AZ, 85721 USA

TuA3 9:00 a.m.
Study Of Threshold Behavior Of Stimulated Terahertz Emission From Optically Pumped Graphene
Akira Satou[1,3], Stephane Albon Boubanga Tombet[1], Taiichi Otsuji[1,3] and Victor Ryzhii[2,3]
[1]Research Institute of Electrical Communication, Tohoku University, Sendai 980-8577, Japan
[2]Computational Nanoelectronics Laboratory, University of Aizu, Aizu-Wakamatsu 965-8580, Japan
[3]Japan Science and Technology Agency, Tokyo 107-0075, Japan

TuA4 9:15 a.m.
Tunable Narrowband THz Pulses From A Large-Area Photoconductive Emitter
Johannes Krause, Martin Wagner, Manfred Helm, Dominik Stehr
Institute for Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf 01314 Dresden, Germany

TuA5 9:30 a.m.
A Tunable Terahertz Detector Based On Self Assembly Plasmonic Structure On A GaAs 2DEG
Che Jin Bae, Deepu K George, Rohit Singh and Andrea Markelz
Department of Physics, University at Buffalo, The State University of New York, Buffalo, NY 14260 USA

TuA6 9:45 a.m.
Coherent CW THz Emitter Arrays For Imaging And Spectroscopy Applications
S. Bauerschmidt[1], S. Malzer[1], S. Preu[2], G. H. Döhler[1], L. J. Wang[3], and A. C. Gossard[4]
[1]Max-Planck Institute for the Science of Light, Erlangen, Germany
[2]Physics Department, Univ. of California, Santa Barbara
[3]Physics Department, Tsinghua University, Beijing 100084, China
[4]Materials Department, Univ. of California, Santa Barbara CA USA

10:00 a.m.–10:30 a.m.
Coffee Break
San Rafael

TuB • Molecular Spectroscopy
Sierra Madre
10:30 a.m.–12:00 p.m.
Masaaki Ashida Presiding

TuB1 10:30 a.m. Invited
THz Studies Of Water Dynamics Around Protons And Ions
Mischa Bonn
FOM-Institute, AMOLF, Netherlands

MB2 11:00 a.m.
Orientation And Alignment Of Gas Phase Molecules By Single Cycle THz Pulses
Sharly Fleischer, Yan Zhou, Robert W. Field and Kieth A. Nelson
Massachusetts Institute of Technology, Cambridge MA 02139

TuB3 11:15 a.m.
Hydration Effect Of Biological Reactions Studied By Terahertz Time-Domain Spectroscopy
Naoki Yamamoto[1], Feng Zhang[2], Azusa Kaneko[2], Ohki Kambara[1], Atsuo Tamura[2] and Keisuke Tominaga[1,2]
[1]Molecular Photoscience Research Center, Kobe University
[2]Graduate School of Science, Kobe University, Nada, Kobe, 657-8501 Japan

TuB4 11:30 a.m.
Substrate Independence Of THz Vibrational Modes Of Polycrystalline Films Of Molecular Solids In Waveguide THz Time Domain Spectroscopy
S. Sree Harsha, Alisha Shutler and D. Grischkowsky
School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, OK 74078

TuB5 11:45 a.m.
Solvation Water Of Biomolecules Seen Through THz Glasses
M. Heyden[1,2] and M. Havenith[1]
[1]Physical Chemistry II, Ruhr-University Bochum, 44780 Bochum, Germany
[2]on leave to Department of Chemistry, University of California, Irvine, CA 92697, USA

12:00 p.m.–1:15 p.m.
Lunch
Plaza del Sol

TuC • Imaging
Sierra Madre North
1:15 p.m.–3:00 p.m.
Kaori Fukunaga Presiding

TuC1 1:15 p.m. Invited
Evidence Of Correlated Protein Motions In THz Response
Andrea Markelz
University at Buffalo, Buffalo NY USA

TuC2 1:45 p.m.
Two Dimensional Correlation Spectroscopy In Terahertz Frequency Region
Hiromichi Hoshina[1], Yusuke Morisawa[2], Harumi Sato[2], Isao Noda[3], Yukihiro Ozaki[2] and Chiko Otani[1]
[1]RIKEN Advanced Science Institute, Sendai, Miyagi, 980-0845, Japan
[2]Kwansei Gakuin University, Sanda, Hyougo, 669-1337 Japan
[3]The Procter & Gamble Company, West Chester, Ohio, 45069 USA

TuC3 2:00 p.m.
Near-Field Imaging Of THz Field Enhancement
F. Blanchard[1,2], A. Doi[2,3], T. Tanaka[1,2], and K. Tanaka[1,2]
[1]iCeMS, Kyoto University Yoshida-Honmachi, Sakyo, Kyoto 606-8501, Japan
[2]CREST, Japan Science and Technology Agency, Kawaguchi, Saitama 332-0012, Japan
[3]Olympus Corporation

TuC4 2:15 p.m.
Terahertz Digital Off-Axis Holography Via Angular Spectrum And Dual Wavelength Reconstruction Methods
Martin Heimbeck[1], Myung K. Kim[2], Don A. Gregory[3], and Henry O. Everitt[1]
[1]US Army Research Development and Engineering Command, Redstone Arsenal, AL 35898 USA
[2]University of South Florida, Physics Department, Tampa, FL 33620 USA
[3]University of Alabama in Huntsville, Physics Department, Huntsville, AL 35806 USA

TuC5 2:30 p.m.
Cantilever-Based Near-Field Probes For Spatio-Temporal Terahertz Investigations Of Nanophotonic And Nanoelectronic Structures
M. Nagel[1], T. Kißels[1], C. Matheisen[1], A. Michalski[1], M. Wächter[1], H. Kurz[1,2]
[1]Institute for Semiconductor Electronics, RWTH Aachen, 52074 Aachen, Germany
[2]AMO GmbH, Otto-Blumenthal-Str. 25, 52074 Aachen, Germany

TuC6 2:45 p.m.
Characterization Of A THz Kagome Fiber
Jessienta Anthony[1], Rainer Leonhardt[1], David Wu[2], Sergio G. Leon-Saval[2] and Alexander Argyros[2]
[1]Department of Physics, The University of Auckland, Auckland 1010, New Zealand
[2]Institute of Photonics and Optical Science, School of Physics, The University of Sydney, Sydney NSW 2060, Australia

3:00 p.m.–3:30 p.m.
Coffee Break
Santa Ynez

TuD • Time-Resolved and Nonlinear Spectroscopy II
Sierra Madre South
1:15 p.m. – 3:00 p.m.
Yun-Shik Lee Presiding

TuD1 1:15 p.m.
Terahertz Ionization Of Highly Charged InGaAs Quantum Posts
C. M. Morris[1], D. Stehr[6], T. A. Truong[2], H. C. Kim[5], C. Pryor[3], P. M. Petroff[2,4] and M. S. Sherwin[1]
[1]Physics Dept. and Institute for Quantum and Complex Dynamics, UCSB, Santa Barbara, CA USA
[2]Materials Dept., UCSB, Santa Barbara, CA USA
[3]Dept. of Physics and Astronomy, University of Iowa, Iowa City, IA USA
[4]Dept. of Electrical and Computer Engineering UCSB, Santa Barbara, CA USA
[5]Dept. of Electrical and Computer Engineering, University of Maryland, College Park, MD USA
[6]Institute for Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf, Germany

TuD2 1:30 p.m.
Time-Resolved Photoluminescence Quenching Measurements In Inas/Gaas Quantum Dots Using Terahertz Laser Pulses
J. Bhattacharyya[1], S. Zybell[1], M. Wagner[1], M. Helm[1], M. Hopkinson[2], L. R. Wilson[3] and H.Schneider[1]
[1]Institute of Ion Beam Physics and Materials Research, FZD-Rossendorf, D-01314 Dresden, Germany
[2]EPSRC National Centre for III-V Technology, University of Sheffield, S1 3JD, UK
[3]Department of Physics and Astronomy, University of Sheffield, Sheffield S3 7RH, UK

TuD3 1:45 p.m.
AC Stark Effect Of The Intra-exciton 1s-2p Quantum Well Transition
Martin Wagner[1], Dominik Stehr[1], Harald Schneider[1], Stephan Winnerl[1], Aaron M. Andrews[2], Stephan Schartner[2], Gottfried Strasser[2], Manfred Helm[1]
[1]Institute for Ion Beam Physics and Materials Research, Forschungszentrum Dresden-Rossendorf 01314 Dresden, Germany
[2]Micro- and Nanostructure Center, TU Wien, Floragasse 7, 1040 Vienna, Austria

TuD4 2:00 p.m.
Time-Resolved Terahertz Spectroscopy Of Cyclotron Resonance In p-Germanium In Pulsed Magnetic Field
Daniel Molter[1,2], Frank Ellrich[1], T. Weinland[1,2], Sylvie George[3], Michel Goiran[3], Fritz Keilmann[4], René Beigang[1,2], and Jean Leotin[3]
[1]Fraunhofer Institute for Physical Measurement Techniques IPM, Kaiserslautern, Germany
[2]University of Kaiserslautern, Department of Physics and Research Center OPTIMAS, Kaiserslautern, Germany
[3]Laboratoire National des Champs Magnétiques Intenses, Toulouse, France
[4]Max Planck Institute of Quantum Optics and Center for

NanoScience, Garching, Germany

TuD5 2:15 p.m.
Probing the Transient Photoconductivity In Bi_2Se_3 Thin Films By THz Time-Domain Spectroscopy
Li-Guo Zhu[1,2], Keliang He[1], Chen Xia[1], Brain Kubera[1], and Jie Shan[1]
[1]Department of Physics, Case Western Reserve University, 10900 Euclid Avenue, Cleveland, OH 44106, USA
[2]Department of Engineering Physics, Tsinghua University, Beijing 100084, China

TuD6 2:30 p.m. Invited
High Power THz Pulses and Nonlinear THz Dynamics
Frank Hegmann
University of Alberta, Alberta Canada

TuE • Poster Session II

Plaza Del Sol
3:30 – 5:30 pm

Poster presenters please place your poster on the stand marked with your number on Tuesday before 3:00pm.

After 5 pm, poster presenters are welcome to either continue to present their posters or view others. All posters must be removed immediately after the poster session ends.

Sources, Detectors and Spectrometers

TuE1 Highly-Sensitive Terahertz-Wave Detection Using An Organic DAST Crystal Covering 2-30 Thz At Room Temperature
H. Minamide, T. Notake, M. Tang, Y. Wang, K. Nawata, and H. Ito
RIKEN ASI, 519-1399, Aramaki, Aoba, Sendai 980-0845, Japan

TuE2 Terahertz Profiles From Two-Color Laser-Produced Plasma
Yong-Sing You, Taek Il Oh, Ki-Yong Kim
IREAP, University of Maryland, College Park, MD 20742 USA

TuE3 Gouy Shift Correction In THz Time-Domain Experiments With A Focused Beam
P. Kužel, F. Kadlec, C. Kadlec and H. Němec
Institute of Physics, Academy of Sciences of the Czech Republic, Na Slovance 2, 182 21 Prague 8, Czech Republic

TuE4 > μJ Terahertz Pulses Generated In Relativistic Femtosecond Laser-Solid Interactions
Y. T. Li[1], C. Li[1], M. L. Zhou[1], X. X. Lin[1], F. Liu[1], F. Du[1], S. J. Wang[1], L. M. Chen[1], J. L. Ma[1], Z.H. Wang[1], Z. Y. Wei[1], Z. M. Sheng [1,2] and J. Zhang[1,2]
[1]Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China
[2]Shanghai Jiao Tong University, Shanghai 200240, China

TuE5 TREASURE: Terahertz room-temperature integrated parametric source
Christer Z. Bisgaard, Peter Uhd Jepsen
DTU Fotonik, Technical University of Denmark, DK-2800 Kongens Lyngby, Denmark

TuE6 Tunable And Narrow Line-Width Terahertz Generation By Difference Frequency In GaSe Crystals
Dong Wen Zhang, Zhi Hui Lv and Jian Min Yuan
Department of Physics, College of Science, National University of Defense Technology, Changsha, 410073 China

TuE7 Analysis And Comparison Of THz Efficiency From ZnSe And GaAs Antennas
X. Ropagnol[1], R. Morandotti[1], T. Ozaki[1] and M. Reid[2]
[1]INRS-EMT, Advanced Laser Light Source, Universit. du Qu.bec, Varennes, Qu.bec J3X 1S2, Canada
[2]Department of Physics, University of Northern British Columbia, Prince George, British Colombia V2N 4Z9, Canada

TuE8 Conjunction Measurement Of High Harmonic And Terahertz Waves Generated By Ionizing Gas In Two-Color Laser Fields
Dong Wen Zhang, Zhi Hui Lv, Xiao Wei Wang, Zhao Yan Zhou, Zeng Xiu Zhao and Jian Min Yuan
Department of Physics, College of Science, National University of Defense Technology, Changsha, 410073 China

TuE9 THz Radiation By Beating Of Triangular Laser Pulses In Plasmas
Anil K. Malik, Hitendra K. Malik and Ulrich Stroth
Department of Physics, Indian Institute of Technology Delhi, New Delhi 110016, India

TuE10 Optimization Of Terahertz Generation In Laser-Produced Plasma Filaments
Taek Il Oh, Yong-Sing You and Ki-Yong Kim
Institute for Research in Electronics and Applied Physics, University of Maryland, College Park, MD 20742

TuE11 Single-Shot Time-Resolved Terahertz Spectroscopy
Zhenyou Wang, Fu Hai Su, and Frank A. Hegmann
Department of Physics, University of Alberta, Edmonton, Alberta T6G 2G7, Canada

TuE12 Liquid-Filled Variable-Focus Terahertz Lens
Benedikt Scherger, Christian Jördens and Martin Koch,
Faculty of Physics, Philipps-University of Marburg, Germany

TuE13 A Fast Continuous-Wave Terahertz Spectrometer Using Fiber Stretchers
A. Roggenbuck[1,2], K. Thirunavukkuarasu[2], H. Schmitz[2], A. Deninger[1], J. Hemberger[2] and M Grüninger[2]
[1]TOPTICA Photonics AG, Lochhamer Schlag 19, 82166 Gräfelfing, Germany
[2] II. Physikalisches Institut, Universität zu Kőln, Zülpicher Str. 77, 50937 Kőln, Germany

Spectroscopy

TuE14 Low-Frequency Vibrational Spectroscopy Of Structurally Tunable Charge-Density-Wave Materials
Moritz Knoedler[1], Hyunyong Choi[1], Robert A. Kaindl[1] and Susan L. Dexheimer[1,2]
[1]Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720 USA
[2]Department of Physics and Astronomy, Washington State University, Pullman, WA 99164-2814 USA

TuE15 In-Plane Anisotropy In THz Conductivity And Low-Energy Excitations In Half-Doped $Pr_{0.5}Sr_{0.5}MnO_3$ Thin Films
D. S. Rana[1,3], K. R. Mavani[2,3], I. Kawayama[2], H. Murakami[2] and M. Tonouchi[2]
[1]Indian Institute of Science Education and Research (IISER) Bhopal, Govindpura, Bhopal, India
[2]Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita 565-0871, Osaka, Japan
[3]Indian Institute of Technology (IIT) Indore, DAVV Campus, Indore, India

TuE16 THz Spectroscopy Of Self-Assembled ErSb Nanorods
S. Preu[1,2], H. Lu[1], C. Morris[2], A. C. Gossard[1] and M. S. Sherwin[2]
[1]Materials Department, University of California, Santa Barbara, CA

USA
[2]Physics Dept. and Institute for Terahertz Science and Technology, University of California, Santa Barbara, CA USA

TuE17 Infrared/Terahertz Double Resonance Spectroscopy At Atmospheric Pressures: Predictions, Results, And Extension To Remote Sensing Applications
Dane J. Phillips[1,2], Elizabeth A. Tanner[2], Henry O. Everitt[3], Ivan R. Medvedev[4], Christopher F. Neese[5], Jennifer Holt[5], Frank C. De Lucia[5]
[1]University of Alabama in Huntsville, Huntsville, AL 35803 USA
[2]Kratos Defense – Digital Fusion, Huntsville, AL 35805 USA
[3]US Army Aviation and Missile Research Development and Engineering Center, Redstone Arsenal, AL 35898 USA
[4]Wright State University, Dayton, OH 45435 USA
[5]Ohio State University, Columbus, OH 43210 USA

TuE18 Terahertz Conductivity Of Low-Dimensional Carbon Nanostructures
L. Ren[1], Q. Zhang[1], E. H. Hároz[1], T. Arikawa[1], J. Kono[1], K. Takeya[2], R. Kinjo[2], I. Kawayama[2],M. Tonouchi[2], A. K. Wojcik[3], A. A. Belyanin[3], C. L. Pint[4], R. H. Hauge[4], Z. Jin[4], Z. Sun[4], and J. M. Tour[4]
[1]Department of Electrical and Computer Engineering, Rice University, Houston, TX 77005 USA
[2]Institute of Laser Engineering, Osaka University, Yamadaoka 2-6, Suita, Osaka 565-0871, Japan
[3]Department of Physics, Texas A&M University, College Station, TX 77843 USA
[4]Department of Chemistry, Rice University, Houston, TX 77005 USA

TuE19 Ultrafast Carrier Recombination In Nanoporous Silicon
Felipe A. Vallejo[1], Xinchao Lu[1], Shu-Zee A. Lo[2], Thomas E. Murphy[2], and L. Michael Hayden[1]
[1]Department of Physics, University of Maryland Baltimore County, Baltimore, Maryland 21250, USA
[2]Department of Electrical & Computer Engineering, Institute for Research in Electronics & Applied Physics, University of Maryland, College Park, Maryland 20740, USA

TuE20 Terahertz Conductivity Of A Nanogranular Vanadium Dioxide Film Heated And Cooled Through The Metal-Insulator Transition
T. L. Cocker[1], L. V. Titova[1], S. Fourmaux[2], H.-C. Bandulet[2], D. Brassard[2], J.-C. Kieffer[2], M. A. El Khakani[2], and F. A. Hegmann[1]
[1]Department of Physics, University of Alberta, Edmonton, Alberta T6G 2G7, Canada
[2]INRS-EMT, Advanced Laser Light Source, Université du Québec, Varennes, Québec J3X 1S2, Canada

Materials Characterization

TuE21 Terahertz Spectroscopy Of Ni-Ti Alloy Thin Films
A. D. Jameson[1], J. L. Tomaino[1], J. W. Kevek[1], M. J. Paul[1], M. Hemphill-Johnston[2], J. Ong[2], M. Koretsky[2], E. D. Minot[1] and Yun-Shik Lee[1]
[1]Department of Physics, Oregon State University, Corvallis, Oregon 97331, USA
[2]School of Chemical, Biological & Environmental Engineering, Oregon State University, Corvallis, Oregon 97331, USA

TuE22 THz Transmission Of Chemically Reduced Graphene Oxide
James. N. Heyman, Ishiaka Mansary, and Ryan Marshall
Department of Physics and Astronomy, Macalester College, Saint Paul, MN 55105 USA

TuE23 Detection And Analysis Of Molecular Chirality Using Terahertz Spectroscopy
Michael Schramm and Anis Rahman
Applied Research & Photonics, Inc. Harrisburg, PA 17111 USA

TuE24 Applications Of Terahertz Time-Domain Spectroscopy To Petroleum Industry
Lu Tian[1, 2] and Kun Zhao[1, 2]
[1]State Key Laboratory of Heavy Oil Processing, China University of Petroleum, Beijing 102249, China
[2]College of Science, China University of Petroleum, Beijing 102249, China

TuE25 Identification Of Keto-RDX Explosive Through THz Spectroscopy
Prashant Mishra[1], S. P. Chaganty[1], K. K. Kar[2] and Phalguni Gupta[2]
[1]ECIL, India
[2]IIT-K, India

TuE26 Disaccharide Identification Based On Terahertz Time Domain Spectroscopy
Xusheng Kang, Xiai Chen, Pingjie Huang, Dibo Hou, Guangxin Zhang and Zekui Zhou
Department of Control Science & Technology, Zhejiang University, China

TuE27 Non-Destructive Measurement Of Water Diffusion In Natural Cork Enclosures Using Terahertz Spectroscopy And Imaging
Anthony J. Teti[1], David E. Rodriguez[1], Caroline Brisson[2] and John F. Federici[1]
[1]Department of Physics, New Jersey Institute of Technology, Newark, New Jersey 07102, USA
[2]Department of Physics, Ramapo College of New Jersey, Mahwah, New Jersey 07430, USA

TuE28 Non-Destructive Evaluation Of Glass Composite Sample After Dynamic Load In Terahertz Range
Danuta Miedzinska[1], Tadeusz Niezgoda[1], Norbert Palka[2], Robert Panowicz[1], Mieczyslaw Szustakowski[2] and Hubert Oblocki[2]
[1]Military University of Technology, Faculty of Mechanical Engineering, Department of Mechanics and Applied Computer Science, 00-908 Warsaw, Poland
[2]Military University of Technology, Institute of Optoelectronics 2 Kaliskiego Str., 00-908 Warsaw, Poland

Molecular and Time-Resolved Spectroscopy

TuE29 THz Spectroscopy And DFT Modeling Of Hydrophobic Amino Acid Crystals
Michael R. C. Williams and Charles Schmuttenmaer
Department of Chemistry, Yale University, New Haven, CT 06520-8107 USA

TuE30 T_2 Measurements at 240 GHz For Biological Distance Measurement
Devin Edwards[1], Susumu Takahashi[2], Songi Han[3,4], Mark Sherwin[1,3]
[1]University of California, Department of Physics, Santa Barbara, CA 93106 USA
[2]University of Southern California, Department of Chemistry, Los Angeles CA 90089 USA
[3]University of California, Institute for Terahertz Science & Technology, Santa Barbara, CA 93106 USA
[4]University of California, Department of Chemistry and Biochemistry, Santa Barbara, CA 93106 USA

TuE31 Structural Changes Of Hydrated Proteins Studied By Terahertz Time-Domain Spectroscopy
Keisuke Tominaga[1,2], Shintaro Kawaguchi[2], Azusa Kaneko[2], Feng Zhang[2], Ohki Kambara[1], Naoki Yamamoto[1], and Atsuo Tamura[2]
[1]Molecular Photoscience Research Center, Kobe University, Nada,

TuE31 Structural Changes Of Hydrated Proteins Studied By Terahertz Time-Domain Spectroscopy
Keisuke Tominaga[1,2], Shintaro Kawaguchi[2], Azusa Kaneko[2], Feng Zhang[2], Ohki Kambara[1], Naoki Yamamoto[1], and Atsuo Tamura[2]
[1]Molecular Photoscience Research Center, Kobe University, Nada, Kobe, 657-8501 Japan
[2]Graduate School of Science, Kobe University, Nada, Kobe, 657-8501 Japan

TuE32 Attosecond Pulse Generation In Noble Gases In The Presence of Extreme High Intensity THz Pulses
E. Balogh[1], J. A. Fulop[2], J. Hebling[2], P. Dombi[3], G. Farkas[3] and K. Varjú[4]
[1]Department of Optics and Quantum Electronics, University of Szeged, 6720 Szeged ,Dóm tér 9. Hungary
[2]Department of Experimental Physics, University of Pécs, 7624 Pécs, Ifjúság u. 6. Hungary
[3]Research Institute for Solid-State Physics and Optics, 1121 Budapest, Konkoly-Thege M. út 29-33, Hungary
[4]HAS Research Group on Laser Physics, University of Szeged, 6720 Szeged, Dóm tér 9. Hungary

TuE33 Time-Resolved Ultrafast Photoconductivity Of Different Diameter InP Nanowires Measured Using Optical-Pump Terahertz-Probe Spectroscopy
Katherine E. Dunn[1], Suriati Paiman[2], Qiang Gao[2], H. Hoe Tan[2], C. Jagadish[2], Hannah J. Joyce[1], Laura M. Herz[1] and Michael B. Johnston[1]
[1]Department of Physics, Clarendon Laboratory, Oxford, OX1 3PU, United Kingdom
[2]Department of Electronic Materials Engineering, Research School of Physics and Engineering, Australian National University, Canberra, Australian Capital Territory 0200, Australia

TuE34 Picosecond Time-Resolved Electron Injection From Quantum Dots Into Nanoporous Oxide Films
Puck Moll, Enrique Canovas and Mischa Bonn
AMOLF, Netherlands

TuE35 Terahertz Induced Nonlinearity In Photoexcited ZnTe Crystal
G. Sharma[1], I. Al-Naib[1], M. Peccianti[1], M. Shalaby[1], M. Reid[2], R. Morandotti[1], and T. Ozaki[1]
[1]INRS-EMT, Advanced Laser Light Source, Université du Québec, Varennes, Québec J3X 1S2, Canada
[2]Department of Physics, University of Northern British Columbia, Prince George, British Colombia V2N 4Z9, Canada

Microscopy and Imaging

TuE36 Spectroscopic Imaging Of Micro-Crystals Using Real-Time THz Near-Field Microscope
T. Tanaka[1,2], F. Blanchard[1,2], A. Doi[2,3] and K. Tanaka[1,2,4]
[1]Institute for Integrated Cell-Material Sciences, Kyoto University, Sakyo-ku, Kyoto 606-8501, Japan
[2]CREST, Japan Science and Technology Agency, Kawaguchi, Saitama 332-0012, Japan
[3]Olympus Corporation 2-3 Kuboyama-cho, Hachioji-shi, Tokyo 192-8512, Japan
[4]Department of Physics, Graduate School of Science, Kyoto University, Sakyo-ku, Kyoto 606-8502, Japan

TuE37 Title needed
Kazuo Kadowaki
Institute of materials Science Graduate School of Pure & Applied Sciences University of Tsukuba, Ibaraki, Japan.

TuE38 Enhanced THz Imaging System For Biological Research
Yan-dong Zhang[1,2], Jun Yang[1,2], Xiao-jing Gong[1,2] and Lei Jin[1,2]
[1]Research Center for Biophotonics, Institute of Biomedical and Health Engineering, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, Shenzhen, Guangdong, China, 518055
[2]Key Lab for Biomedical Informatics and Health Engineering, Chinese Academy of Sciences, Shenzhen, Guangdong, China, 518055

Quantum Cascade Lasers and Semiconductor Devices

TuE39 Metal Nanoparticle Induced Modification And Enhancement Of THz Radiation In InGaN/GaN Quantum Wells
Meg Mahat[1], Antonio Llopis[1], Sergio Periera[2], Ian M. Watson[3], Tae Youl Choi[4], Arup Neogi[1]
[1]Department of Physics, University of North Texas, Denton, TX, 76203, USA
[2]CICECO, University of Aveiro, 3810-193 Aveiro, Portugal
[3]Institutes of Photonics, SUPA, University of Strathclyde, Glasgow, G4NW, UK
[4]Department of Mechanical and Energy Eng., Univ. of North Texas, Denton, TX, 76203, USA

TuE40 An Assessment Of Long-Wavelength Optical-Gain In Broken-Gap Heterostructures And Quantum Dot Arrays
Weidong Zhang[1] and Dwight Woolard[1,2]
[1]Department of ECE, North Carolina State University, Raleigh, NC, 27695,
[2]U.S. Army Research Offices, RTP, NC 27709, USA

TuE41 Plasmonics For Terahertz QCL Beam Shaping
Tahsin Akalin
Institut dElectronique de Microlectronique et de Nanotechnologie, IEMN, Lille, France

TuE42 Room-Temperature Semiconductor Sources Of Coherent THz Smith-Purcell Radiation
Don D. Smith, Alexey Belyanin
Department of Physics, Texas A&M University, College Station, Texas 77845

TuE43 Room Temperature Nb5N6 Microbolometer For Detecting Signals At Terahertz Region
Kang Lin, Tu Xu-Cou, Liu Xin-Hua, Chen Jian, Wu Pei-Heng
School of Electronic Science and Engineering, Nanjing University, Nanjing 210093, China

Waveguides, Plasmonics and Metamaterials

TuE44 Study On The Applications Of A Parallel Terahertz Wave
Shen Jingling, Pan Rui, Xiong Wei, and He Ting
Beijing Key Laboratory for Terahertz Spectroscopy and Imaging, Key Laboratory of Terahertz Optoelectronics, Ministry of Education, Department of Physics, Capital Normal University, Beijing, China

TuE45 Terahertz Plasmonic Filters, Power Dividers And Applications To Microscopy And Communications
Tahsin Akalin[1], Wen-Chen Chen[2], Ibrahim Türer[1], Guillaume Ducournau[1], Jean-François Lampin[1] and Willie Padilla[2]
[1]IEMN, UMR CNRS 8520, Lille 1 University, France
[2]Boston College, USA

TuE46 On-Demand Fabrication Of High-Performance Metal Mesh Terahertz Filters
Jonathan Y. Suen[1], M. Nicole Lemaster[2], Miikka Kangas[3] and Philip M. Lubin[4]
[1] Dept. of Electrical and Computer Engineering, University of California, Santa Barbara, California, 93106 USA

TuE47 Holes Array In A Metal Plate As A THz Refractive Index Sensor
Hadi Amarloo and Safieddin Safavi-Naeini
Electrical and Computer Engineering Department, University of Waterloo, Ontario, Canada

TuE48 Resonance Tuning Behavior In Closely Spaced Inhomogenous Bilayer Metamaterials
M. T. Reiten, D. Roy Chowdhury, J. Zhou, A. J. Taylor, J. F. O'Hara and A. M. Azad
Center for Integrated Nanotechnology, MS K771, Los Alamos National Laboratory, Los Alamos, NM 87545 USA

TuE49 Stealth Metamaterial Objects Characterized In The Far Field By Radar Cross Section Measurements
Krzysztof Iwaszczuk[1], K. Fan[2], A. C. Strikwerda[3], X. Zhang[2], Richard D. Averitt[3], and Peter Uhd Jepsen[1]
[1]DTU Fotonik – Department of Photonics Engineering, Technical University of Denmark, DK-2800 Kongens Lyngby, Denmark
[2]Department of Mechanical Engineering, Boston University, Boston, MA 02215, USA
[3]Department of Physics, Boston University, Boston, MA 02215, USA

TuE50 Optically Driven Terahertz Meta-Atoms
K. Serita[1], J. Darmo[1,2], D. Dietze[2], H. Murakami[1], I. Kawayama[1], K. Unterrainer[2], and M. Tonouchi[1]
[1]Institute of Laser Technology, Osaka University, Osaka, Japan
[2]Institute of Photonics, Vienna University of Technology, Vienna, Austria

TuE51 Permittivity Tuning Of Terahertz Metamaterial Using A Genetic Algorithm
J. Kristoferitsch, J. Darmo, D. Dietze, and K. Unterrainer
Photonics Institute, Vienna University of Technology, Gusshausstrasse 25, A-1040 Vienna, Austria

TuE52 Development Of THz VCD/ORD By HFSS Simulations And Lithographic Spiral Structures
Dan Aschaffenburg[1], Daniel Santavicca[2], Daniel Prober[2] and Charles Schmuttenmaer[1]
[1]Yale University, Department of Chemistry, New Haven, CT USA
[2]Yale University, Department of Applied Physics, New Haven CT USA

Optics and Electron Beams

TuE53 Terahertz Radiation Generation Via E-Beam Driven Photonic Band Gap Structures
Ziran Wu, R. Joel England, Mark Hogan and Eric Colby
Stanford Linear Accelerator Center, Menlo Park, CA 94025 USA

TuE54 Terahertz Light Source and User Facility at FACET
Ziran Wu, Selina Li and Mark Hogan
Stanford Linear Accelerator Center, Menlo Park, CA 94025 USA

Astrophysics

TuE55 Discreet THz Radiometry For Detection Of Solar Flare Synchrotron Radiation
Pierre Kaufmann[1,2] and J. Michael Klopf [3]
[1]Centro de Rádio Astronomia e Astrofísica Mackenzie (CRAAM), Universidade Presbiteriana Mackenzie, São Paulo, SP-01302-907 Brazil
[2]CCS-Universidade Estadual de Campinas, Campinas, SP, Brazil
[3]Jefferson Lab, 12000 Jefferson Ave., Newport News, VA 23606 USA

Conference Banquet

Reagan Room
6:30 – 9:30 pm

• Wednesday, March 16, 2011 •

Registration Desk Open
7:00 a.m. – 4:00 p.m.
San Rafael Foyer

Exhibits Open
9:00 a.m. -4:00 p.m.
San Rafael

Continental Breakfast
7:00 a.m. – 8:00 a.m.
San Rafael

WA • Waveguides

Sierra Madre
8:00 a.m.–10:00 a.m.
Charles Schmuttenmaer Presiding

WA1 8:15 a.m. Plenary
Recent Progress in the Science and Technology of THz Air Photonics
Xi-Cheng Zhang
Rensselaer Polytechnic Institute, Troy NY USA

WA2 9:00 a.m.
Simulation, Fabrication, and Characterization of Periodically Corrugated Metallic THz Wire Waveguides
Satya Ganti[1], Zachary Gault[2], Stanley Smith IV[2], and Jason A. Deibel[2,3], Izaak Kemp[4], Nicholas Schroeder[5] and Carl Druffner[5]
[1]Dept. of Mechanical and Materials Engineering, Wright State University, Dayton OH USA
[2]Dept. of Physics, Wright State University, Dayton OH USA
[3]Dept. of Electrical Engineering, Wright State University, Dayton OH USA
[4]Electro-Optic Program, University of Dayton, Dayton, OH 45469
[5]Mound Laser & Photonics Center, Inc. 965 Capstone Drive, Suite 308 Miamisburg Ohio 45342

WA3 9:15 a.m.
A Tunable Universal THz Filter Using Artificial Dielectrics
Rajind Mendis, Abhishek Nag, Frank Chen and Daniel M. Mittleman
Rice University, Department of Electrical and Computer Engineering, Houston, TX 77005, USA

WA4 9:30 a.m.
Planar Terahertz Waveguides Based on Complementary Split Ring Resonators
Gagan Kumar, Shashank Pandey and Ajay Nahata
Department of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT 84112

WA5 9:45 a.m.
The Transition From A TEM-Like Mode To A Hybrid Plasmon Mode In A Parallel-Plate Waveguide
Jingbo Liu, Rajind Mendis, and Daniel M. Mittleman
Rice University, Department of Electrical and Computer Engineering, Houston, TX 77251-1892, USA

10:00 a.m.–10:30 a.m.
Coffee Break
San Rafael

WB• Spectroscopy of Materials II

Sierra Madre North
10:30 a.m.–12:00 p.m.
Dmitry Turchinovich Presiding

WB1 10:30 a.m. Invited
Ultrafast THz And Mid-IR Spectroscopy Of Carbon Nanomaterials
Robert Kaindl
Lawrence Berkeley National Lab, Berkeley, CA 94720 USA

WB2 11:00 a.m.
Ultrafast Insulator-Metal Transition Phase Diagram Of Vanadium Dioxide
T. L. Cocker[1], L. V. Titova[1], S. Fourmaux[2], H.-C. Bandulet[2], D. Brassard[2], J.-C. Kieffer[2], M. A. El Khakani[2] and F. A. Hegmann[1]
[1]Department of Physics, University of Alberta, Edmonton, Alberta T6G 2G7, Canada
[2]INRS-EMT, Advanced Laser Light Source, Université du Québec, Varennes, Québec J3X 1S2, Canada

WB3 11:15 a.m.
Conductivity Anisotropy In Strained VO2 Thin Films Probed By THz TDS
Mengkun Liu[1], Elsa Abreu[1], Jiwei Lu[2], Kevin G. West[2], Salinport Kittiwatanakul[3], Wenjing Yin[2],
Stuart Wolf [3], Richard D. Averitt[1]
[1]Department of Physics, Boston University, Boston MA USA
[2]Department of Materials Science and Engineering, University of Virginia, Charlottesville VA USA
[3]Department of Physics, University of Virginia, Charlottesville VA USA

WB4 11:30 a.m.
Conductivity Of Bulk And Nanoscale Semiconductors At Terahertz Frequencies: Influence Of Spatial Dispersion And Energy-Dependent Electron Scattering Rate
J. Lloyd-Hughes[1], H. J. Joyce[1], M. B. Johnston[1], J. Faist[2], H. H. Tan[3] and C. Jagadish[3]
[1]University of Oxford, Department of Physics, Clarendon Laboratory, Oxford, OX1 3PU, United Kingdom
[2]ETH Zürich, Institute for Quantum Electronics, 8093 Zürich, Switzerland
[3]Department of Electronic Materials Engineering, Research School of Physics and Engineering, Institute of Advanced Studies, Australian National University, Canberra ACT 0200, Australia

WB5 11:45 a.m.
Interaction Of THz Radiation with Semiconductor Heterostructures
S.W. Koch
Department of Physics and Materials Sciences Center, Philipps-University, D-35032 Marburg, Germany

12:00 p.m.–1:15 p.m.
Lunch
Plaza del Sol

WC • Terahertz Sources and Detectors II

Sierra Madre South
10:30 a.m.–12:00 p.m.
Tahsin Akalin Presiding

WC1 10:30 a.m.
Phase Matching Condition For Ultrabroadband Terahertz Generation In A DAST Single Crystal
Ikufumi Katayama[1], Michitaka Bito[2], Ryota Akai[2], Hiroshi Shimosato[2], Katsuhiko Miyamoto[3], Hiromasa Ito[4] and Masaaki Ashida[2,5]
[1]Interdisciplinary Research Center, Yokohama National University, Yokohama 240-8501 Japan
[2]Graduate School of Engineering Science, Osaka University, Toyonaka, 560-8531 Japan
[3]Chiba University, Chiba, 263-8522 Japan
[4]RIKEN, Sendai, 980-0845 Japan
[5]PRESTO JST, Tokyo, 102-0075 Japan

WC2 10:45 a.m.
Terahertz Frequency Synthesizer Traceable To A Microwave Frequency Standard
T. Yasui[1, 2], H. Takahashi[3, 4], K. Kawamoto[1], Y. Iwamoto[3, 4], K. Arai[3, 4], H. Inaba[3] and K. Minoshima[3, 4]
[1]Grad. Sch. Engg. Sci., Osaka Univ., Toyonaka, Osaka 560-8531, Japan
[2]Fac. Engg., Univ. Tokushima, Tokushima 560-8531, Japan
[3]Metrology Institute of Japan, AIST, Tsukuba, Ibaraki 305-8563, Japan
[4]Fac. Sci. Tech., Tokyo Univ. Sci., Noda, Chiba 278-8510, Japan

WC3 11:00 a.m.
Slant-Stripe Periodically Poled $LinbO_3$ Optical Parametric Oscillator For THz Generation
Daniel Molter[1,2], Markus Leidinger[1], Michael Theuer[1,2], Felix Rübel[3], Fanzhen Meng[4], Mark Thomson[4], Johannes L'huillier[3], Hartmut Roskos[4] and René Beigang[1,2]
[1]Fraunhofer Institute for Physical Measurement Techniques IPM, Kaiserslautern, Germany
[2]University of Kaiserslautern, Department of Physics and Research Center OPTIMAS, Kaiserslautern, Germany
[3]Photonik-Zentrum Kaiserslautern e.V., Kaiserslautern, Germany
[4]Johann Wolfgang Goethe-Universität, Physikalisches Institut, Frankfurt, Germany

WC4 11:15 a.m.
A New Ultra-Compact Terahertz Source Based On Carbon Nanotubes
M. Muthee, E. Carrion[1], J. Nicholson, K. S. Yngvesson, and E. Polizzi,
Dept. of Electrical and Computer Engineering, Univ. of Massachusetts, Amherst, MA 01003 USA
[1]now at Dept. El. Engineering, University of Illinois, Urbana-Champaign, IL USA

WC5 11:30 a.m. Invited
Nonlinear Optical THz Generation and Real Life Applications
Kodo Kawase
Nagoya University and RIKEN, Japan

12:00 p.m.–1:15 p.m.
Lunch
Plaza del Sol

WD • Nonlinear Spectroscopy III

Sierra Madre
1:15 p.m.–3:00 p.m.
Jason Baxter Presiding

WD1 1:15 p.m. Invited
Light Induced Superconductivity in Strong THz Fields
Matthias Hoffman
University of Hamburg, Hamburg Germany

WD2 1:45 p.m.
Interaction Of Strong Few-Cycle Terahertz Pulses With Semiconductor Quantum Wells
A. D. Jameson[1], J. D. Tomaino[1], Yun-Shik Lee[1], J. P. Prineas[2], J. T. Steiner[3], M. Kira[3] and S.W. Koch[3]
[1]Department of Physics, Oregon State University, Corvallis, Oregon

97331, USA
[2]Department of Physics and Astronomy, University of Iowa, Iowa City, Iowa 52242, USA
[3]Department of Physics and Material Sciences Center, Philipps-University, 35032 Marburg, Germany

WD3 2:00 p.m.
Nonlinear THz Spectroscopy Of Electronic And Vibrational Responses In Solid-State Materials
Harold Y. Hwang, Nathaniel C. Brandt, Bradford G. Perkins, and Keith A. Nelson
Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139

WD4 2:15 p.m.
Probing The Dynamics Of Biomolecules In Liquid Water By Terahertz Spectroscopy
N. Q. Vinh[1], S. James Allen[1] and Kevin W. Plaxco[2]
[1]Institute for Terahertz Science and Technology, Department of Physics, University of California, Santa Barbara, California 93106 USA
[2]Department of Chemistry and Biochemistry and Biomolecular Science and Engineering Program, University of California, Santa Barbara, California 93106 USA

WD5 2:30 p.m. Invited
Nonlinear Terahertz Spectroscopy in Molecular Crystals
Koichiro Tanaka
Kyoto University, Kyoto Japan

3:00 p.m.–3:30 p.m.
Coffee Break
San Rafael

WE • Metamaterials
Sierra Madre
3:30 p.m.–5:15 p.m.
David Cooke Presiding

WE1 3:30 p.m.
Gbit/S Wireless Transmission At 200 GHz Carrier Using Optoelectronic THz Technologies
G. Ducournau[1], A. Beck[1], T. Akalin[1], E. Peytavit[1], P. Szriftgiser[2], D. Bacquet[2], M. Zaknoune[1] and J.F. Lampin[1]
[1]Institut d'Electronique, de Microélectronique et de Nanotechnologie (IEMN), Université de Lille 1, 59652 Villeneuve d'Ascq, France
[2]Laboratoire de Physique des Lasers, Atomes et Molécules (PhLAM), Université de Lille 1, 59655 Villeneuve d'Ascq cedex, France

WE2 3:45 p.m.
A Tunable 3D Terahertz Metamaterial
Kebin Fan[1], Andrew C. Strikwerda[2], Hu Tao[1], Xin. Zhang[1] and Richard D. Averitt[2]
[1]Department of Mechanical Engineering, Boston University, Boston, MA 02215, USA
[2]Department of Physics, Boston University, Boston, MA 02215, USA

WE3 4:00 p.m.
Tunability Of Fundamental Resonance In Laterally Coupled Terahertz Metamaterial
Dibakar Roy Chowdhury, Ranjan Singh, Matthew Reiten, Antoinette J. Taylor, John F. O'Hara
Center for Integrated Nanotechnologies, Materials Physics and Applications Division, Los Alamos National Laboratory, Los Alamos, New Mexico 87545, USA

WE4 4:15 p.m.
Terahertz Intersubband Transitions Coupled To Metasurfaces
D. Dietze[1], J. Darmo1, G. Strasser[2], and K. Unterrainer[1]
[1] Institute of Photonics, Vienna University of Technology, Vienna, Austria
[2] Institute of Solid-State Electronics, Vienna University of Technology, Vienna, Austria

WE5 4:30 p.m. Invited
Structurally Responsive Metamaterials at Terahertz Frequencies
Richard Averitt
Boston University, Boston MA USA

• Thursday, March 17, 2011 •

Tours of UCSB Institute for Terahertz Science and Technology and of UCSB California Nanosystems Institute

9:00 a.m. First tour

UCSB Institute for Terahertz Science and Technology (ITST) - http://www.itst.ucsb.edu/
UCSB California Nanosystems Institute (CNSI) - http://www.cnsi.ucsb.edu/
UCSB CNSI Allosphere Research Facility - http://www.allosphere.ucsb.edu/

10:30 a.m - 12:00 p.m Second tour

UCSB Institute for Terahertz Science and Technology (ITST) - http://www.itst.ucsb.edu/
UCSB California Nanosystems Institute (CNSI) - http://www.cnsi.ucsb.edu/
UCSB CNSI Allosphere Research Facility - http://www.allosphere.ucsb.edu/

Bus schedule

UCSB Tour Bus Schedule

8:15 a.m. Bus #1 leaves Fess Parker's Doubletree Resort.
8:45 a.m. Bus #1 arrives at UCSB.
9:00 a.m. Tour #1 begins.
10:30 a.m. Tour #1 ends.
11:00 a.m. Bus #1 leaves UCSB.
11:30 a.m. Bus #1 arrives at Fess Parker's Doubletree Resort.

9:45 a.m. Bus #2 leaves Fess Parker's Doubletree Resort.
10:15 a.m. Bus #2 arrives at UCSB.
10:30 a.m. Tour #2 begins.
12:00 a.m. Tour #2 ends.
1:00 p.m. Bus #2 leaves UCSB.
1:30 p.m. Bus #2 arrives at Fess Parker's Doubletree Resort.

Wine Tour Bus Schedule

10:30 a.m. Wine Tour Bus leaves Fess Parker's Doubletree Resort.
11:00 a.m. Wine Tour Bus arrives at UCSB and picks up participants for wine tour.
3:30 p.m. Wine Tour Bus arrives at Fess Parker's Doubletree Resort.

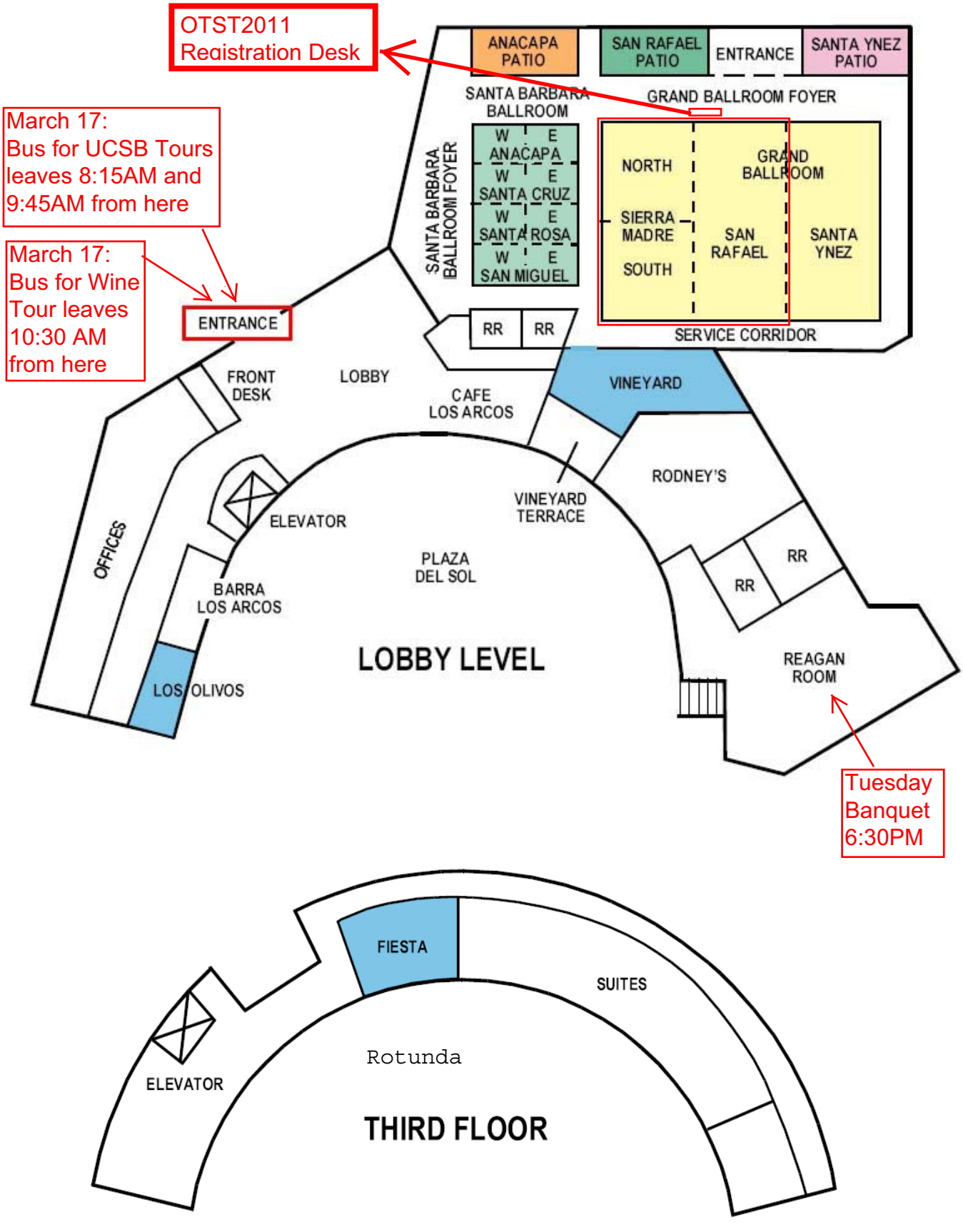
Attendees

Akalin, Tahsin
IEMN, Villeneuve, France
Allen, S. James
University of California, Santa Barbara, CA, USA
Anthony, Jess
University of Auckland, New Zealand
Arikawa, Takashi
Rice University, Houston, TX, USA
Arrigoni, Marco
Coherent Inc, Santa Clara, CA, USA
Aschaffenburg, Daniel
Yale University, New Haven, CT, USA
Ashida, Masaaki
Osaka University, Japan
Auston, David
University of California, Santa Barbara, CA, USA
Averitt, Richard
Boston University, MA
Ayesheshim Ayesheshim
University of Alberta, Edmonton, Canada
Bae, Che Jin
University at Buffalo, NY, USA
Barbieri, Stefano
Universite Paris Diderot, France
Bauerschmidt, Sebastian
Friedrich-Alexander-University Erlangen Nuremberg, Germany
Baxter, Jason
Drexel University, Philadelphia, PA, USA
Beigang, Rene
Fraunhofer IPM, Kaiserslautern, Germany
Bhattacharyya, Jayeeta
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
Bisgaard, Christer
Technical University of Denmark, Kongens Lyngby, Denmark
Blanchard, Francois
Kyoto University-iCeMS, Japan
Bonn, Mischa
FOM Institute Amolf, Amsterdam, Netherlands
Bowyer, Ellis
University of Surrey, Guildford, UK
Brandt, Nathaniel
Massachusetts Institute of Technology, Cambridge, MA, USA
Bromley, Leigh
M Squared Lasers, INC, Glasgow, UK
Brunel, Louis-Claude
University of California, Santa Barbara, CA, USA
Buron, Jonas Christian Due
Technical University of Denmark, Kongens Lyngby, Denmark
Castro-Camus, Enrique
Centro de Investigaciones en Optica A.C. Leon, Guanajuato, Mexico
Chateauneuf, Marc
Defence R&D Canada, Quebec, Canada
Chen, Houtong
Los Alamos National Laboratory, NM, USA
Chen, Jerry
Massachusetts Institute of Technology, Cambridge, MA, USA
Chen, Wen-Chen
Boston College, MA, USA
Chen, Zhao
Massachusetts Institute of Technology, Cambridge, MA, USA
Cocker, Tyler
University of Alberta, Edmonton, Canada
Cook, David
Physical Sciences, Inc, Andover, MA, USA
Cooke, David
McGill University, Montreal, Quebec, Canada
Dai, Jianming
Rensselaer Polytechnic Institute, Troy, NY, USA
Deibel, Jason
Wright State University, Dayton, OH, USA
Dekorsy, Thomas
University of Konstanz, Germany
Denny, Sean
University of California, Santa Barbara, CA, USA
Deutsch, Christoph
Vienna University of Technology, Austria
Dexheimer, Susan
Washington State University, Pullman, WA, USA
Dietze, Daniel
Vienna University of Technology, Austria
Duling, Irl
Picometrix, LLC, Ann Arbor, MI, USA
Dunn, Katherine
University of Oxford, UK
Edwards, Devin
University of California, Santa Barbara, CA, USA
Einhorn, Mike
Nanogenesis, Huntsville, AL, USA
Everitt, Henry
US RDECOM, Redstone Arsenal, AL, USA
Faist, Jerome
ETH Zurich, Switzerland

Fan, Kebin
Boston University, MA, USA
Federici, John
New Jersey Institute of Technology, Westfield, NJ, USA
Fisher, Alan
SLAC National Accelerator Laboratory, Menlo Park, CA, USA
Fleischer, Sharly
Massachusetts Institute of Technology, Cambridge, MA, USA
Fukumuro, Masaharu
Infrared, Ltd, Tokyo, Japan
Fukunaga, Kaori
NICT, Tokyo, Japan
Fulop, Jozsef
University of Pecs, Hungary
Ganti, Satya
Wright State University, Dayton, OH, USA
Gault, Zach
Wright State University, Dayton, OH, USA
George, Deepu
University at Buffalo, NY, USA
Gomez-Rivas, Jaime
FOM Institute Amolf, Amsterdam, Netherlands
Guglietta II, Glen
Drexel University, Philadelphia, PA, USA
Hayden, Michael
University of Maryland, Baltimore, MD, USA
Hegmann, Frank
University of Alberta, Edmonton, Canada
Heimbeck, Martin
US Army AMRDEC, Redstone Arsenal, AL, USA
Hensley, Joel
Physical Sciences Inc., Andover, MA, USA
Heyden, Matthias
University of California, Irvine, CA, USA
Heyman, James
Macalester College, Saint Paul, MN, USA
Ho, Sze Phing
INRS-EMT, Varennes, Quebec, Canada
Hoffmann, Matthias
University of Hamburg, Germany
Holmes, Michael
TOPTICA Photonics, Victor, NY, USA
Hoshina, Hiromichi
RIKEN, Sendai, Japan
Huber, Rupert
University of Konstanz, Germany
Hwang, Harold
Massachusetts Institute of Technology, Cambridge, MA, USA
Ide, Akiyoshi
NGK LOCKE, INC, Novi, MI, USA
Ito, Hiromasa
RIKEN, Sendai, Japan
Iwaszczuk, Krzystof
Technical University of Denmark, Kongens Lyngby, Denmark
Jensen, Soeren Alkaersig
FOM Institute Amolf, Amsterdam, Netherlands
Jepsen, Peter Uhd
Technical University of Denmark, Kongens Lyngby, Denmark
Johnston, Michael
Corpus Christi College, Oxford, UK
Joyce, Hannah
University of Oxford, UK
Kadlec, Filip
Institute of Physics of the ASCR, Prague, Czech Republic
Kaindl, Robert
Lawrence Berkeley National Laboratory, Berkeley, CA, USA
Karampourniotis, Panagiotis
Rensselaer Polytechnic Institute, Troy, NY, USA
Katayama, Ikufumi
Yokohama National University, Japan
Kaufmann, Pierre
Universidade Presbiteriana Mackenzie-Brazil, Sao Paulo Brazil
Kawase, Kodo
Nagoya University, RIKEN, Japan
Kim, Kiyong
University of Maryland, College Park, MD USA
King, Matthew
Syracuse University, NY, USA
Koch, Martin
Philipps-Universitat Marburg, Germany
Koch, Stephan
Philipps-Universitat Marburg, Germany
Kropotov, Grigory
TYDEX, St Petersburg, Russia
Kuo, Frank
Newport Corporation, Irvine CA, USA
Lee, Yun-Shik
Oregon State University, Corvallis, OR, USA
Li, Yutong
Chinese Academy of Sciences, Beijing, China
Lindenberg, Aaron
Stanford University/SLAC, Palo Alto, CA, USA
Liu, Mengkun
Boston University, MA, USA
Liu, Shuchang
University of Utah, Salt Lake City, UT, USA

Lloyd-Hughes, James
University of Oxford, UK
Lu, Xinchao
University of Maryland
Baltimore County, MD, USA
Lubin , Philip
University of California, Santa Barbara, CA, USA
Mahat, Meg
University of North Texas, Denton, TX, USA
Malzer, Stefan
University of Erlangen, Germany
Markelz, Andrea
University at Buffalo, NY, USA
Martl, Michael
Vienna University of Technology, Austria
Melinger, Joseph
Naval Research Laboratory, Bethesda, MD, USA
Mendis, Rajind
Rice University, Houston, TX, USA
Metcalfe, Grace
US Army Research Lab, Adelphi, MD, USA
Mics, Zoltan
Institute of Physics of the ASCR,
Prague, Czech Republic
Milot, Rebecca
Yale University, New Haven, CT, USA
Minamide, Hiroaki
RIKEN, Sendai, Japan
Mittleman, Daniel
Rice University, Houston, TX, USA
Moloney, Jerome
University of Arizona, Tucson, AZ, USA
Molter, Daniel
University of Kaiserslautern, Germany
Morris, Christopher
University of California, Santa Barbara, CA, USA
Mukai, Toshikazu
Rohm Co., Ltd, Kyoto, Japan
Murdin, Ben
University of Surrey, Guildford, UK
Nagel, Michael
RWTH Aachen University, Germany
Nahata, Ajay
University of Utah, Salt Lake City, UT, USA
Neacsu, Catalin
FEMTOLASERS, Cambridge, MA, USA
Nemec, Hynek
Institute of Physics of the ASCR,
Prague, Czech Republic
Nguyen, Vinh
University of California, Santa Barbara, CA, USA
Oh, Taek IL
University of Maryland, College Park, MD, USA
Ohta, Hitoshi
Kobe University, Japan
Otsuji, Taiichi
Tohoku University, Japan
Ouellette, Daniel
University of California, Santa Barbara, CA, USA
Padilla, Willie
Boston College, Boston, MA, USA
Pahl, Reinhard
Hamamatsu, Bolingbrook, IL, USA
Palka, Norbert
Military University of Technology,
Warsaw, Poland
Pandey, Shashank
University of Utah, Salt Lake City, UT, USA
Perkins, Bradford
Massachusetts Institute of Technology,
Cambridge, MA, USA
Petersen, Eliot
University of Arizona, Tucson, AZ, USA
Phillips, Dane
Kratos Defense - Digital Fusion,
Huntsville, AL, USA
Planken, Paul
University of Technology, Delft, Netherlands
Porte, Hendrik
Technical University of Denmark,
Kongens Lyngby, Denmark
Prasankumar, Rohit
Los Alamos National Laboratory,
Albuquerque, NM, USA
Preu, Sascha
University of California, Santa Barbara, CA, USA
Ramaswamy, Rahul
University at Buffalo, NY, USA
Reeves, Jason
Menlo Systems, Newton, NJ, USA
Reiten, Matthew
Los Alamos National Laboratory, NM, USA
Ren, Lei
Rice University, Houston, TX, USA
Rice, William
Rice University, Houston, TX, USA
Richter, Christiaan
Rochester Institute of Technology, NY, USA
Rodriguez, George
Los Alamos National Laboratory, NM, USA
Ropagnol, Xavier
INRS-EMT, Montreal, Quebec, Canada
Rowell, Nelson
National Research Council Canada,
Ottawa, Canada
Sakoda, Naokazu
Rice University, Houston, TX, USA

Salek, Khandoker Abu
Osaka University, Japan
Satou, Akira
Tohoku University, Japan
Schaafsma, Martijin
FOM Institute Amolf, Eindhoven, Netherlands
Scheller, Maik
Philipps-Universitat Marburg, Germany
Scherger, Benedikt
Philipps-Universitat Marburg, Germany
Schmuttenmaer, Charles
Yale University, New Haven, CT, USA
Serita, Kazunori
Osaka University, Japan
Shalaby, Mostafa
INRS-EMT, Montreal, Quebec, Canada
Sharma, Gargi
INRS-EMT, Varennes, Quebec, Canada
Sherwin, Mark
Univerity of California, Santa Barbara, CA, USA
Singh, Rohit
University at Buffalo, NY, USA
Smith, Don
Texas A&M University, College Station, TX, USA
Srikantaiah, Sree
Oklahoma State University, Stillwater, OK, USA
Stehr, Dominik
Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany
Strikwerda, Andrew
Boston University, MA, USA
Suen, Jonathan
University of California, Santa Barbara, CA, USA
Sun, Ke-Xun
NSTec, Livermore, CA, USA
Talbayev, Diyar
Yale University, New Haven, CT, USA
Tanaka, Koichiro
Kyoto University, Japan
Tanaka, Tomoko
Kyoto University, Japan
Titova, Lyubov
University of Alberta, Edmonton, Canada
Tokuzawa, Tokihiko
National Institute for Fusion Science, Toki-City, Japan
Tomerini, Daniele
University of Cambridge, UK
Tongue, Thomas
Zomega Terahertz Corporation, Troy, NY, USA
Tonouchi, Masayoshi
Osaka University, Japan
Turchinovich, Dmitry
Technical University of Denmark, Kongens Lyngby, Denmark
Turner, Joshua
Stanford University/SLAC, Menlo Park, CA, USA
Ueda, Takeji
University of Tokyo, Japan
Vallejo Monsalve, Felipe
University of Maryland Baltimore County, MD, USA
van Tol, Johan
Florida State University, Tallahassee, FL, USA
Vieweg, Nico
Philipps-Universitat Marburg, Germany
Wang, Zhenyou
University of Alberta, Edmonton, Canada
Wen, Haidan
Argonne National Laboratory, Woodridge, IL, USA
Werley, Kit
Massachusetts Institute of Technology, Cambridge, MA, USA
Williams, Michael
Yale University, New Haven, CT, USA
Wood, Ken
QMC Instruments, Chepstow, UK
Xu, Wei
University of California, Santa Barbara, CA, USA
Yamamoto, Naoki
Kobe University, Japan
Yasui, Takeshi
University of Tokushima, Japan
Yngvesson, Sigfrid
University of Massachusetts, Amherst, MA, USA
You, Yong Sing
University of Maryland, College Park, MD, USA
Zaks, Benjamin
University of California, Santa Barbara, CA, USA
Zerbini, Marco
ENEA CRE Frascati, Italy
Zhang, Weidong
North Carolina State University, Raleigh, NC, USA
Zhang, Xi-Cheng
Rensselaer Polytechnic Institute, Troy, NY, USA
Zhu, Liguo
Case Western Reserve University, Cleveland, OH, USA
Zimdars, David
Picometrix, LLC, Ann Arbor, MI, USA


OTST2011
Registration Desk
March 17:
Bus for UCSB Tours
leaves 8:15AM and
9:45AM from here
March 17:
Bus for Wine
Tour leaves
10:30 AM
from here
ENTRANCE
ANACAPA PATIO
SAN RAFAEL PATIO
ENTRANCE
SANTA YNEZ PATIO
SANTA BARBARA BALLROOM
GRAND BALLROOM FOYER
SANTA BARBARA BALLROOM FOYER
W E ANACAPA
W E SANTA CRUZ
W E SANTA ROSA
W E SAN MIGUEL
NORTH
GRAND BALLROOM
SIERRA MADRE
SOUTH
SAN RAFAEL
SANTA YNEZ
SERVICE CORRIDOR
RR
RR
FRONT DESK
LOBBY
CAFE LOS ARCOS
VINEYARD
RODNEY'S
VINEYARD TERRACE
ELEVATOR
OFFICES
PLAZA DEL SOL
RR
RR
BARRA LOS ARCOS
LOS OLIVOS
LOBBY LEVEL
REAGAN ROOM
Tuesday
Banquet
6:30PM
FIESTA
SUITES
Rotunda
ELEVATOR
THIRD FLOOR

Transportation & Parking Services

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

M A P & D I R E C T O R Y

UCSB Parking Permit required at all times.
Short-term permits may be purchased from permit dispensers throughout campus, and from the Parking Sales Office in Building 381 off Stadium Road. To buy a permit, please follow instructions on the dispenser. Payment options are Visa, MasterCard, cash or campus Access card. A short-term permit entitles you to Visitor parking status.

Take care to observe parking signs as parking violations are subject to citation. Do not park at any time in spaces marked “Enforced at All Times”, “Reserved” or “Restricted”.

What do the lot colors mean?

Yellow Parking at any time for anyone with a valid UCSB parking permit.

Green Parking for faculty and staff from 7:30 AM to 5:00 PM on weekdays. Parking for anyone with a valid UCSB parking permit from 5:00 PM to 7:30 AM on weekdays, and all day Saturday and Sunday. Some spaces may be designated “Faculty Only” or have other restrictions.

Violet Parking at all times for faculty and staff only.

Orange Parking for residential students with the appropriate permit.

March 17:
BUS Leaves UCSB at 11:00 AM to Fess Parker's
BUS Leaves UCSB at 11:00 AM to Wine Tour
BUS Leaves UCSB at 1:00PM to Fess Parker's

From HERE

Central Stores, Receiving, Mail Services
Public Safety
Harder Stadium
Harder South
Facilities Management
Environmental Health & Safety
Mesa Road
PARKING SERVICES
Caesar Uyesaka Stadium
Storke Field
Stadium Road
Recreation Center
Pool
San Clemente Housing
Athletic Fields
Mosher Alumni House
University Plaza
INFORMATION KIOSK
VISITOR CENTER
Mesa
El Colegio Road
Cervantes Road
El Greco Road
Picasso Road
Segovia Road
Cordoba Road
Pardall Road
Madrid Road
Embarcadero Hall
Seville Road
Isla Vista Theater
Trigo Road
Sabado Tarde Road
El Nido Lane
Del Playa Drive
Orfalea Center for Global and International Studies
Robertson Gym
Intercollegiate Athletics
Audit & Advisory Services
Student Affairs & Admin. Services
Ocean Road
Cheadle Hall
Coral Tree Cafe
Campbell Hall
Phelps Hall
Engineering Science
Chemistry
Henley Gate
Steck Circle
Elings Hall
Student Health
Koegel Autism Center
Education
Gevirtz Graduate School of Education
Social Sciences and Media Studies
Pollock Theater
North Hall
Ellison Hall
Buchanan Hall
Physical Sciences North
Physical Sciences South
Engr II
Kohn Hall
Ward Memorial Blvd.
Events Center
AS Bike Shop
Pool
Police
South Hall
Kerr Hall
Arbor
Davidson Library
El Centro
Broida Hall
MRL
Harold Frank Hall
Lagoon Road
Bren Hall
Humanities and Social Sciences
Counseling & Career Services
Girvetz Hall
Theater and Dance East
Student Resource
Auditorium
Theater and Dance West
Hatlen Theater
Arts
Art Museum
Storke Tower
Arts Library
Music
Lotte Lehmann Concert Hall
Webb Hall
Noble Hall
Life Sciences
Psych
Psych East
Bio II
Marine Science Research
Ocean Science Education (under construction)
UCEN Road
Faculty Club
Faculty Club Green
University Center
Corwin Pavilion
Loading Dock
MCC
UNIVERSITY CENTER
Ortega
San Rafael Hall
Loma Pelona
Manzanita Village
San Miguel Hall
San Nicolas Hall
Santa Rosa Hall
De La Guerra
Anacapa Hall
Santa Cruz Hall
Channel Islands Road
University House
Office of Technology & Industry Alliances
Marine Operations Facility
Marine Biotechnology Laboratory
REEF/Aquarium
UCSB Lagoon
RESTRICTED AREA
ENFORCED AT ALL TIMES
SPEED LIMIT 25
Enforced by Radar
N

PARKING DESIGNATIONS
Permit required at all times.

- B1 Residential Students
- 22B Residential Students
- B3 Residential Students
- S Commuting Students
- V Visitors
- Accessible Parking
- Motorcycles
- Bus Stop
- Coastal Access
- Residence Halls
- Traffic Light
- Parking Meters (available to general public)
- Parking Dispensers
- Parking

Emergency

- For fire, police or medical emergency assistance call ***9-911*** or use emergency phones (in red boxes).
- UCSB Police Department, Public Safety Building, non-emergency ***805-893-3446*** (24 hours).
- CSO Escort Service is available by calling ***805-893-2000***.

FEBRUARY 2011