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RESEARCH EXPO

Thursday April 16, 2015

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Agenda

1:30 PM	**REGISTRATION** Price Center (Level 2 in front of the East Ballroom)
2:00 PM–4:30 PM	**POSTER SESSION** Price Center West Ballroom 210+ Graduate Students display their research results
2:30 PM– 4:30 PM	**FACULTY LIGHTNING TALKS** Price Center Forum (4th Floor)
2:30 PM	SIMULATION-BASED DISASTER PREDICTION AND DAMAGE ASSESSMENT Jiun-Shyan (J.S.) Chen Center for Extreme Events Research
3:00 PM	VISUAL COMPUTING: GRAND OPPORTUNITIES Ravi Ramamoorthi Center for Visual Computing
3:30 PM	THE FUTURE OF SUSTAINABLE POWER AND ENERGY Shirley Meng Sustainable Power and Energy Center
4:00 PM	SEAMLESS INTEGRATION OF WEARABLE MEDICAL DEVICES Patrick Mercier Center for Wearable Sensors
4:30 PM–6:00 PM	**NETWORKING RECEPTION** Price Center East Ballroom Network with faculty, students and industry partners

Table of Contents

CENTER FOR EXTREME EVENTS RESEARCH

2:30 PM
SIMULATION-BASED DISASTER DAMAGE PREDICTION AND DAMAGE ASSESSMENT

Presenter: Jiun-Shyan (J.S.) Chen
William Prager Professor, Structural Engineering

Manmade and natural disasters including blasts, fragment impacts, penetration, earthquakes and landslides pose severe threats to our living environment. Disaster damage prediction and mitigation are now timely research topics for safeguarding our society. Computer simulations with robust numerical algorithms are one effective approach for disaster damage prediction and mitigation. I will introduce meshfree-based computation methods for multi-scale, multi-physics simulation of damage initiation, propagation, and total collapse in structures and systems subjected to extreme events. I will also discuss how verification and validation of numerical simulation play an important role in the reliability of disaster damage prediction.

• Posters from the Center for Extreme Events Research are listed on page 13.

ABOUT: CENTER FOR EXTREME EVENTS RESEARCH

The Center for Extreme Events Research (CEER) at UC San Diego specializes in developing state-of-the-art computational and experimental technologies for protection of critical infrastructure and biosystems from extreme hazardous events, and for mitigation of structures and systems after disasters. The center's unique testing facilities, including the blast simulator and impact testing laboratory, will be highlighted along with our advanced computational techniques developed by CEER researchers, including the Reproducing Kernel Particle Method and Isogeometric Analysis.

CEER.UCSD.EDU

CENTER FOR VISUAL COMPUTING

3:00 PM
VISUAL COMPUTING: GRAND OPPORTUNITIES

Presenter: Ravi Ramamoorthi
Professor, Computer Science and Engineering

Mobile phones with associated imaging devices are now ubiquitous. Most of human perception, however, is from visually rich content, and the mobile revolution should fundamentally be about visual computing. Indeed, we are seeing a revolution in mobile image sensors from Kinect-style hand-held RGBD cameras, to light field cameras used for 3D and range imaging, to wearable see-through and head-mounted augmented reality displays. In short, visual computing at the interface of computer vision and computer graphics is undergoing a major transformation that impacts our daily lives.

Visual content can increasingly be created in more realistic ways, rivaling real photographs and fulfilling the long-term goal of photorealism in computer graphics. Numerous blockbuster movies featuring computer-generated visual effects that are indistinguishable from reality have had tremendous success. But a key challenge remains: creating these effects in real-time and integrating them with mobile augmented reality systems to extend human perception and enable entirely new tasks.

Another major trend is the coming of age of computer vision, where tasks like scene comprehension and gesture recognition are now becoming commonplace on mobile devices. The confluence of these trends opens up great challenges and opportunities.

• Posters from the Center for Visual Computing are listed on page 11.

ABOUT: CENTER FOR VISUAL COMPUTING

The UC San Diego Center for Visual Computing seeks to develop the fundamental technologies needed to take full advantage of the opportunities, at the intersection of computer vision, graphics, imaging and augmented reality. Center research projects are transforming the way we experience and display visual content and indeed the way we live.

VISCOMP.UCSD.EDU

SUSTAINABLE POWER AND ENERGY CENTER

3:30 PM
NEW PERSPECTIVES FOR ENERGY STORAGE MATERIALS

Presenter: Shirley Meng
Professor, NanoEngineering

Energy storage in the electrochemical form is attractive because of high efficiency and fast response time. New and improved materials for electrochemical energy storage are urgently needed to make more efficient use of our finite supply of fossil fuels and to enable the effective use of renewable energy sources. In this talk, I will discuss new perspectives for energy storage materials being pursued at our new Sustainable Power and Energy Center. The work includes new-generation lithium-ion batteries, new sodium-ion batteries and other battery chemistries with lower costs and longer life cycles. I hope to demonstrate how to combine knowledge-guided synthesis-and-characterization with computational modeling to develop and optimize new higher energy/power density electrode materials for energy storage. With recent advances in characterization tools and computational methods, we are able to map out the structure-properties relations in functional materials for energy storage and conversion, and design and optimize next-generation energy storage technologies.

• Posters from the Sustainable Power and Energy Center are listed on page 13.

ABOUT: SUSTAINABLE POWER AND ENERGY CENTER

The Sustainable Power and Energy Center at UC San Diego develops high performance and low cost materials and devices for energy generation, storage and conversion for electric vehicles, microgrids, photovoltaic panels, wind turbines, wearable power devices and more. UC San Diego's world-renowned microgrid serves as a real-world test-bed for the Center's new materials, devices and power-management systems, which are rooted in thoughtful analyses of the economics of distributed energy. At every point along the way, the Center trains and mentors students to become tomorrow's workforce for green and advanced energy.

SPEC.UCSD.EDU

CENTER FOR WEARABLE SENSORS

4:00 PM
SEAMLESS INTEGRATION OF WEARABLE MEDICAL DEVICES

Presenter: Patrick Mercier
Professor, Electrical and Computer Engineering

Wearable devices have the potential to revolutionize how we practice health care, train athletes and support the health and performance of our troops. Unfortunately current-generation wearables can be large and bulky with limited battery life and only measure a small handful of parameters that have limited clinical utility. The Center for Wearable Sensors endeavors to build new sensing devices that measure useful parameters that can help directly affect patient healthcare and behavior, while doing so with ultra-miniaturized sensing electronics that are either extremely energy-efficient or support energy harvesting for seamless integration into daily life. This talk outlines these challenges and proposes several promising solutions, with an emphasis on new bio-energy harvesting technologies.

• Posters from the Center for Wearable Sensors are listed on page 12.

ABOUT: CENTER FOR WEARABLE SENSORS

The Center for Wearable Sensors brings together top UC San Diego faculty, students and researchers in sensors, low-power circuits, materials, electrochemistry, bioengineering, wireless network technologies, preventive medicine, the life sciences and more. This coordinated environment fosters the acceleration of research and system development, and it helps prepare our students to become leaders in the wearable systems workforce.

WEARABLESENSORS.UCSD.EDU

GRADUATE STUDENT POSTERS

CENTER FOR VISUAL COMPUTING

1. PHOTOMETRIC STEREO IN A SCATTERING MEDIUM
Student: Zachary Paul Murez
Faculty: David Kriegman, Ravi Ramamoorthi

2. AUTOMATED ANNOTATION OF CORAL REEF SURVEY IMAGES
Student: Oscar O Beijbom | Faculty: David Kriegman, Serge Belongie

3. UNIFIED MULTI-CUE 3D SHAPES FROM LIGHT FIELD CAMERAS
Student: Jong-Chyi Su | Faculty: Ravi Ramamoorthi

4. A GENERIC LIGHT SCATTERING MODEL FOR RENDERING PHOTOREALISTIC ANIMAL FUR FIBERS
Student: Chiwei Tseng | Faculty: Ravi Ramamoorthi, Henrik Wann Jensen

5. AXIS-ALIGNED FILTERING AND ADAPTIVE SAMPLING FOR INTERACTIVE PHYSICALLY-BASED RENDERING
Student: Krishna B Mullia Lakshminarayana | Faculty: Ravi Ramamoorthi

6. AN APPEARANCE MODEL FOR GLINTS ON FALLEN SNOW
Student: Matteo Toti Mannino
Faculty: Ravi Ramamoorthi, Henrik Wann Jensen

7. REGION-BASED DISCRIMINATIVE FEATURE POOLING FOR SCENE TEXT RECOGNITION
Student: Chenyu Lee | Faculty: Zhuowen Tu, Pamela Cosman

8. DEEPLY SUPERVISED NETS
Students: Saining Xie, Chen-Yu Lee | Faculty: Zhuowen Tu

9. MEDICAL IMAGE SEGMENTATION FOR CARDIOVASCULAR BLOOD FLOW SIMULATION
Student: Jameson Tyler Merkow
Faculty: David Kriegman, Alison Marsden, Zhuowen Tu

10. AUTOMATIC GENERATION OF GEOMETRICALLY CORRECT STEREO PANORAMA IMAGES
Student: Jason Juang | Faculty: Truong Q. Nguyen, Jurgen Schulze

CENTER FOR WEARABLE SENSORS

11. A MINIATURIZED ULTRASONIC POWER DELIVERY SYSTEM
Student: Jiwoong Park | Faculty: Patrick Mercier

12. MINIATURIZED POWER CONVERTERS USING RECURSIVE SWITCHED CAPACITOR TOPOLOGIES
Student: Loai Galal Bahgat Salem | Faculty: Patrick Mercier

13. DRY-TEMPLATED HIGH-RESOLUTION PATTERNING OF CONDUCTIVE METAL NANOPARTICLES
Student: David A Rolfe | Faculty: Albert P. Pisano

14. LARGE-AREA GRAPHENE TRANSFER FROM INDEFINITELY REUSABLE COPPER SUBSTRATE
Student: Aliaksandr Zaretski | Faculty: Darren Lipomi

15. ORGANIC SOLAR CELLS FOR EPIDERMAL ELECTRONICS
Student: Timothy Francis Oconnor | Faculty: Darren Lipomi

16. LANGUAGE OF "GLOVE" – WIRELESS COMMUNICATION OF HAND GESTURES USING PEDOT:PSS SENSORS
Student: Kirtana Mohan Rajan | Faculty: Darren Lipomi, Patrick Mercier

17. WEARABLE TATTOO SENSOR FOR REAL-TIME TRACE-METAL MONITORING IN HUMAN SWEAT
Student: Jayoung Kim | Faculty: Joseph Wang

18. TATTOO-BASED NON-INVASIVE GLUCOSE MONITORING
Student: Amay Jairaj Bandodkar | Faculty: Joseph Wang

SUSTAINABLE POWER AND ENERGY CENTER

19. POROUS SILICON-BASED LITHIUM ION ANODES FOR SECONDARY BATTERIES
Students: Daniel Estrada, David Roberts
Faculty: Michael Sailor, Shirley Meng

20. REDUCED THERMAL CONDUCTIVITY DUE TO ELASTIC SOFTENING IN NANOSTRUCTURES FOR THERMOELECTRIC APPLICATIONS
Students: Matthew Christopher Wingert, Soonshin Kwon
Faculty: Renkun Chen, Jie Xiang

21. CONJUGATED POLYMERS FOR ROBUST, STRETCHABLE, AND WEARABLE ELECTRONIC DEVICES
Student: Adam David Printz | Faculty: Darren Lipomi

22. INVESTIGATION OF ANATASE-TIO2 AS AN EFFICIENT ELECTRODE MATERIAL FOR MAGNESIUM-ION BATTERIES
Students: Minghao Zhang, Alex MacRae | Faculty: Ying Meng

23. INVESTIGATION ON NOVEL OXIDE AND SULFIDE COMPOUNDS AS ANODE MATERIALS FOR NA-ION BATTERIES
Student: Chuze Ma | Faculty: Shirley Meng

CENTER FOR EXTREME EVENTS RESEARCH

24. TOWARDS A STABILIZED MESHFREE FORMULATION FOR HYDRAULIC FRACTURING SIMULATION
Student: Haoyan Wei | Faculty: Jiun-Shyan Chen

25. MESHFREE METHODS FOR FRAGMENT-IMPACT MODELING AND HOMELAND SECURITY APPLICATIONS
Students: Edouard Marc Yreux, Michael Hillman, Guohua Zhou
Faculty: Jiun-Shyan Chen

26. AN IMAGE-BASED COMPUTATIONAL MECHANICS FRAMEWORK FOR SKELETAL MUSCLE SIMULATION
Students: Ramya Rao Basava, Yantao Zhang | Faculty: Jiun-Shyan Chen

27. COMPUTATIONAL TWO-PHASE FLUID-STRUCTURE INTERACTION: AQUATIC SPORTS, OFFSHORE FLOATING WIND TURBINES AND NUMERICAL WAVE GENERATION
Student: Jinhui Yan | Faculty: Yuri Bazilevs

BIOENGINEERING

28. METABOLIC VULNERABILITIES OF MUTANT TUMORS
Student: Seth Jameson Parker | Faculty: Christian Michael Metallo

29. ENTERAL BLOCKADE OF DIGESTIVE PROTEASES ATTENUATES VASOPRESSOR RESISTANCE AFTER HEMORRHAGIC SHOCK
Student: Marco Henry Santamaria | Faculty: Geert Schmid-Schönbein

30. A CMOS 4-CHANNEL MIMO BASEBAND RECEIVER WITH 65DB HARMONIC REJECTION OVER 48MHZ AND 50DB SPATIAL SIGNAL SEPARATION OVER 3MHZ AT 1.3MW
Students: Siddharth Joshi, Chul Kim, Chris Thomas, Sohmyung Ha, Abraham Akinin | Faculty: Gert Cauwenberghs, Larry Larson

31. CONTINUOUS WAVE ULTRASONIC DOPPLER TONOMETRY
Student: Abraham Akinin | Faculty: Gert Cauwenberghs

32. A 16-CHANNEL WIRELESS NEURAL INTERFACING SOC WITH RF-POWERED ENERGY-REPLENISHING ADIABATIC STIMULATION
Students: Sohmyung Ha, Abrahm Akinin, Jiwoong Park, Chul Kim, Hui Wang, Christoph Maier | Faculty: Gert Cauwenberghs, Patrick Mercier

33. ONLINE RECURSIVE INDEPENDENT COMPONENT ANALYSIS FOR REAL-TIME SOURCE SEPARATION OF HIGH-DENSITY EEG
Student: Shenghsiou Hsu | Faculty: Gert Cauwenberghs

34. A 144MHZ INTEGRATED RESONANT REGULATING RECTIFIER WITH HYBRID PULSE MODULATION
Student: Chul Kim | Faculty: Gert Cauwenberghs, Patrick Mercier

35. AN ONLINE BIOSENSOR FOR THE PROTECTION OF WATER SUPPLIES
Student: Garrett Cook Graham | Faculty: Jeff Hasty

36. ORTHOGONAL QUORUM SENSING: COMMUNICATING IN MIXED POPULATIONS
Student: Spencer Raoul Scott | Faculty: Jeff Hasty

37. ASSESSING THE SAFETY OF BIOMATERIAL INJECTION IN THE HEART
Student: Sophia Lynn Suarez | Faculty: Karen Christman

38. ENGINEERING MULTIPOTENT MESODERM PROGENITORS FOR CELL THERAPY
Student: Shenghan Yu | Faculty: Mark Mercola

39. A COMPARISON OF MIRNA EXPRESSION LEVELS BETWEEN PLASMA AND LYMPHOCYTES OF CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) PATIENTS USING QIAGEN AND DEP METHODS
Student: Ryan Wai Tam | Faculty: Michael Heller

40. 3-D ORGANIZATION OF CELLS AND MATRIX IN HUMAN ARTICULAR CARTILAGE
Student: Neil Chang | Faculty: Robert Sah

41. CUSTOMIZED OSTEOCHONDRAL GRAFTS FOR CARTILAGE RESURFACING: EFFECTS OF CONTOUR AND PLACEMENT ON BIOMECHANICS OF FEMORO-TIBIAL CONTACT IN THE GOAT
Student: Jason Patrick Caffrey | Faculty: Robert Sah

42. EFFECT OF TEMPERATURE AND UV ILLUMINATION ON CHARGE TRANSPORT MECHANISMS IN DNA
Student: Alaleh Golkar Narenji | Faculty: Samuel Kassegne, Michael Heller

43. BIOMATERIAL-MEDIATED BONE TISSUE ENGINEERING
Students: Vikram G Rao, Heemin Kang | Faculty: Shyni Varghese

44. A BIOENGINEERED APPROACH TO CELL-BASED THERAPIES FOR MUSCULAR DYSTROPHY
Student: Sara Hariri | Faculty: Shyni Varghese

45. 3D PATTERNING AS A PLATFORM OF CELLULAR ANALYSIS, WITH APPLICATIONS IN QUANTITATIVE STUDY OF CANCER PROLIFERATION
Student: Shruti Krishna Kumar Davey | Faculty: Shyni Varghese

46. BIOMINERALIZED MATRICES DOMINATE SOLUBLE CUES TO DIRECT OSTEOGENIC DIFFERENTIATION OF HUMAN MESENCHYMAL STEM CELLS THROUGH ADENOSINE SIGNALING
Students: Heemin Kang, Yu-Ru Shih | Faculty: Shyni Varghese

47. THREE-DIMENSIONAL CARDIAC MICROTISSUES IN A PERFUSION-BASED DEVICE: AN IN VITRO PLATFORM
Student: Ivneet Singh Bhullar | Faculty: Shyni Varghese

48. EFFICIENT BAYESIAN INFERENCE METHODS VIA CONVEX OPTIMIZATION AND OPTIMAL TRANSPORT
Student: Diego Alberto Mesa | Faculty: Todd Coleman

49. NATIVE AND LABELED NUCLEOTIDE INCORPORATION KINETICS MEASURED USING BY COMPETITIVE PARALLEL REACTIONS

Student: Matthew T Walsh | Faculty: Xiaohua Huang

50. SEQUENTIAL SIGNALING OF FAK, SRC AND FOCAL ADHESION DYNAMICS IN CANCER CELL ADHESION

Student: Yiqian Wu | Faculty: Yingxiao Wang

COMPUTER SCIENCE & ENGINEERING

51. DESIGN GUIDELINES AND OPTIMIZATION OF DRAM INTERCONNECT
Student: Mulong Luo | Faculty: Andrew B. Kahng

52. MATEX: A DISTRIBUTED FRAMEWORK FOR TRANSIENT SIMULATION OF POWER DISTRIBUTION NETWORKS
Students: Hao Zhuang, Ilgweon Kang
Faculty: Chung-Kuan Cheng

53. EPLACE-3D: ELECTROSTATICS BASED 3D IC PLACEMENT USING NESTEROV'S METHOD
Students: Ilgweon Kang, Hao Zhuang | Faculty: Chung-Kuan Cheng

54. A NON-CONTACT BIOPOTENTIAL SENSING SYSTEM WITH MOTION ARTIFACT SUPPRESSION
Students: Jeng-Hau Lin, Xinan Wang | Faculty: Chung-Kuan Cheng

55. ANALYZING SOCIAL MEDIA TO CHARACTERIZE HIV AT-RISK POPULATIONS AMONG MSM IN SAN DIEGO
Student: Narendran Thangarajan | Faculty: Nadir Weibel

56. A SCALABLE MODEL FOR TIMING ERROR PREDICTION UNDER HARDWARE AND WORKLOAD VARIATIONS
Students: Xun Jiao, Abbas Rahimi | Faculty: Rajesh Gupta

57. FAULT DETECTION AND ANALYSIS OF HVAC SYSTEMS IN COMMERCIAL BUILDINGS
Students: Bharathan Balaji, Jason Koh
Faculty: Rajesh Gupta, Anthony Acampora, Yuvraj Agarwal

58. HARDWARE ACCELERATED NOVEL OPTICAL DE NOVO ASSEMBLY FOR LARGE-SCALE GENOMES
Student: Pingfan Meng | Faculty: Ryan Kastner

59. EMBEDDED 3D RECONSTRUCTION IN REAL TIME
Students: Quentin Kevin Gautier, Alexandria Shearer, Zac Blair
Faculty: Ryan Kastner

60. 3D SOUNDSCAPING AND HYDROPHONE LOCALIZATION USING AMBIENT OCEAN NOISE FIELDS
Students: Riley Thomas Yeakle, Perry Naughton
Faculty: Ryan Kastner

61. USING COMPUTER VISION TO MAP ENVIRONMENTS FOR ROBOTICS AND ARCHEOLOGICAL DOCUMENTATION
Students: Dustin Alexander Richmond, Alric Althoff
Faculty: Ryan Kastner

62. CONSTRUCTING DEPTH MAPS USING A DYNAMIC VISION SENSOR (DVS) AND A LIQUID LENS
Student: Alireza Khodamoradi | Faculty: Ryan Kastner

63. AUTOMATED HIGH THROUGHPUT CELL IMAGE ANALYSIS SYSTEM USING FPGA
Student: Dajung Lee | Faculty: Ryan Kastner

64. CONNECTING STORIES AND LEARNING OBJECTIVES INCREASES PARTICIPANT MOTIVATION IN ONLINE DISCUSSIONS
Student: Vineet Pandey | Faculty: Scott Klemmer

65. GADGETRON: SYNTHESIZING ELECTRONIC GADGETS
Student: Devon James Merrill | Faculty: Steven Swanson

66. DISTRIBUTED CONTROL OF A SWARM OF BUILDINGS CONNECTED TO A SMART GRID
Students: Baris Aksanli, Alper Sinan Akyurek
Faculty: Tajana Simunic-Rosing

67. BALANCING ENERGY AND DELAY IN HETEROGENEOUS APPLICATIONS RUNNING WSNS
Student: Jinseok Yang | Faculty: Tajana Simunic-Rosing

68. USAGE ANALYTICS AND SYSTEM TUNING FRAMEWORK FOR INTERACTIVE MOBILE APPLICATIONS
Students: Mohsen Imani, Shruti Patil | Faculty: Tajana Simunic-Rosing

69. USARE: IMPROVED USABILITY AND RELIABILITY OF MOBILE DEVICES BY USING A NOVEL DYNAMIC VARIABILITY AND THERMAL MANAGEMENT TECHNIQUE.
Students: Pietro Mercati, Francesco Paterna
Faculty: Tajana Simunic-Rosing

70. A CONTEXT-DRIVEN MIDDLEWARE ARCHITECTURE FOR THE INTERNET OF THINGS
Students: Jagannathan Venkatesh, Christine Chan
Faculty: Tajana Simunic-Rosing

71. ECOLOGY OF OPEN ALGAE PONDS FOR THE PRODUCTION OF BIOFUELS

Student: Doruk Beyter | Faculty: Vineet Bafna

ELECTRICAL & COMPUTER ENGINEERING

72. EVALUATION OF BEOL DESIGN RULE IMPACTS ON SUB-20NM VLSI DESIGNS
Student: Hyein Lee | Faculty: Andrew B. Kahng

73. IMPLEMENTATION AND BENEFIT EXPLORATION OF SEQUENTIAL 3DICS
Students: Weiting Chan, Siddhartha Nath | Faculty: Andrew B. Kahng

74. CLOCK TREE SYNTHESIS OPTIMIZATION FOR MODERN SOC DESIGN
Students: Jiajia Li, Han Kwangsoo | Faculty: Andrew B. Kahng

75. OPTIMAL BEOL SCALING FOR PERFORMANCE IN ADVANCED NODES
Students: Yaping Sun, Pooja Shah | Faculty: Andrew B. Kahng

76. CELL-FREE MASSIVE MIMO SYSTEMS
Student: Elina Nayebi | Faculty: Bhaskar Rao

77. OPTIMAL OPPORTUNISTIC SCHEDULING FOR WIRELESS SYSTEMS VIA CLASSIFICATION TECHNIQUES
Student: Phuongbang Cat Nguyen
Faculty: Bhaskar Rao

78. DOWNLINK CHANNEL ESTIMATION IN MASSIVE MIMO SYSTEMS BASED ON DICTIONARY LEARNING
Student: Yacong Ding | Faculty: Bhaskar Rao

79. BAYESIAN SPARSE SIGNAL RECOVERY FRAMEWORKS: TYPE I OR TYPE II?
Student: Ritwik Giri | Faculty: Bhaskar Rao

81. PLASMONIC BIOSENSORS
Student: Ashok Kodigala | Faculty: Boubacar Kante

82. FABRICATION AND PERFORMANCE OF DILUTE NITRIDE GAP/GANP CORE/SHELL NANOPILLAR-BASED SOLAR CELLS
Student: Supanee Sukrittanon
Faculty: Charles Tu, Shadi Ahmad Dayeh

83. GROWTH OF DILUTE NITRIDE GAINNAS/GAAS CORE/SHELL NANOWIRES ON SI(111) BY GAS SOURCE MOLECULAR BEAM EPITAXY
Student: Rui La | Faculty: Charles Tu

84. NONLINEAR METAMATERIALS FOR MICROWAVE ABSORBERS
Student: Sanghoon Kim | Faculty: Daniel Sievenpiper

85. METASURFACE BASED MICRO-PLASMA DEVICES
Students: Shiva Piltan, Ebrahim Forati | Faculty: Daniel Sievenpiper

86. W-BAND SPATIAL POWER COMBINER
Student: Minu Mariam Jacob | Faculty: Daniel Sievenpiper

87. GENERATION AND MANIPULATON OF DOMAIN WALLS USING A THERMAL GRADIENT IN A FERRIMAGNETIC COTB WIRE
Student: Robert Douglas Tolley | Faculty: Eric Fullerton

88. MODEL-BASED HIERARCHICAL TOPIC MODELS
Student: Arya Iranmehr | Faculty: Gert Lanckriet

89. SCALING LIMITS OF MEMS OPTICAL BEAM-STEERING SWITCHES FOR DATA CENTER NETWORKS
Student: William Maxwell Mellette | Faculty: Joseph Ford

90. AUTOMATIC DRIVE ANALYSIS BY CONTINUOUS VISUAL OBSERVATION OF DRIVER FOR LARGE NATURALISTIC DRIVING STUDIES
Student: Sujitha Catherine Martin | Faculty: Mohan Trivedi

91. NIGHT-TIME DRIVE ANALYSIS USING STEREO-VISION FOR DATA REDUCTION IN NATURALISTIC DRIVING STUDIES
Students: Morten Borno Jensen, Mark Philip Philipsen
Faculty: Mohan Trivedi

92. OBJECT DETECTION WITH APPEARANCE PATTERNS FOR DRIVER ASSISTANCE
Student: Eshed Meir Ohn-Bar | Faculty: Mohan Trivedi

93. VIVA 2015: VISION FOR INTELLIGENT VEHICLES & APPLICATIONS' FACE CHALLENGE
Students: Kevan Chun Yiu Yuen, Dennis Shen
Faculty: Mohan Trivedi

94. VIVA CHALLENGE 2015: DRIVER HANDS IN ACTION
Students: Nikhil Ranjan Das, Rakesh Nattoji Rajaram
Faculty: Mohan Trivedi

95. DYNAMIC POOLING FOR COMPLEX EVENT RECOGNITION
Student: Weixin Li | Faculty: Nuno Vasconcelos

96. LEARNING RECEPTIVE FIELDS FOR POOLING FROM TENSORS OF FEATURE RESPONSE
Student: Can Xu | Faculty: Nuno Vasconcelos

97. SCENE CLASSIFICATION WITH CONVOLUTIONAL NEURAL NETWORKS
Students: Mandar Dilip Dixit, Si Chen | Faculty: Nuno Vasconcelos

98. MULTIHEAD MULTITRACK DETECTION WITH REDUCED STATE SEQUENCE ESTIMATION
Student: Bing Fan | Faculty: Paul Siegel

99. TUNNELING-BASED MODELLING OF LEAKAGE CURRENT IN GRAPHENE ELECTROCHEMICAL CAPACITORS
Student: Hidenori Yamada | Faculty: Prabhakar Bandaru, Peter M Asbeck, Yuan Taur, Paul K.L. Yu

100. STRUCTURE FROM MOTION IN MARITIME ARCHAEOLOGY
Student: Perry W Naughton | Faculty: Ryan Kastner

101. SMART FIBER SENSOR ASSISTED IN VIVO NEEDLE GUIDANCE FOR MINIMALLY INVASIVE PROCEDURES
Student: Saharnaz Baghdadchi | Faculty: Sadik Esener

102. MONOLITHIC INTEGRATION OF ULTRA-SCALED HIGH PERFORMANCE PIN-SIZE WEARABLE ELECTRONICS
Student: Namseok Park | Faculty: Shadi Ahmad Dayeh

103. NOVEL NEURAL PROBE TECHNOLOGIES: TOWARD HIGH DENSITY, FIDELITY, AND FLEXIBILITY
Students: Sang Heon Lee, Renjie Chen | Faculty: Shadi Ahmad Dayeh

104. BEYOND 10-M THICK CRACK-FREE GAN GROWTH ON SI FOR HIGH POWER DEVICE APPLICATIONS
Student: Atsunori Tanaka | Faculty: Shadi Ahmad Dayeh

105. SURFACE PASSIVATION STUDIES ON VERTICAL JUNCTION SILICON MICROWIRE SOLAR CELLS
Students: Yun Goo Ro, Renjie Chen | Faculty: Shadi Ahmad Dayeh

106. LARGE SCALE CORTICAL SINGLE NEURON RECORDINGS
Student: Mehran Ganji | Faculty: Shadi Ahmad Dayeh

107. TRANSPARENT, FLEXIBLE, AND SCALABLE ZNO THIN-FILM TRANSISTOR PRESSURE SENSORS
Students: Siarhei Vishniakou, Namseok Park, Phat Phan, Brian Lewis, Jacob Stanley, James Wingert
Faculty: Shadi Ahmad Dayeh, Deli Wang

108. IS TODAY'S CMOS-COMPATIBLE SILICON TOMORROW'S UBIQUITOUS QUANTUM KEY DISTRIBUTION TECHNOLOGY?
Student: Ranjeet Kumar | Faculty: Shayan Mookherjea

109. SILICON PHOTONIC WDM NODE INTEGRATED IN UCSD CIRCUIT-SWITCHED RING NETWORK
Student: Hannah Rae Grant | Faculty: Shayan Mookherjea

110. POWER-EFFICIENT BASE STATION OPERATION THROUGH USER QOS-AWARE ADAPTIVE RF CHAIN SWITCHING TECHNIQUE
Student: Po-Han Chiang | Faculty: Sujit Dey

111. ACCESS PREDICTION FOR KNOWLEDGE WORKERS IN ENTERPRISE DATA REPOSITORIES
Student: Chetan Kumar Verma | Faculty: Sujit Dey

112. OPTIMIZING CLOUD MOBILE 3D DISPLAY GAMING USER EXPERIENCE BY ASYMMETRIC OBJECT OF INTEREST RENDERING
Student: Yao Lu | Faculty: Sujit Dey

113. MODELING AND CHARACTERIZATION OF IMAGING FIBER BUNDLES
Student: Nojan Motamedi | Faculty: Vitaliy Lomakin, Joseph Ford

114. GAIN-ENHANCED TRANSMISSION IN NEAR-INFRARED HYPERBOLIC METAMATERIALS
Student: Joseph Stephen Thomas Smalley | Faculty: Yeshaiahu (Shaya) Fainman, Boubacar Kante, Eric Fullerton, Zhaowei Liu

115. CARTRIDGE LAB ON A CHIP (CLOC) FOR MOBILE HEALTH
Students: Brandon John Sung Hyun Hong, Lindsay Freeman, Alexei Smolyaninov, Lin Pang, Maxim Abashin
Faculty: Yeshaiahu (Shaya) Fainman

MECHANICAL & AEROSPACE ENGINEERING

116. CAPACITIVE MICRO SCALE SENSOR FOR MONITORING OIL DROPLETS IN THE OCEAN
Student: Xiaoyue Jiang | Faculty: Albert P. Pisano

117. A MICRO LOOP HEAT PIPE THERMAL MANAGEMENT SYSTEM WITH AN INTERLINE OPTIMIZED EVAPORATOR AND A COHERENT POROUS SILICON WICK
Student: Lilla M Smith | Faculty: Albert P. Pisano

118. TOWARDS SEPARATING DNA AND MRNA IN SINGLE CELLS
Student: Gordon Donald Hoople | Faculty: Albert P. Pisano

119. NANO-COMPOSITE DIELECTRIC MATERIALS FOR HIGH PERFORMANCE ENERGY STORAGE
Student: Anju Toor | Faculty: Albert P. Pisano

120. NANOWIRE SENSORS FOR IONIC SPECIES MEASUREMENT
Student: Maria Pace | Faculty: Albert P. Pisano

121. TRANSLUMINAL ATTENUATION GRADIENT FOR THROMBOTIC RISK ASSESSMENT IN KAWASAKI DISEASE PATIENTS WITH CORONARY ARTERY ANEURYSMS
Student: Noelia Grande Gutierrez | Faculty: Alison Marsden

122. NEW MODEL FOR CELL MOTILITY
Student: Kimoon Um | Faculty: Daniel Tartakovsky, Padmini Rangamani

123. A ROBOTIC HYBRID PLATFORM FOR AUTOMATED MULTISPECTRAL IMAGING AND SPECTROSCOPY OF CULTURAL ARTIFACTS
Student: Samantha Stout | Faculty: Falko Kuester

124. IMPACT OF PRE-PLASMA AND PULSE LENGTH ON FAST ELECTRON GENERATION ON THE HIGH INTENSITY TITAN LASER
Student: Jonathan Lee Peebles
Faculty: Farhat Beg, Sergei Krasheninnikov

125. STUDY OF HEAT ASSISTED MAGNETIC RECORDING AND HYDROCARBON CONTAMINATION IN HARD DISK DRIVES
Students: Benjamin Ying-Xiu Suen, Young Woo Seo, Longqiu Li
Faculty: Frank E. Talke

126. DEVELOPMENT OF A OPTICAL-BASED INTRAOCULAR PRESSURE SENSOR
Student: Alex Minh Giang Phan | Faculty: Frank E. Talke

127. DESIGN AND FINITE ELEMENT ANALYSIS OF COLLOCATED SUSPENSIONS IN HARD DISK DRIVES
Students: Karcher William Morris, Youyi Fu, Yangfan Wang, Longqiu Li
Faculty: Frank E. Talke

128. HEAVY IMPURITY TRANSPORT IN CSDX PLASMA
Student: Jordan James Gosselin | Faculty: George Tynan

129. MODEL DEVELOPMENT OF HYDROGEN RETENTION IN ION BEAM DAMAGED TUNGSTEN FOR NUCLEAR FUSION APPLICATIONS
Student: Joseph Lincoln Barton | Faculty: George Tynan

130. LAGRANGIAN COHERENT STRUCTURES WITH HIGH-ORDER DISCONTINUOUS-GALERKIN METHODS
Student: Daniel A Nelson | Faculty: Gustaaf Jacobs, Sutanu Sarkar

131. PLANAR MICROFLUIDIC DROP SPLITTING AND MERGING
Student: Sean Collignon | Faculty: James Friend

132. SPATIO-TEMPORAL CORRELATION OF SOLAR RADIATION INCORPORATING CLOUD SPEED AND DIRECTION
Student: Shahrouz Alimohammadi | Faculty: Jan Kleissl

133. SIZING OF PHOTOVOLTAIC REVERSE OSMOSIS (PVRO) FOR SOLAR DESALINATION SYSTEM BASED ON HISTORICAL DATA AT THE SOUTHWEST USA
Student: Abdulelah Habib | Faculty: Jan Kleissl, Raymond de Callafon

134. FACTORS CONTROLLING STRATOCUMULUS CLOUD DISSIPATION OVER THE COAST
Student: Mohamed Sherif Ghonima | Faculty: Jan Kleissl

135. MICROSTRUCTURE AND BIOINSPIRED APPLICATION OF ARISTOTLE'S LANTERN: URCHINS FROM THE SEA TO MARS
Students: Wei Huang, Michael Frank, Steven Naleway, Jae-Young Jung
Faculty: Joanna Mckittrick, Marc A. Meyers

136. EASING THE FABRICATION OF BIOINSPIRED COMPOSITES THROUGH THE USE OF CLATHRATE HYDRATES IN FREEZE CASTING
Student: Steven Eric Naleway
Faculty: Joanna Mckittrick, Marc A. Meyers

137. DEVELOPMENT OF PHOSPHORS FOR SOLID-STATE LIGHTING
Students: Jungmin Ha, Zhenbin Wang, Ekaterina Novitskaya
Faculty: Joanna Mckittrick, Olivia A Graeve, Shyue Ping Ong

138. SPINES OF THE PORCUPINE FISH: STRUCTURE, COMPOSITION, AND MECHANICAL PROPERTIES
Student: Frances Yenan Su | Faculty: Joanna Mckittrick

139. MAGNETIC FREEZE CASTING: POROUS SCAFFOLDS BIO-INSPIRED BY BONE
Students: Michael Brian Frank, Tsuk Haroush, Sze Hei Siu, Jerry Ng, Ivan Torres | Faculty: Joanna Mckittrick

140. MN4+-DOPED PHOSPHORS, A PROMISING CANDIDATE
Student: Seung-Hyo Lee | Faculty: Joanna Mckittrick

141. DENSIFICATION BEHAVIOR AND CONSTITUTIVE MODELING OF ZIRCONIUM NITRIDE CONSOLIDATED BY FIELD ASSISTED SINTERING TECHNIQUES
Student: Geuntak Lee | Faculty: Joanna Mckittrick

142. STRUCTURAL ANALYSIS OF THE WOODPECKER TONGUE AND HYOID APPARATUS
Students: Jae-young Jung, Vincent Sherman, Steven Naleway, Eric Bushong, Esther Cory
Faculty: Joanna Mckittrick, Marc A. Meyers, Robert Sah

143. DEVELOPING A PORTABLE MICRO HYDROKINETIC TURBINE FOR RURAL AND EMERGENCY ELECTRIFICATION
Student: Spencer Riley Ellis | Faculty: John Kosmatka

144. DETECTING DAMAGE IN A UAV COMPOSITE WING SPAR TESTBED USING DISTRIBUTED FIBER OPTIC STRAIN SENSORS
Student: Benjamin Levi Martins | Faculty: John Kosmatka

145. ROBUST DISTRIBUTED ALGORITHM FOR OPTIMIZED POWER GENERATION IN FUTURE GRIDS
Student: Ashish Kumar Cherukuri | Faculty: Jorge Cortes

146. A CLINICAL METHOD FOR MAPPING AND QUANTIFYING BLOOD STASIS IN THE LEFT VENTRICLE
Student: Lorenzo Rossini | Faculty: Juan Carlos del Alamo

147. SPALL STRENGTH DEPENDENCE ON STRAIN RATE AND GRAIN SIZE IN TANTALUM
Student: Tane Perry Remington | Faculty: Marc A. Meyers

148. STRUCTURE AND MECHANICAL BEHAVIOR OF COELACANTH FISH SCALES
Student: Haocheng Quan | Faculty: Marc A. Meyers

149. LIGHTWEIGHT, RIGID, YET COMPLIANT BIOLOGICAL COMPOSITES: THE MECHANICS OF HOW FUNCTION RELATES TO STRUCTURE IN FEATHER BARBS
Student: Tarah Naoe Sullivan | Faculty: Marc A. Meyers

150. PROTECTIVE FUNCTION OF PANGOLIN SCALES: STRUCTURE AND MECHANICAL PROPERTIES
Student: Bin Wang | Faculty: Marc A. Meyers

151. SPARK PLASMA SINTERING OF ZIRCONIUM CARBIDE: DENSIFICATION BEHAVIORS AND MECHANICAL PROPERTIES
Student: Xialu Wei | Faculty: Marc A. Meyers

152. ULTRAFINE-GRAINED TITANIUM BY DYNAMIC DEFORMATION
Student: Zezhou Li | Faculty: Marc A. Meyers

153. MECHANICAL PERFORMANCE, CONSTITUTIVE RESPONSE, AND FRAGMENTATION OF TAILORED MESOSTRUCTURED ALUMINUM-BASED COMPACTS
Student: Andrew Marquez | Faculty: Marc A. Meyers

154. THE GANOID SCALES OF ATRACTOSTEUS SPATULA: POTENTIAL FOR BIOINSPIRED FLEXIBLE ARMOR
Student: Vincent Robert Sherman | Faculty: Marc A. Meyers

155. SPARK PLASMA SINTERING NOVEL TOOLING DESIGN: TEMPERATURE UNIFORMIZATION
Student: Diletta Giuntini | Faculty: Marc A. Meyers, Eugene Olevsky

156. SHOCK INDUCED AMORPHIZATION AND RE-NANOCRYSTALLIZATION OF SILICON
Student: Shiteng Zhao | Faculty: Marc A. Meyers

157. LIPOSOMAL POROUS SILICON NANOPARTICLES AS A GENE DELIVERY SYSTEM
Students: Byungji Kim, Jinyoung Kang | Faculty: Michael Sailor

158. RATIOMETRIC DETECTION OF NEUROTRANSMITTER DOPAMINE VIA LUMINESCENT POROUS SILICON
Student: Geoffrey Ian Hollett | Faculty: Michael Sailor

159. SELF-REPORTING DRUG DELIVERY WITH POROUS SILICON PARTICLES FOR OCULAR THERAPUTICS
Student: Joanna Wang | Faculty: Michael Sailor

160. AUTOMATED TUNING OF ION SOURCE PARAMETERS
Student: Gregory Matthew Mills | Faculty: Miroslav Krstic

161. STATE-OF-CHARGE ESTIMATION FOR LITHIUM-ION BATTERIES VIA A COUPLED THERMAL-ELECTROCHEMICAL MODEL
Student: Shuxia Tang | Faculty: Miroslav Krstic

162. CORRELATION BETWEEN PARTICLE SIZE AND GRAIN SIZE DISTRIBUTIONS IN SINGLE/MULTIPHASE CERAMICS
Student: Keyur Karandikar | Faculty: Olivia A Graeve

163. USING TOOL STEEL IN METAL-CERAMIC COMPOSITES
Student: James Timothy Cahill | Faculty: Olivia A Graeve

164. DEVITRIFICATION BEHAVIOR OF AMORPHOUS METAL FOILS DURING SPARK PLASMA SINTERING
Student: Boyao Zhang | Faculty: Olivia A Graeve

165. FABRICATION OF MONO-SIZED MESOPORES ON GOLD-COATED POLYSTYRENE PARTICLE SURFACES FOR ENZYME IMMOBILIZATION
Student: Seongcheol Choi | Faculty: Olivia A Graeve

166. MORPHOLOGICAL CHARACTERISTICS OF GOLD/COBALT JANUS NANOPARTICLES
Student: Kyungah Seo | Faculty: Olivia A Graeve

167. EXPLORING THE FUNDAMENTAL BEHAVIOR OF TAILORED NANOSCALE CARBIDE MORPHOLOGIES: MATERIALS BY DESIGN FOR ULTRA-HIGH TEMPERATURE APPLICATIONS
Student: Tianqi Ren | Faculty: Olivia A Graeve

168. ELECTRICALLY-CONDUCTIVE MESOPOROUS CERAMICS FOR BIOCATALYSIS APPLICATIONS
Students: Shuang Qiao, Ekaterina Novitskaya, Grecia Pena, Lauren Lopez, Frida Durazo | Faculty: Olivia A Graeve

169. INCREASING ENERGY STORAGE IN ACTIVATED CARBON BASED ULTRA-CAPACITORS THROUGH PLASMA TREATMENT
Student: Marcelis L Muriel | Faculty: Prabhakar Bandaru

170. TWENTY-FOLD ENHANCEMENT OF QUANTUM EFFICIENCY IN PHOTOELECTRON EMISSION THROUGH TEXTURE DESIGNED SURFACES
Student: Anna Alexander | Faculty: Prabhakar Bandaru

171. FLYING HEIGHT CONTROL OF RECORDING HEADS AT SUB-NANOMETER SPACING
Student: Liane Manuela Matthes
Faculty: Raymond de Callafon, Frank E. Talke

172. MODULAR BATTERY EXCHANGE AND ACTIVE MANAGEMENT (M-BEAM)
Student: Xin Zhao | Faculty: Raymond de Callafon

173. EFFECTIVE AND REGENERABLE COOLING USING TOUGH HYDROGELS
Students: Shuang Cui, Chi Hyung Ahn
Faculty: Renkun Chen, Shengqiang Cai

174. PUTTING THE SUN INTO A BOX: WHEN HIGH TEMPERATURE PLASMA MEET COLD MATERIAL
Student: Jerome Guterl
Faculty: Sergei Krasheninnikov, Roman Smirnov

175. ON ABLATION CLOUD SHIELDING EFFECTS OF TUNGSTEN DUST IN EDGE PLASMA
Student: Rima Joseph Hajjar | Faculty: Sergei Krasheninnikov

176. ELECTROMAGNETIC EFFECTS ON DYNAMICS OF HIGH-BETA FILAMENTARY STRUCTURES IN FUSION PLASMAS
Student: Wonjae Lee | Faculty: Sergei Krasheninnikov

177. CONTROL OF USER-SIDE RESOURCES FOR EFFICIENT OPERATION OF THE POWER GRID
Student: Andres Ivan Cortes | Faculty: Sonia Martínez

178. VIRUS DIFFUSION CONTROL
Student: Eduardo Jose Ramirez Llanos | Faculty: Sonia Martínez

179. THE PROPAGATION OF TSUNAMI GENERATED ACOUSTIC-GRAVITY WAVES IN THE ATMOSPHERE
Student: Yue Wu
Faculty: Stefan Llewellyn Smith, James Rottman, Jean-Bernard Minster

180. DESIGN AND CONTROL OF A MINIATURE BALL-BALANCING ROBOT USING MUTUALLY-ORTHOGONAL OMNIWHEELS
Students: Daniel Jiaji Yang, Eric Sihite | Faculty: Thomas Bewley

181. DUCTTV2, A TENSEGRITY ROBOT FOR EXPLORING DUCT SYSTEMS
Student: Jeffrey Michael Friesen | Faculty: Thomas Bewley

182. ENKF-BASED OCEAN WAVE PREDICTION FOR IMPROVED MARINE SAFETY
Student: Daniele Cavaglieri | Faculty: Thomas Bewley

183. STRONGLY NONLINEAR STRESS WAVES IN DISSIPATIVE METAMATERIALS
Student: Yichao Xu | Faculty: Vitali Nesterenko

184. AN IDEMPOTENT ALGORITHM FOR A CLASS OF NETWORK-DISRUPTION GAMES
Student: Amit Prakash Pandey | Faculty: William McEneaney

NANOENGINEERING

185. PLASMONIC METAMATERIALS FOR ENHANCED EMISSION & SENSING
Student: Matthew Joseph Rozin | Faculty: Andrea Tao

186. SELF-ASSEMBLED NANOCRYSTALS FOR TIP-ENHANCED RAMAN SPECTROSCOPY (TERS)
Student: Tyler Jamison Dill | Faculty: Andrea Tao

187. MECHANICAL PROPERTIES OF SEMI-CONDUCTING POLYMERS AND COMPOSITES: A COARSE-GRAINED MOLECULAR DYNAMICS STUDY
Student: Samuel Evan Root | Faculty: Darren Lipomi, Gaurav Arya

188. 3-D STRAIN IMAGING OF NANOPARTICLES
Student: Sohini Manna | Faculty: Eric Fullerton

189. ELECTROCATALYTIC ABILITY OF COBALT FERRITE NANOPARTICLES FOR SOLAR THERMOCHEMICAL HYDROGEN PRODUCTION
Students: Nicole Shellhammer Pacheco, Neil Verma
Faculty: Jan Talbot

190. ARTIFICIAL MICROMOTORS IN THE MOUSE'S STOMACH: A STEP TOWARDS IN VIVO USE OF BIOMEDICAL MICRO-ROBOTS
Student: Jinxing Li | Faculty: Joseph Wang, Liangfang Zhang

191. EXPLORATION OF AGING TIME AND TEMPERATURE ON A SUPERELASTIC FERROUS-BASED ALLOY
Students: Cheng Zhang, Steven McCloskey
Faculty: Kenneth S. Vecchio

192. FREE VOLUME AND TOUGHNESS OF WEAR-RESISTANT CU-ZR-BASED BULK METALLIC GLASSES
Student: Laura Michelle Andersen | Faculty: Kenneth S. Vecchio

193. FIRST PRINCIPLES STUDY OF MASNX3 ORGANOHALIDE PEROVSKITES FOR NEXT GENERATION SOLAR CELLS
Students: Maziar Alexander Behtash, Camille Bernal, Paul Hyunggyu Joo | Faculty: Kesong Yang

194. DECOY BIOMIMETIC NANOPARTICLES FOR THE CLEARANCE OF HARMFUL ANTIBODIES: A NOVEL APPROACH TO TREATING AUTOIMMUNE DISEASE
Student: Brian Tsengchi Luk | Faculty: Liangfang Zhang

195. ANTIBACTERIAL VACCINATION UTILIZING BACTERIAL MEMBRANE-COATED NANOPARTICLES
Student: Pavimol Angsantikul | Faculty: Liangfang Zhang

196. STRUCTURE AND BIOMECHANICAL BEHAVIOR OF HUMAN HAIR
Student: Yang Daniel Yu | Faculty: Marc A. Meyers

197. EXTREME PLASTIC DEFORMATION: MOLECULAR DYNAMICS SIMULATIONS
Student: Eric Nicholas Hahn | Faculty: Marc A. Meyers

198. CALCIUM SILICATE COATED POROUS SILICON NANOPARTICLES FOR SIRNA DELIVERY
Student: Jinyoung Kang | Faculty: Michael Sailor

199. FACETED SHAPE OF COLLOIDAL GRAPHENE OXIDE NANOPARTICLES
Student: Sejung Kim | Faculty: Michael Heller

200. DETECTION OF PROTEASE ACTIVITY DIRECTLY IN WHOLE BLOOD
Student: Elaine Alexandra Skowronski | Faculty: Michael Heller

201. ENHANCED FLUORESCENT RESONANT ENERGY TRANSFER IN DNA
Student: Taeseok Oh | Faculty: Michael Heller

202. BIO-INSPIRED DETOXIFICATION USING 3D-PRINTED HYDROGEL NANOCOMPOSITES
Student: Wei Zhu | Faculty: Shaochen Chen

STRUCTURAL ENGINEERING

203. CYCLIC BEHAVIOR OF DEEP STEEL WIDE-FLANGE COLUMNS FOR MOMENT FRAME APPLICATIONS
Student: Gulen Ozkula | Faculty: Chia-Ming Uang

204. NONLINEAR AEROELASTIC ANALYSIS OF FLAPPING MICRO AIR VEHICLES
Student: Enrico Santarpia | Faculty: David Benson, Luciano Demasi

205. INFORMING HISTORICAL PRESERVATION WITH THE USE OF NON-DESTRUCTIVE DIAGNOSTIC TECHNIQUES: A CASE STUDY AT ECAB, QUINTANA ROO, MEXICO
Student: Michael Robert Hess | Faculty: Falko Kuester

206. TOMOGRAPHIC IMAGING OF STRUCTURAL FLAWS WITH NEW ADAPTIVE WEIGHTS ON ARRAY
Students: Thompson Vu Nguyen, Simone Sternini
Faculty: Francesco Lanza di Scalea

207. NON-CONTACT ULTRASONIC GUIDED WAVE INSPECTION OF RAILS
Students: Stefano Mariani, Thompson Nguyen
Faculty: Francesco Lanza di Scalea

208. HYBRID SIMULATION OF STEEL BUILDING WITH STIFF ROCKING CORES FOR IMPROVED SEISMIC DRIFT DISTRIBUTION
Student: Alireza Sarebanha | Faculty: Gilberto Mosqueda

209. MODULATED BISTABLE INERTIAL GENERATOR FOR BROADBAND VIBRATION ENERGY HARVESTING
Student: Scott Anthony Ouellette | Faculty: Michael Todd

210. GAUGING THE FEASIBILITY OF A DOWNHOLE ENERGY HARVESTING SYSTEM THROUGH A PROOF-OF-CONCEPT STUDY
Student: Eric John Kjolsing | Faculty: Michael Todd, Charles Farrar

211. MODELING OF DOWEL ACTION IN BRIDGE ABUTMENT SHEAR KEYS
Student: Alexandra Kottari | Faculty: P. Benson Shing, Jose Restrepo

212. TIME-DOMAIN SIMULATIONS OF OFFSHORE FLOATING WIND TURBINES

Student: Seyedeh Sara Salehyar | Faculty: Qiang Zhu

213. DETERMINATION OF SEISMIC PROTECTION FACTORS FOR ANCHORAGE OF NONSTRUCTURAL COMPONENTS INTO CONCRETE

Student: Timothy Paul Johnson
Faculty: Robert Dowell, Tara Hutchinson

DEPARTMENTS AND RESEARCH CENTERS

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Center for Wearable Sensors	WearableSensors.ucsd.edu
Sustainable Power and Energy Center	SPEC.ucsd.edu
Center for Visual Computing	VisComp.ucsd.edu

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Electrical and Computer Engineering	ece.ucsd.edu
Mechanical and Aerospace Engineering	maeweb.ucsd.edu
NanoEngineering	ne.ucsd.edu
Structural Engineering	structures.ucsd.edu

PH.D. PROGRAMS

Bionformatics and Systems Biology	bioinformatics.ucsd.edu
Materials Science and Engineering	matsci.ucsd.edu

AFFILIATED RESEARCH INSTITUTES

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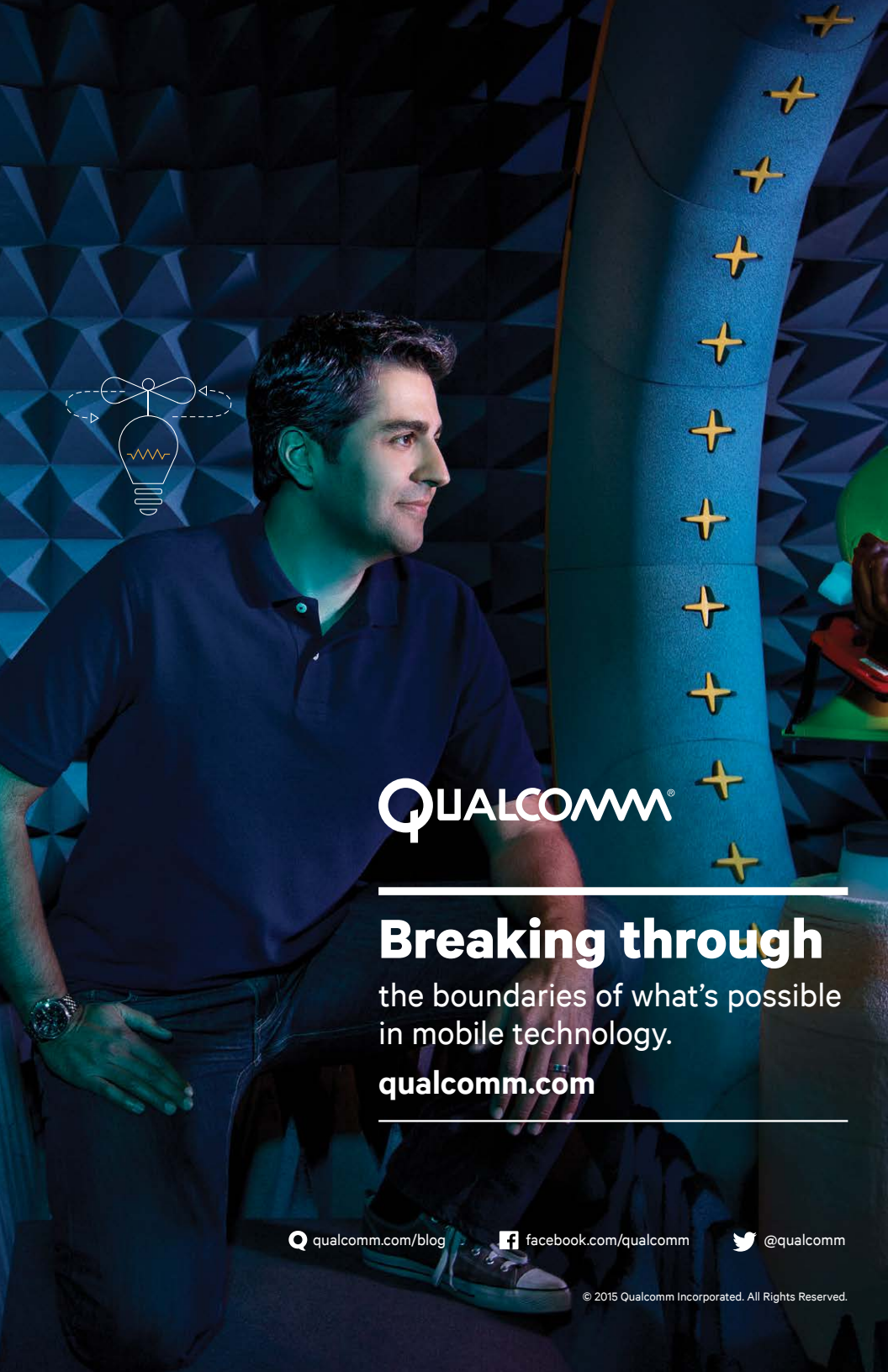
Center for Algorithmic & Systems Biology	casb.ucsd.edu
Center for Energy Research	cer.ucsd.edu
Center for Magnetic Recording Research	cmrr.ucsd.edu
Center for Networked Systems	cns.ucsd.edu
Center for Wireless Communications	cwc.ucsd.edu
Cymer Center for Control Systems and Dynamics	ccsd.ucsd.edu
Information Theory & Applications Center	ita.ucsd.edu
Institute of Engineering in Medicine	iem.ucsd.edu
Powell Structural Research Labs	structures.ucsd.edu
San Diego Supercomputer Center	www.sdsc.edu

JUDGES

Ben Adams	Ntrepid Corp
Mark Ambrose	Raytheon
Alex Barajas	Envision Engineering
Sumit Bhardwaj	Facebook
Dustin Blair	Illumina
Roger Boss	SPAWAR Systems Center Pacific
Robert Bowdidge	Google
Shane Bowen	Illumina
Richard Brehm	Retired
Jeff Brittan	SeaSpine
Marius Buibas	Brain Corporation
Nick Cordaro	Additive Innovations
Nandan Das	ViaSat
Silvia De Dea	Cymer
Nikolai Devereaux	ViaSat
Raheleh Dilmaghani	SPAWAR Systems Center Pacific
Wayne Dunstan	Cymer
Karl Francis	Accriva Diagnostics
Alex Gantman	Qualcomm
Brett Gardner	NAVAIR Fleet Readiness Center Southwest
Jeff Glasson	VMware
Christopher Hall	International Bridge Technologies
Matthew Hedayat	STG
R.F. Hemphill	Strelitzia Ventures
David Hutches	UC San Diego Jacobs School of Engineering
Robin Ihnfeldt	General Engineering & Research
Darshan Joshi	Informatica
Jeff King	NAVAIR Fleet Readiness Center Southwest
Sam Knight	LocationSmart
Teresa Kruckenberg	UTC Aerospace Systems
Ron Mazza	Congatec
Sami Megally	Kleinfelder
Dwight Navis	MovatE
Ben Ochoa	Integrity Applications Incorporated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JUDGES

Gareth Oskam	Solar Turbines
Michael Paquette	Qualcomm
Gustavo Prado	Xenco Medical
Luis Pineda	Qualcomm (retired)
William Proffer	Leidos
Naomi Ramos	Northrop Grumman
Amy Rasdal	Rasdal Associates Inc
Chris Root	NAVAIR Fleet Readiness Center Southwest
Enrico Ros	Qualcomm
Tim Rueth	von Liebig Entrepreneurism Center at UC San Diego
Stephen Russell	SPAWAR
Maurice Sabado	Leidos
Rusty Sailors	LP3
Jeffrey Salas	VA San Diego Healthcare System
Edward Savarese	ImageTech Corporation
Shweta Shetty	Gimbal
Peter Simpson	Dexcom
Sumeet Singh	Acelio
Billy Spazante	OptCTS
Jason Steiner	Natera
Tricia Sur	ATA Engineering
Eric Takeuchi	Daylight Solutions
Koon Hoo Teo	MERL
Achint Thomas	Yahoo Labs
Mark Title	Advanced Technology Leadership
Mayank Tiwari	Qualcomm
William Townsend	General Atomics - Aeronautical Systems Inc
Hai Tran	Illumina
Jerry Tustaniwskyj	Delta Design
Jiwu Wang	Allele Biotech
Eliot Weitz	ViaSat
Benjamin Wong	Medtronic
Jim Wurzbach	Raytheon
John Yamauchi	Nikon Instruments
Noam Ziv	Kesembe

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NOTES

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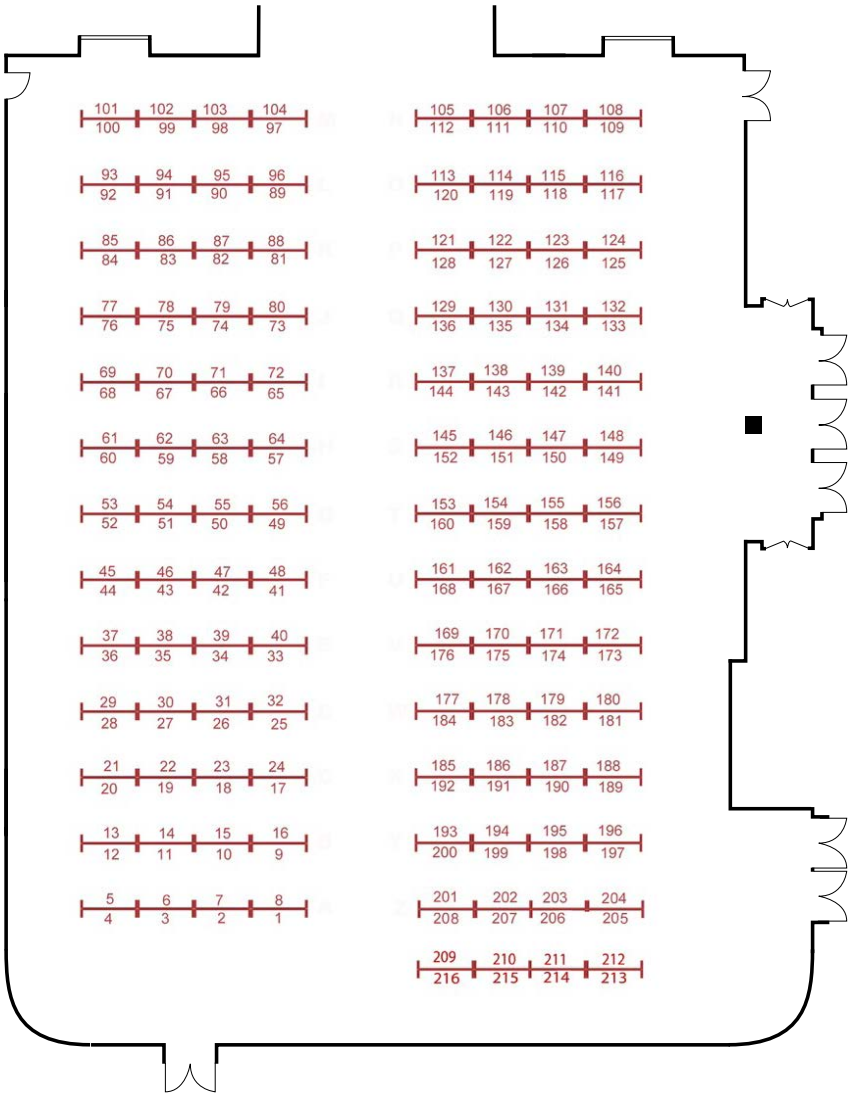

ENTRANCE

Poster Numbers

AGILE RESEARCH CENTERS

Center for Visual Computing	1 – 10
Center for Wearable Sensors	11 – 18
Sustainable Power and Energy Center	19 – 23
Center for Extreme Events Research	24 – 27

ACADEMIC DEPARTMENTS

Bioengineering	28 – 50
Computer Science and Engineering	51 – 71
Electrical and Computer Engineering	72 – 115
Mechanical and Aerospace Engineering	116 – 184
NanoEngineering	185 – 202
Structural Engineering	203 – 213

PRICE CENTER MAP

Poster Session: Level 2 (West Ballroom)
Faculty Lightning Talks: Level 4 (the Forum)
Networking Reception: Level 2 (East Ballroom)
Parking Shuttle: 9 AM – 7 PM