

MIRTHE Talks and Posters @



Session Start Time Presentation Time Location	Pres # & Type	Authors & Institutions	Abstract Title Session # & Title
Mon 5/17 8:00 AM 8:15 AM - 8:30 AM Room B2-B3	AMA2 CLEO: Applications	Kang Zhang ^{1,2} , Esen Akpek ³ , Richard P. Weiblinger ² , Do-Hyun Kim ² , Jin U. Kang ¹ , Ilko K. Ilev ² ; ¹ Johns Hopkins Univ., USA, ² U.S. Food and Drug Administration, USA, ³ Johns Hopkins Hospital, USA.	Post-Surgical Volumetric Evaluation of Clear Corneal Incision Quality Using a High-Resolution 3-D Spectral-Domain Optical Coherence Tomography AMA.Imaging and Restoring the Eye
Mon 5/17 8:00 AM 8:45 AM - 9:00 AM Room A1	CMA4 CLEO Oral	Gombojav O. Ariunbold , Vladimir Sautenkov, Marlan Scully; Texas A&M Univ., USA.	A Rapid Inspection of Atomic Interference Using Superfluorescent Picosecond Pulses CMA.Ultrafast Dynamics and Measurements
Mon 5/17 8:00 AM 9:00 AM - 9:15 AM San Jose Salon III (San Jose Marriott)	CMJ4 CLEO Oral	Kale Franz ¹ , Damien Weidmann ² , Gerard Wysocki ¹ ; ¹ Princeton Univ., USA, ² STFC Rutherford Appleton Lab, United Kingdom.	High Dynamic Range Laser Dispersion Spectroscopy of Saturated Absorption Lines CMJ.Novel Sources and Systems for Spectroscopic Sensing
Mon 5/17 8:00 AM 9:15 AM - 9:30 AM San Jose Salon III (San Jose Marriott)	CMJ5 CLEO Oral	Stephen G. So , Evan Jeng, Gerard Wysocki; Princeton Univ., USA.	Faraday Rotation Spectroscopic Sensing of Oxygen using Static Magnetic Fields and Balanced Photodetection CMJ.Novel Sources and Systems for Spectroscopic Sensing
Mon 5/17 8:00 AM 9:30 AM - 9:45 AM San Jose Salon III (San Jose Marriott)	CMJ6 CLEO Oral	Noemi Petra ¹ , Anatoliy A. Kosterev ² , John Zweck ¹ , Susan E. Minkoff ¹ , James H. Doty, III ² ; ¹ Univ. of Maryland, Baltimore County, USA, ² Rice Univ., USA.	Numerical and Experimental Investigation for a Resonant Optoacoustic Sensor CMJ.Novel Sources and Systems for Spectroscopic Sensing

Mon 5/17 10:15 AM 11:15 AM -11:30 AM Room C3&4	CMR2 CLEO Oral	Romain Fardel , Yu-Cheng Tsai, Craig B. Arnold; Princeton Univ., USA.	Optical Trap Assisted Nanopatterning for Structured Surfaces CMR.Laser Nanostructuring
Mon 5/17 10:15 AM 11:45 AM -12:00 PM Room A5	QMC7 QELS Oral	Shu Jia ¹ , Laura I. Huntley ² , Jason W. Fleischer ¹ ; ¹ Princeton Univ., USA, ² Stanford Univ., USA.	Richtmyer-Meshkov Instability in Nonlinear Optics QMC.Novel Phenomena II
Mon 5/17 1:30 PM 2:15 PM - 2:30 PM Room A8	CMZ4 CLEO Oral	Lei Ren ¹ , Takashi Arikawa ¹ , Junichiro Kono ¹ , Cary L. Pint ² , Robert H. Hauge ² , Aleksander K. Wojcik ³ , Alexey A. Belyanin ³ , Yoshiaki Takemoto ⁴ , Kei Takeya ⁴ , Iwao Kawayama ⁴ , Masayoshi Tonouchi ⁴ ; ¹ Rice Univ., Dept. of Electrical & Comp.Eng.USA, ² Rice Univ., Dept. of Chemistry, USA, ³ Texas A&M Univ., Dept. of Physics, USA, ⁴ Osaka Univ., Inst. of Laser Engineering, Japan.	Anisotropic Terahertz Conductivity of One-Dimensional Electrons in Single-Walled Carbon Nanotubes CMZ.THz Domain Spectroscopy
Mon 5/17 1:30 PM 3:00 PM - 3:15 PM Room B2-B3	AMC6 CLEO: Applications	Anna P. M. Michel ¹ , Tina P. Chen ¹ , Tiffany S. Ko ² , Nevin V. Raj ³ , Meyeneobong E. Inyang ¹ , Bryan T. Bosworth ⁴ , Matthew D. Escarra ¹ , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² MIT Lincoln Lab, USA, ³ Harvard Univ., USA, ⁴ Albert-Ludwigs-Univ., Germany.	Development of a Quantum Cascade Laser-Based Sensor for Non-Invasive CO₂ Monitoring AMC.Sensing and Imaging
Mon 5/17 1:30 PM 3:00 PM - 3:15 PM San Jose Salon I & II (San Jose Marriott)	CMCC4 CLEO Oral	Christopher Barsi , Jason W. Fleischer; Princeton Univ., USA.	Increased Field of View via Nonlinear Digital Holography CMCC.General Aspects of Nonlinear Optics
Tue 5/18 8:00 AM 8:15 AM - 8:30 AM Room A2	CTuB2 CLEO Oral	Anatoliy A. Kosterev ¹ , David Thomazy ¹ , Lei Dong ¹ , Frank K. Tittel ^{1,2} , Vincenzo Spagnolo ² ; ¹ Rice Univ., USA, ² Univ. and Politecnico of Bari, Italy.	Modulation Cancellation Method for Detection of Molecules with Unresolved Absorption Bands CTuB.Chemical/Biological/Medical Sensing
Tue 5/18 8:00 AM 8:15 AM - 8:30 AM San Jose Salon I & II (San Jose Marriott)	CTuI2 CLEO Oral	Can Sun , Dmitry V. Dylov, Jason W. Fleischer; Princeton Univ., USA.	Spectral Dependence of Spatially-Incoherent Modulation Instability CTuI.Two Wave and Four Wave Mixing Processes

Tue 5/18 8:00 AM 9:00 AM - 9:15 AM Room C3&4	JTuA4 Joint CLEO/CLEO: Applications	Matthew S. Brown , Nicholas T. Kattamis, Craig B. Arnold; Princeton Univ., USA.	Time-Resolved Study of Polyimide Film Absorbing Layers for Laser-Induced Forward Transfer JTUA.Nonablative Direct-Write Processing
Tue 5/18 8:00 AM 9:15 AM - 9:30 AM Room C3&4	JTuA5 Joint CLEO/CLEO: Applications	Nicholas Kattamis, Matthew Brown, Craig B. Arnold ; Princeton Univ., USA.	Incident Beam Shape Effects on Thick-Film Laser Induced Forward Transfer JTUA.Nonablative Direct-Write Processing
Tue 5/18 8:00 AM 9:15 AM - 9:30 AM Room A6	CTuE5 CLEO Oral	Yu Yao ¹ , William O. Charles ¹ , Kale J. Franz ¹ , Aidong Shen ² , Maria C. Tamargo ² , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² City College of New York, USA.	Improvement on the Luminescence Efficiency, Electroluminescence Linewidth and Transport Properties of ZnCdSe/ZnCdMgSe Quantum Cascade Structures CTuE.3-5 nm Semiconductor Lasers
Tue 5/18 8:00 AM 9:30 AM - 9:45 AM Room C1&2	CTuG6 CLEO Oral	Shanshan Song ¹ , Nathan Carlie ² , Laetitia Petit ² , Kathleen Richardson ² , Craig Arnold ¹ ; ¹ Princeton Univ., USA, ² Clemson Univ., USA.	Spin-Coated Ge₂₃Sb₇S₇₀ Thin Films with Large Photo- Induced Refractive Index Change CTuG.Beam Shaping and Switching
Tue 5/18 8:00 AM 9:30 AM - 9:45 AM Room A2	CTuB6 CLEO Oral	Kang Zhang ¹ , Keith G. Petrillo ¹ , Peter L. Gehlbach ² , Jin U. Kang ¹ ; ¹ Johns Hopkins Univ., USA, ² Wilmer Eye Inst., USA.	A Free-Hand Surface Tracking and Motion Compensation Microsurgical Tool System based on Common-path Optical Coherence Tomography Distance Sensor CTuB.Chemical/Biological/Medical Sensing
Tue 5/18 9:30 AM 9:30 AM - 12:30 PM	SC334 Short Course	Curtis Menyuk ; Univ. of Maryland, Baltimore County, USA.	The Art of Modeling Optical Systems SC334.SC334 The Art of Modeling Optical Systems
Tue 5/18 10:30 AM 11:00 AM -11:15 AM Room A7	CTuP2 Symposium	Kang Zhang ¹ , Elizabeth Katz ² , Do-Hyun Kim ² , Jin U. Kang ¹ , Ilko K. Ilev ² ; ¹ Johns Hopkins Univ., USA, ² U.S. Food and Drug Administration, USA.	A Fiber-Optic Nerve Stimulation Probe Integrated with a Precise Common-Path Optical Coherence Tomography Distance Sensor CTuP.CLEO Symposium on Novel Optical Fibers: Biochemical and Biomedical Applications

Tue 5/18 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JTuD97 Joint CLEO/QELS Poster	Muhammad A. Talukder , Curtis Menyuk; Univ. of Maryland, Baltimore County, USA.	Self-Induced Transparency Modelocking with Saturable Nonlinearity and Group Velocity Dispersion JTuD.Joint CLEO/QELS Poster Session I
Tue 5/18 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JTuD87 Joint CLEO/QELS Poster	Min Jang ¹ , Robert W. Adams ¹ , Jianxin Chen ² , Claire Gmachl ² , Liwei Cheng ³ , Fow-Sen Choa ³ , Mikhail A. Belkin ¹ ; ¹ Univ. of Texas at Austin, USA, ² Princeton Univ., USA, ³ Univ. of Maryland Baltimore County, USA.	Room-Temperature Operation of $\lambda \approx 3.7 \mu\text{m}$ Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As Quantum Cascade Laser Sources JTuD.Joint CLEO/QELS Poster Session I
Tue 5/18 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JTuD88 Joint CLEO/QELS Poster	Yamac Dikmelik ¹ , Jacob B. Khurgin ¹ , Peter Q. Liu ² , Matthew D. Escarra ² , Anthony J. Hoffman ² , Kale J. Franz ² , Claire F. Gmachl ² ; ¹ Johns Hopkins Univ., USA, ² Princeton Univ., USA.	Limitations to the Power Output and Efficiency of Mid-Infrared Quantum Cascade Lasers Imposed by Transport JTuD.Joint CLEO/QELS Poster Session I
Tue 5/18 2:30 PM 3:15 PM - 3:30 PM Room A2	CTuW4 CLEO Oral	Eku N. Bentil ¹ , Wen-Di Li ¹ , Jianxin Chen ^{2,1} , Alexandra Ritter ^{1,3} , Stephen Chou ¹ , Claire Gmachl ¹ ; ¹ Princeton Univ., USA, ² Shanghai Inst. of Technical Physics, Chinese Acad. of Sciences, China, ³ Cinnaminson High School, USA.	InGaAs/InP Subwavelength Grating Filters for the Mid-Infrared CTuW.High-Contrast Periodic Reflector Devices
Tue 5/18 2:30 PM 4:00 PM - 4:15 PM Room A3	CTuX7 CLEO Oral	Robert J. Weiblen ¹ , Jonathan Hu ¹ , Curtis R. Menyuk ¹ , Brandon Shaw ² , Jas S. Sanghera ² , Ishwar D. Aggarwal ² ; ¹ Univ. of Maryland Baltimore County, USA, ² NRL, USA.	Maximizing the Supercontinuum Bandwidth in As₂S₃ Chalcogenide Photonic Crystal Fibers CTuX.Super Continuum Fiber Source
Wed 5/19 12:00 PM 12:00 PM - 1:30 PM Exhibit Hall	JWA65 Joint CLEO/QELS Poster	Dmitry V. Dylov , Jason W. Fleischer; Princeton Univ., USA.	Nonlinear Recovery of Diffused Images by Seeded Instability JWA.Joint CLEO/QELS Poster Session II
Wed 5/19 12:00 PM 12:00 PM - 1:30 PM Exhibit Hall	JWA48 Joint CLEO/QELS Poster	Yin Wang ¹ , Stephen So ¹ , Evan Jeng ¹ , Antoine Muller ² , Gerard Wysocki ¹ ; ¹ Princeton Univ., USA, ² Alpes Lasers, Switzerland.	Development of a High Sensitivity Faraday Rotation Spectrometer for Nitric Oxide Monitoring JWA.Joint CLEO/QELS Poster Session II
Wed 5/19 1:30 PM 2:00 PM - 2:15 PM Room C3&4	CWG3 CLEO Oral	Jaime Cardenas ¹ , Sasikanth Manipatruni ¹ , Nicolás Sherwood-Droz ¹ , Carl B. Poitras ¹ , BeiBei Zhang ² , Jacob B. Khurgin ² , Paul A. Morton ³ , Michal Lipson ¹ ; ¹ Cornell Univ., USA, ² Johns Hopkins Univ., USA, ³ Morton Photonics, USA.	Large Tunable Delay of an RF Photonic Signal with 130 GHz Bandwidth Using Silicon Microresonators CWG.Components and Subsystems

Wed 5/19 1:30 PM 2:15 PM - 2:30 PM Room A7	QWB4 QELS Oral	Matthew D. Escarra ¹ , Sukosin Thongrattanasiri ² , Anthony J. Hoffman ¹ , Jianxin Chen ³ , William O. Charles ¹ , Kyle Conover ¹ , Viktor A. Podolskiy ² , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² Oregon State Univ., USA, ³ Shanghai Inst. of Technical Physics, Chinese Acad. of Sciences, China.	Broadband, Low-Dispersion, Mid-Infrared Metamaterials QWB.Hyperbolic Metamaterials and Their Applications
Wed 5/19 1:30 PM 2:30 PM - 2:45 PM Room A5	QWA2 QELS Oral	Alexei Sokolov , Gombojav O. Ariunbold, Xi Wang, Marlan O. Scully; <i>Texas A&M Univ., USA.</i>	Controlling Directionality of Mirror-Less Lasing by Pulse Shaping and Timing QWA.Optical Filamentation and Propagation Phenomena
Wed 5/19 1:30 PM 2:30 PM - 2:45 PM Room A7	QWB5 QELS Oral	Sukosin Thongrattanasiri ¹ , Anthony J. Hoffman ² , Matthew Escarra ² , Claire F. Gmachl ² , Viktor A. Podolskiy ^{1,3} ; ¹ Oregon State Univ., USA, ² Princeton Univ., USA, ³ Univ. of Massachusetts at Lowell, USA.	Analytical Technique for Determining the Size of Subwavelength Focal Spots in far Field QWB.Hyperbolic Metamaterials and Their Applications
Wed 5/19 1:30 PM 3:00 PM - 3:15 PM Room C3&4	CWG6 CLEO Oral	Candice Tsay ¹ , Elvis Mujagic ² , Claire Gmachl ¹ , Craig B. Arnold ¹ ; ¹ Princeton Univ., USA, ² Vienna Univ. of Technology, Austria.	Integrated Mid-Infrared Chalcogenide Glass Waveguide and Quantum Cascade Laser CWG.Components and Subsystems
Thu 5/20 8:00 AM 8:00 AM - 8:15 AM Room A6	CThE1 CLEO Oral	Peter Q. Liu ¹ , Xiaojun Wang ² , Jen-Yu Fan ² , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² AdTech Optics, USA.	Single-Mode Quantum Cascade Lasers with a Folded Fabry-Perot Resonator Waveguide CThE.Quantum Cascade Lasers
Thu 5/20 8:00 AM 8:15 AM - 8:30 AM Room A6	CThE2 CLEO Oral	Elvis Mujagic ¹ , Clemens Schwarzer ¹ , Michele Nobile ¹ , Hermann Detz ¹ , Sangil Ahn ¹ , Werner Schrenk ¹ , Jianxin Chen ² , Claire Gmachl ² , Gottfried Strasser ¹ ; ¹ Inst. for Solid State Electronics, Vienna Univ. of Technology., Austria, ² Dept. of Electrical Engineering. Princeton Univ., USA.	Reduced Threshold and High Temperature Operation in Single-Mode Ring Cavity Surface Emitting Quantum Cascade Lasers CThE.Quantum Cascade Lasers
Thu 5/20 8:00 AM 8:15 AM - 8:30 AM Room A8	QThC2 QELS Oral	Guan Sun ¹ , Suvranta K. Tripathy ¹ , Yujie J. Ding ¹ , Guangyu Liu ¹ , Hongping Zhao ¹ , G. S. Huang ¹ , Nelson Tansu ¹ , Jacob B. Khurgin ² ; ¹ Lehigh Univ., USA, ² Johns Hopkins Univ., USA.	Photoluminescence Quenching Due to Relocation of Electrons in GaN/AlN Asymmetric-Coupled Quantum Wells QThC.Low Dimensional Quantum Systems
Thu 5/20 8:00 AM	JThB4	Clinton J. Smith , Stephen So, Gerard Wysocki; Princeton	Low-Power Portable Laser Spectroscopic Sensor for

8:45 AM - 9:00 AM Room B2-B3	Joint CLEO/CLEO: Applications	Univ., USA.	Atmospheric CO₂ Monitoring JThB.In situ Laser-Based Sensing
Thu 5/20 8:00 AM 8:45 AM - 9:00 AM Room A6	CThE4 CLEO Oral	Christian Pflügl ¹ , Markus Geiser ¹ , Alexey Belyanin ² , Qi Jie Wang ¹ , Nanfang Yu ¹ , Tadataka Edamura ³ , Masamichi Yamanishi ³ , Hirofumi Kan ³ , Milan Fischer ⁴ , Andreas Wittmann ⁴ , Jerome Faist ⁴ , Federico Capasso ¹ ; ¹ Harvard Univ., USA, ² Texas A&M Univ., USA, ³ Central Res. Labs, Hamamatsu Photonics, Japan, ⁴ ETH Zurich, Switzerland.	Gain Competition in Multicolor Quantum Cascade Lasers CThE.Quantum Cascade Lasers
Thu 5/20 8:00 AM 9:15 AM - 9:30 AM Room A6	CThE6 CLEO Oral	Matthew D. Escarra ¹ , Alexander Benz ² , Anjali M. Bhatt ³ , Anthony J. Hoffman ¹ , Xiaojun Wang ⁴ , Jen-Yu Fan ⁴ , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² Vienna Univ. of Technology, Austria, ³ Harvard Univ., USA, ⁴ Adtech Optics, Inc., USA.	Thermoelectric Effect in Quantum Cascade Lasers CThE.Quantum Cascade Lasers
Thu 5/20 10:30 AM 10:45 AM - 11:00 AM Room A8	QThF2 QELS Oral	Alexey Belyanin ¹ , Xiangfeng Wang ² , Scott A. Crooker ³ , Daniel M. Mittleman ² , Junichiro Kono ² ; ¹ Dept. of Physics, Texas A&M Univ., USA, ² Dept. of Electrical and Computer Engineering, Rice Univ., USA, ³ Natl. High Magnetic Field Lab, USA.	Terahertz Studies of Collective Excitations and Microscopic Physics in a Semiconductor Magneto-Plasma QThF.Collective Excitation and Lasing in Semiconductors
Thu 5/20 10:30 AM 11:00 AM - 11:15 AM Room A8	QThF3 QELS Oral	Scott A. Holmstrom ¹ , Todd H. Stievater ² , Marcel W. Pruessner ² , Doewon Park ² , William S. Rabinovich ² , Subramaniam Kanakaraju ³ , Christopher J. K. Richardson ³ , Jacob B. Khurgin ⁴ ; ¹ Univ. of Tulsa, USA, ² NRL, USA, ³ Lab for Physical Sciences, USA, ⁴ Johns Hopkins Univ., USA.	The Guided-Mode Phonon-Polariton in Suspended Waveguides QThF.Collective Excitation and Lasing in Semiconductors
Thu 5/20 10:30 AM 11:45 AM - 12:00 PM Room A6	CThM3 CLEO Oral	Yu Yao ¹ , Tracy Tsai ¹ , William O. Charles ¹ , Jianxin Chen ² , Gerard Wysocki ¹ , Claire F. Gmachl ¹ ; ¹ Princeton Univ., USA, ² Chinese Acad. of Sciences, China.	Broadband Gain from a "Continuum-to-Bound" Quantum Cascade Laser Design CThM.High Power/Broadly Tunable QCLS
Thu 5/20 10:30 AM 12:00 PM - 12:15 PM Room A6	CThM4 CLEO Oral	Tracy R. Tsai ¹ , Igor Trofimov ² , Charles W. Heaps ¹ , Mikhail Maiorov ² , Vladimir Zeidel ² , Chul Soo Kim ³ , Mijin Kim ³ , Chadwick L. Canedy ³ , William W. Bewley ³ , J. Ryan Lindle ³ , Igor Vurgaftman ³ , Jerry Meyer ³ , Gerard Wysocki ¹ ; ¹ Princeton Univ., USA, ² AKELA Laser Corp., USA, ³ NRL, USA.	Widely Tunable External Cavity Interband Cascade Laser for Spectroscopic Applications CThM.High Power/Broadly Tunable QCLS

Thu 5/20 10:30 AM 12:00 PM - 12:15 PM Room A4	CThL6 CLEO Oral	Guan Sun ¹ , Suvranta K. Tripathy ¹ , Yujie J. Ding ¹ , Guangyu Liu ¹ , G. S. Huang ¹ , Hongping Zhao ¹ , Nelson Tansu ¹ , Jacob B. Khurgin ² ; ¹ Lehigh Univ., USA, ² Johns Hopkins Univ., USA.	Photoluminescence Emission in Deep Ultraviolet Region from GaN/AlN Asymmetric-Coupled Quantum Wells CThL.Quantum Wires and Dots
Thu 5/20 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JThE90 Joint CLEO/QELS Poster	Robinson Kuis ^{1,2} , Anthony Johnson ^{1,2,3} , Sudhir Trivedi ⁴ ; ¹ Ctr. for Advanced Studies in Photonics Res., Univ. of Maryland, Baltimore County, USA, ² Physics Dept., Univ. of Maryland, Baltimore County, USA, ³ CSEE, Univ. of Maryland, Baltimore County, USA, ⁴ Brimrose Corp., USA.	Measurement of gamma in Photonic Crystal Fibers by the Induced Grating Autocorrelation Technique JThE.Joint CLEO/QELS Poster Session III
Thu 5/20 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JThE74 Joint CLEO/QELS Poster	Xin Xia, Christi Madsen ; Texas A&M Univ., USA.	Integrated Polarization Converters for Mid-Infrared Applications JThE.Joint CLEO/QELS Poster Session III
Thu 5/20 1:00 PM 1:00 PM - 2:30 PM Exhibit Hall	JThE105 Joint CLEO/QELS Poster	Y. s. Lim ¹ , H. s. Han ¹ , T. Joo ² , K. J. Yee ³ , E. H. Haroz ⁴ , L. G. Booshehri ⁴ , J. Kono ⁴ ; ¹ Dept. of Applied Physics, Konkuk Univ., Korea, Republic of, ² Dept. of Chemistry, Pohang Univ. of Science and Technology, Korea, Republic of, ³ Dept. of Physics, Chungnam Natl. Univ., Korea, Republic of, ⁴ Dept. of Electrical and Computer Engineering, Rice Univ., USA.	Near-Band-Edge Resonant Excitation of Coherent Phonons in Carbon Nanotubes JThE.Joint CLEO/QELS Poster Session III
Thu 5/20 2:30 PM 3:45 PM - 4:00 PM Room A4	CThT6 CLEO Oral	Nicolas Olivier ^{1,2} , William T. Mozet ² , Alexandre Mermillod-Blondin ² , Emmanuel Beaurepaire ¹ , Craig B. Arnold ² ; ¹ Ecole Polytechnique, France, ² Princeton Univ., USA.	Liquid Lens Approaches For Simultaneous Standard and Extended Depth of Field Imaging CThT.Microscopy: Technology Development
Thu 5/20 4:45 PM 4:45 PM - 5:00 PM Room A7	QThL1 QELS Oral	Greg Sun ¹ , Jacob B. Khurgin ² ; ¹ Univ. of Massachusetts at Boston, USA, ² Johns Hopkins Univ., USA.	Impact of High-Order Surface Plasmon Modes of Metal Nanoparticles on Emission Enhancement QThL.Plasmonic and Nanophotonic Emission Control
Thu 5/20 4:45 PM 5:45 PM - 6:00 PM Room B2-B3	JThJ3 Joint CLEO/CLEO: Applications	Katrin Paschke ¹ , Peter Q. Liu ² , Anna P. M. Michel ³ , James Smith ⁴ , Fred Moshary ⁵ , Claire Gmachl ² ; ¹ Ferdinand-Braun-Inst. für Höchstfrequenztechnik, Germany, ² Princeton Univ., Dept. of Electrical Engineering, USA, ³ Princeton Univ., Inst. for the Science and Technology of Materials, USA, ⁴ Princeton Univ., Dept. of Civil and	Quantum Cascade Laser for Elastic-Backscattering LIDAR Measurement JThJ.Standoff Laser Sensing

		Environmental Engineering, USA, ⁵ CUNY, USA.	
Thu 5/20 4:45 PM 6:00 PM - 6:15 PM Room B2-B3	JThJ4 Joint CLEO/CLEO: Applications	David J. Miller , Mark A. Zondlo; Princeton Univ., USA.	Open-Path High Sensitivity Atmospheric Ammonia Sensing with a 9 μm Quantum Cascade Laser JThJ.Standoff Laser Sensing
Fri 5/21 8:00 AM 9:00 AM - 9:15 AM Room A3	CFC4 CLEO Oral	Zhenxing Wang ¹ , Lei Xu ² , John Chang ¹ , Ting Wang ² , Paul R. Prucnal ¹ ; ¹ Princeton Univ., USA, ² NEC Labs, America, USA.	Secure Optical Transmission in Single-User Channel Using Encrypted Wireless CDMA Codes CFC.Security and Optical Monitoring