Curriculum Vitae

Peter John Burke
Department of Electrical and Engineering and Computer Science
University of California, Irvine, Irvine, CA 92617-2625, USA
Ph: (949) 824-9326; FAX: (949)824-3732
email: pburke@uci.edu; http://www.burkelab.com

Education:

1998	Ph.D. (Physics)	Yale University
1992	B.A. (Physics)	University of Chicago

Positions:

2011-present	Professor Electrical Engineering and Computer Science (primary) Biomedical Engineering (courtesy) Chemical Engineering and Materials Science (courtesy) Chemical and Materials Physics program (courtesy) U.C. Irvine
2005-2011	Associate Professor Electrical Engineering and Computer Science Biomedical Engineering (courtesy) U.C. Irvine
2001-2005	Assistant Professor Electrical Engineering and Computer Science Biomedical Engineering (courtesy) U.C. Irvine
1997 –2001	Sherman Fairchild Postdoctoral Scholar in Physics Department of Physics, California Institute of Technology

Honors and Awards:

2022	Guinness World Record for "the farthest distance to control a commercially available Unmanned Aerial Vehicle (UAV) at 18,411 kilometers (11,440 miles)."
2022	Dean's Award for Faculty Innovation in Teaching
2020	Promotion to rank of IEEE Fellow
2017	Outstanding Eagle Scout Award (NOESA), Boy Scouts of America (BSA) For outstanding lifetime achievements of an Eagle Scout.
2014	Faculty Innovation Award (HSSOE)
2007	Best Presentation Award (Integration for Sensor Architectures), Nano-DDS conference
2005	Maseeh Award for Outstanding Research, School of Engineering, UC Irvine, 2005
2002-2005	Young Investigator Program award, Army Research Office (ARO)
2002-2005	Young Investigator Award, Office of Naval Research (ONR)
2002	Frontiers of Engineering participant, National Academy of Engineering
1997-2000	Caltech Prize Fellowship: Sherman Fairchild Postdoctoral Scholar
1997	Award for Technical Excellence, Jet Propulsion Lab, NASA, 1997
1993-1996	NASA Graduate Student Research Program Fellowship
1993-1996	State of Connecticut High Technology Scholarship
1992	J.W. Gibbs Fellowship, Department of Physics, Yale University
1986	Eagle Scout

Professional and Honor Societies: (current and former)
American Physical Society, IEEE, American Association for the Advancement of Science**,** Sigma Xi

Fundraising:

Successfully raised over $18M in university grants (ARO, ONR, DARPA, NSF, NIH, etc.) to date.

Commercialization/Consulting:

2015-2017 Director, Nano-Bio Lab startup incubator, CalIT2, UC Irvine

This lab is a university based user facility BSL2 lab with AFMs, microscopes, and wet lab capability for cell culture, basic biochemistry, available to university and industry users at an hourly rate. Two startups (BioPico, Neptune Diagnostics) have used this to test protoypes used in their Phase I SBIR projects.

2010-2020 Independent app developed, iOS platform

Develop nanotechnology app (iNanotube) for education use, downloaded to over 35 countries around the world. Teaches about properties of nano-materials to a lay audience using graphical representations of carbon nanotubes.

2009-2011 Honorary Member, Korea World Class University, Sunchon, Korea

Taught summer courses in new department of printed electronics.

2009-2013 Technical Advisory Board, RF Nano Corporation, Newport Beach, CA

2005-2009 Founder, Director, CTO/Consultant, Board Member

RF Nano Corporation, Newport Beach, CA

VC backed company commercializing work out of my lab, raised > $15M to date.

Intimately involved in winning SBIR grants for 3 Phase I, 2 Phase II SBIRs from ARO, NSF, USAF based on research out of my lab. (>$2M of non-dilutive funding to the company).

Full participation in fundraising & investor relationships, recruitment of management and technical team, and corporate governance.

Peter John Burke

Courses taught

2025-2026 academic year:

- Fall 2025: EECS 195 LEC A: DRONES (17155)
- Fall 2025: ECPS 295 (Advanced Drones)

2024-2025 academic year:

- Spring 2025: EECS 195 LEC C: DRONES (17152)
- Winter 2025: EECS 280A LEC A: ADV EGR ELECTMAG I (17405)
- Fall 2024: EECS 195 LEC A: DRONES
- Fall 2024: ECPS 209 SEM A: CPS CASE STUDIES

2023-2024 academic year:

- Spring 2024: EECS 174: Semiconductor Devices
- Winter 2024: EECS 280B: ADV EGR ELECTMAG II
- Fall 2023: EECS 280A: ADV EGR ELECTMAG I

2022-2023 academic year:

- Spring 2023: EECS 277C LEC A: NANOTECHNOLOGY
- Winter 2023: EECS 280A: ADV EGR ELECTMAG I
- Fall 2022: Teaching release (associate chair)

2021-2022 academic year:

- Spring 2022: EECS 277B: ADV Semicond Dev II
- Winter 2022: EECS 280A: ADV EGR ELECTMAG I
- Fall 2021: Teaching release (associate chair)

2020-2021 academic year:

- Winter 2021: EECS 170D: INT ELECTRN CKT DES
- Winter 2021: EECS 280A: ADV EGR ELECTMAG I
- Fall 2020: EECS 277B: ADV Semicond Dev II

2019-2020 academic year:

- Spring 2019:EECS 176: Fundamentals of Solid State Electronics and Materials
- Winter 2020: EECS 277C LEC A: NANOTECHNOLOGY
- Fall 2019: EECS 277B: ADV Semicond Dev II

2018-2019 academic year:

- Spring 2019:EECS 176: Fundamentals of Solid State Electronics and Materials
- Spring 2019: EECS 277C: Nanotechnology
- Winter 2019: EECS 277B: ADV Semicond Dev II

2017-2018 academic year:

- Spring 2018: EECS 70A / CSE 70A: Network Analysis I
- Spring 2018: EECS 70LA: NET ANALYS I LAB
- Winter 2018: Sabbatical
- Fall 2017: Sabbatical

2016-2017 academic year:

- Spring 2017: EECS 277B: ADV Semicond Dev II
- Spring 2017: EECS 70A / CSE 70A: Network Analysis I
- Spring 2017: EECS 70LA: NET ANALYS I LAB
- Winter 2017: EECS 277C: Nanotechnology

2015-2016 academic year:

- Spring 2016: EECS 70A / CSE 70A: Network Analysis I
- Winter 2016: EECS 277B: ADV Semicond Dev II
- Fall 2015: Teaching buyout to run MURI center

2014-2015 academic year:

- Spring 2015: EECS 70A / CSE 70A: Network Analysis I
- Winter 2015: EECS 277C: Nanotechnology
- Fall 2014: Teaching buyout to run MURI center

2013-2014 academic year:

- Spring 2014: EECS 70A / CSE 70A: Network Analysis I
- Winter 2014: Teaching buyout to run MURI center
- Fall 2013: EECS 277B: Advanced Semiconductor Devices II

2012-2013 academic year:

- Sabbatical year

2011-2012 academic year:

- Spring 2012: EECS 277B: Advanced Semiconductor Devices II
- (all quarters) Graduate Advisor
- Fall 2011: EECS 170A: Electronics I

2010-2011 academic year:

- Spring 2011: EECS277C: Nanotechnology
- (all quarters) Graduate Advisor
- Fall 2010: EECS277A: Advanced Semiconductor Devices

2009-2010 academic year:

- (all quarters) Graduate Advisor
- Spring 2010: EECS70A: Network Analysis I
- Winter 2010: EECS277B: Advanced Semiconductor Devices

2008-2009 academic year:

- Spring 2009: EECS70A: Network Analysis I
- Winter 2009: EECS277B: Advanced Semiconductor Devices
- Fall 2008: EECS270A: Advanced Analog IC Design, I

2007-2008 academic year:

- Spring 2008: EECS70A: Network Analysis I
- Winter 2008: EECS277C: Nanotechnology
- Fall 2007: EECS170A: Electronics

2006-2007 academic year:

- Spring 2007: EECS70A: Network Analysis I
- Winter 2007: EECS277B: Advanced Semiconductor Devices
- Fall 2006: EECS170A: Electronics

2005-2006 academic year:

- Spring 2006: EECS277B: Advanced Semiconductor Devices
- Winter 2006: EECS277C: Nanotechnology
- Fall 2005: EECS170A: Electronics

2004-2005 academic year:

- Spring 2005: EECS277C: Nanotechnology
- Winter 2005: EECS285B: Lasers and Photonics
- Fall 2004: EECS170A: Electronics

2003-2004 academic year:

- Spring 2004: ECE 217C: Nanotechnology
- Fall 2003: ECE 113A: Electronics

2002-2003 academic year:

- Spring 2003: ECE 217C: Nanotechnology
- Winter 2003: ECE 275B: Lasers and Photonics
- Fall 2002: ECE 113A: Electronics I

2001-2002 academic year:

- Spring 2002: ECE 217B: Advanced Semiconductor Electronics
- Winter 2002: ECE 278: Lasers and Photonics

Brief description of courses:

Graduate:

EECS 275B: *Lasers and Photonics*

Textbook: Verdeyen, *Laser Electronics*
Typical enrollment: *20 students*

EECS 217B: *Advanced Semiconductor Devices* (III-V devices: HEMTs, HBTs) now called 277B

Textbook: Liu, *Fundamentals of III-V Devices*
Typical enrollment: *20 students*

EECS 217C: *Nanotechnology* (new course developed by Burke)

Textbook: Burke's lecture notes
Typical enrollment: *20 students*

EECS 270A: *Advanced Analog IC Design I* (analog IC design: OpAmps, current mirrors, cascode)

Textbook: Razavi, *Design of Analog CMOS Integrated Circuits*
Typical enrollment: *30 students*

EECS 277A: *Advanced Semiconductor Devices* (advanced CMOS device physics)
Textbook: Y. Taur and T. Ning, *Fundamentals of Modern VLSI Devices (2nd Edition)*
Typical enrollment: *30 students*

EECS 280A: *ADV EGR ELECTMAG I* (graduate level electromagnetics)
Textbook: Ramo and Whinnery, *Fields and Waves in Communication Electronics*
Typical enrollment: *30 students*

Undergraduate:

EECS 113A: *Electronics (junior required course)* now called 170A
Textbook: Pierret, *Semiconductor Device Fundamentals*
Typical enrollment: *100 students*

EECS 176: Fundamentals of Solid State Electronics and Materials (senior elective)
Textbook: James D. Livingston, *Electronic Properties of Engineering Materials*
Typical enrollment: 100 students

EECS 170D: INT ELECTRN CKT DES (senior required course in EECS)
Textbook: Weste and Harris, *CMOS VLSI Design*
Typical enrollment: 60 students

EECS 70A: *Network Analysis I (sophomore required course)*
Textbook: Alexander & Sadiku, *Fundamentals of Electric Circuits (3rd Edition)*
Typical enrollment: *100 students*

Lab Alumni

Post Doc

Scholar	Dates	Topic	Current position
Weiwei Zhou	8/2007-12/2008	Nanotube synthesis	Startup
Dheeraj Jain	11/2010-8/2011	Nanotube deposition	Engineer, DesignWest

PhD

Names	Dates	Dissertation Title	Current position
Chia-Hung(Shawn) Lee	9/2018-6/2024	Assaying mitochondrial metabolism and morphology via super-resolution microscopy	Engineer, Elegen
Jinfeng Li	2019	The combined quantum and electrochemical capacitance of carbon nanotubes and insolution nanoscale capacitance measurements	Started his own company
Phi Pham	7/2012-2/2018	Broadband Impedance Match to Monolayer Graphene in the Terahertz Domain	Engineer, Lam Research Corp.
Ted Pham	7/2011-11/2016	Mitochondrial Assessment	Data Scientist, Hearts and Science
Will Wang	7/2011-2014	Lipid bilayers on graphene	Engineer, Intel
Katayoun Zand	1/2009-2014	Nanofluidics for Mitochondria	Engineer, Altera
Tae-Sun Lim	8/2007-8/2011	Nano-probes of Mitochondria	Engineer, Intel
Nima Rouhi	8/2007-8/2011	RF Carbon Nanodevices	Engineer, JPL/Caltech
Chris Rutherglen	7/2007-9/2009	Nanotube RF devices	CTO, Carbonics
Lifeng Zheng	8/2002-7/2008	Nanotube Interactions with Peptides	Engineer, JPL/Caltech
Zhen (Jenny) Yu	6/2002-7/2006	Nanoelectronics for Microwaves	Professor, Cal State

Sungmu Kang	9/2001-7/2006	Ballistic Transport in GaAs HEMTs	Researcher, INanoBio

MS

Names	Dates	Dissertation Title	Current position
Beatrix Luk	7/2015-6/2016	Graphene antenna	Keysight
Elaheh Shekaramiz	7/2010-6/2012	Mitochondria on graphene (Thesis)	PhD student, UCIrvine
Shengdong Li	7/2002-7/2004	Nanotube High Frequency Devices	
Sunan Liu	7/2001-8/2002		

Undergraduate/HS

Names	Dates	Current position
Nhi V. Quach	2015 – Present	
Jenny Lee	2014	Adagio
Dominic Scarmardo	2014	UCLA
Duy Q. Tran	2013	
Christian Carnahan	Summer 2014 Undergrad Intern	
Anna Resnick	Summer 2014 Undergrad Intern	
Indrani Mikkilineni	Summer 2012 Undergrad Intern	Tang Lab, UC Irvine
Steven Hong	High School Intern 2012	Stanford University
Quan Nguyen	High School Intern Summer 2012	Stanford Univeristy
Xiong Lin	Undergrad	
Keh-Chin Mao	Undergrad	
Daniel Oh	Undergrad	

Professional Service:

Manuscript reviewer for the many journals & publishers, including:

- Science
- Nature
- Nature Materials
- Nature Nanotechnology
- Nano Letters
- Cell
- Small
- Journal of the American Chemical Society
- ACS Nano
- Lab on a Chip
- Advanced Materials
- Analytical Chemistry
- Biophysical Journal
- Journal of Nanophotonics
- Journal of Physical Chemistry B
- Journal of Physical Chemistry C
- Journal of Nanotechnology
- Langmuir
- Nano Research
- Nano Futures
- IEEE Transactions on Antennas and Propagation
- IEEE Transactions on Nanotechnology
- IEEE Transactions on Electron Devices
- IEEE Transactions on Microwave Theory and Techniques
- IEEE Electron Device Letters
- IEEE Microwave Magazine
- IEEE Sensors Journal
- Physical Review Letters
- Applied Physics Letters
- Journal of Applied Physics
- Review of Scientific Instruments
- Journal of Physical Chemistry
- Drones
- McGraw Hill
- Cambridge University Press
- Prentice Hall Press
- Pearson
- Wiley
- Sensors

Proposal reviewer for the following agencies:

- National Science Foundation (NSF)
- University of California Industry-University Cooperative Research Program
- Army Research Office (ARO)

- National Institutes of Health (NIH)
- Defense Threat Reduction Agency (DTRA)
- National Institutes of Health (NIH)
- European Research Council

Editorships:

- Associate editor, 2020-present, *IEEE Journal on Miniaturization for Air and Space Systems*
- Associate editor, 2009-2011, *IEEE Transactions on Nanotechnology*
- Guest editor, 2004, *International Journal of High Speed Electronics and Systems* special issue on nanowires and nanotubes

Conference chairmanships:

- IEEE Microwave Theory and Techniques MTT-25 (RF Nanotechnology) Technical Comm., founding member.
- Conference advisory board, IEEE Nanomaterials and Devices conference, 2018
- Session Chair/Program Committee, IEEE International Microwave Symposium, 2016
- Session Chair/Program Committee, IEEE International Microwave Symposium, 2016
- Conference advisory board, IEEE Nanomaterials and Devices conference, 2018
- Session Chair/Program Committee, European Conference on Antennas and Propagation, 2010
- Session Chair/Program Committee, Silicon RF (SiRF) Conference, 2010
- Session Chair/Program Committee, International Conference on Printed Electronics, 2009
- Session Chair/Program Committee, Nano-DDS, 2009
- Session Chair, Eastman Conference, 2008
- Session Chair, Nano-DDS, 2007
- Technical program committee, IEEE Sensors Conference, 2004, and 2006
- Session Chair: "Nanowires and Nanotubes for Sensing", SPIE Conference (Optics East 2004)

International Standards committees:

- Voting member, ASTM Standards Committee F38 on Unmanned Aircraft Systems 2019-now

University Service:

Departmental:

- Dept Awards Committee, EECS (2025-2026)
- Associate Chair (Teaching), EECS (2020-2025)
- Faculty search committee member (2019-2020)
- Chair, Strategic Planning Committee, EECS (2015-2019)
- Faculty search committee chair, EECS (2016-2018, 3 positions hired in EECS + Human Health)
- Associate Chair (Graduate Advisor), (2009-2012)
  - In charge of >1000 graduate applications per year
  - In charge of dispersing of >$1M of fellowships per year in close coordination with faculty and chair
- Graduate Admissions Committee, (2002-2006) (evaluated 300 graduate applications/year)
- Graduate Preliminary Exam Chair (2006-2009)

- Many additional miscellaneous committees, including ad-hoc faculty review committee tenure cases (confidential membership).

School:

- Undergraduate Studies Committee (2025-2026)
- Dean's Strategic Planning Committee (2016)
- Chair, Dean's "Innovation Caucus" committee (2014-2015) (in charge of making recommendations of how to facility tech transfer from engineering)
- Committee on Research/Graduate Programs for the Chancellor's Advisory Council (2004)
- Graduate committee, HSSOE, 11/1/2010-7/1/2012 (school wide graduate affairs)

University campus wide:

- Faculty advisor, founder, student HAM radio club (2019-present)
- Faculty advisor, founder, student UAV club, Academy of Model Aeronautics club Chapter # 15120, founded July 17, 2018, "UAS@UCI") (2018-present)
- Engineering Management Steering Committee (2015-2020)
- UC Senate Faculty Welfare Committee (2006-2007)
- Director, Nano-Bio User Facility (CalIT2) **(**2010-2018). User BSL2 lab with AFMs, microscopes, and wet lab capability for cell culture, basic biochemistry, available to university and industry users at an hourly rate.

State-wide:

- University of California system-wide Research Council member, (2002-2004)

Public Service:

2018-2020 Assistant Scoutmaster, Troop 675, Boy Scouts of America

LICENSES OR PERMITS

(current) FAA REMOTE PILOT (Unmanned Aerial Vehicle Pilot) Part 107 Certificate # 3903942

(current) FCC Radio License (Extra class), FCC Reg. # (FRN): 0024135642; call sign KK6QVO

Journal Articles:

2025

[J90] ChiaHung Lee, Zhen Xiao, Irene Lim, Ting Wang, Parisa Aghaei, Peter J. Burke, and Jianghong Rao
Copper Chelation Induces Morphology Change in Mitochondria of Triple-Negative Breast Cancer, JACS Au 2025.
https://doi.org/10.1021/jacsau.5c00035

2024

[J89] Chia-Hung Lee, Kamel Haddadi, and Peter J. Burke
"Combined Super-Resolution Fluorescence and Coaxial 3-D Scanning Microwave Microscopy: Proof-of Concept In-Liquid Live-Cell Imaging: Toward a Biological Nano-Radar" IEEE Microwave and Wireless Technology Letters, https://doi.org/10.1109/LMWT.2024.3483071 (2024)

[J88] ChiaHung Lee, Douglas C. Wallace, Peter J. Burke
"Photobleaching and phototoxicity of mitochondria in live cell fluorescent super-resolution microscopy"
Mitochondrial Communications, https://doi.org/10.1016/j.mitoco.2024.03.001 (2024)

2023

[J87] Peter J. Burke
"How defective mitochondrial electrical activity leads to inherited blindness"
PNAS, https://doi.org/10.1073/pnas.2315649120 (2023)

[J86] Sangjun Noh, Francesco Tombola, and Peter J. Burke
"Nanowire Biosensors with Olfactory Proteins: Towards a genuine electronic nose with single molecule sensitivity and high selectivity"
Nanotechnology, https://doi.org/10.1088/1361-6528/acebf3 (2023)
[J85] ChiaHung Lee, Douglas C. Wallace, and Peter J. Burke
"Super-Resolution Imaging of Voltages in the Interior of Individual, Vital Mitochondria"
ACS Nano, https://doi.org/10.1021/acsnano.3c02768 (2023), supporting images and videos

2022

[J84] Shawn Chia-Hung Lee, Chen, Yumay; Wang, Ping; Wallace, Douglas; Peter J. Burke
"A 3D Printed Inertial Microfluidic Platform for Isolation of Minute Quantities of Vital Mitochondria"
Analytical Chemistry, https://doi.org/10.1021/acs.analchem.1c03244 (2022)
[J83] Shawn Chia-Hung Lee, Chen, Yumay; Wang, Ping; Wallace, Douglas; Peter J. Burke
"A 3D Printed Inertial Microfluidic Platform for Isolation of Minute Quantities of Vital Mitochondria"
Analytical Chemistry, https://doi.org/10.1021/acs.analchem.1c03244 (2022)
[J82] Shawn Chia-Hung Lee, Peter J. Burke
"NanoStat: An open source, fully wireless potentiostat"
Electrochimica Acta, https://doi.org/10.1016/j.electacta.2022.140481 (2022)
[J81] Yue Gu, Chunfeng Wang, Namheon Kim, Jingxin Zhang, Tsui Min Wang, Jennifer Stowe, Rohollah Nasiri, Jinfeng Li, Daibo Zhang, Albert Yang, Leo Huan-Hsuan Hsu, Xiaochuan Dai, Jing Mu, Zheyuan Liu, Muyang Lin, Weixin Li, Chonghe Wang, Hua Gong2, Yimu Chen, Yusheng Lei, Hongjie Hu, Yang Li, Lin Zhang, Zhenlong Huang, Xingcai Zhang, Samad Ahadian, Pooja Banik, Liangfang Zhang, Xiaocheng Jiang, Peter J. Burke, Ali Khademhosseini, Andrew D. McCulloch & Sheng Xu

"Three-dimensional transistor arrays for intra- and inter-cellular recording"
Nature Nanotechnology, 17(3), 292–300. https://doi.org/10.1038/s41565-021-01040-w (2022)

[J80] Peter J. Burke
"4G Signal Propagation at Ground Level"
IEEE Transactions on Antennas and Propagation, 70(4), 2891–2903.
https://doi.org/10.1109/TAP.2021.3137221 (2022)

2021

[J79] Soukaina Ben Salk, Reetu Raj Pandey, Phi H. Q. Pham, Di Zhou, Wei Wei, Guillaume Cochez, Dominique Vignaud, Emiliano Pallecchi, Peter J. Burke & Henri Happy

"Physical and Electrical Characterization of Synthesized Millimeter Size Single Crystal Graphene, Using Controlled Bubbling Transfer"
Nanomaterials, 11(10), Article number: 2528 (2021)

2020

[J78] Dandan Ren, Zahra Nemati, Chia-Hung Lee, Jinfeng Li, Kamel Haddadi, Douglas C. Wallace & Peter J. Burke
"An ultra-high bandwidth nano-electronic interface to the interior of living cells with integrated fluorescence readout of metabolic activity "
Scientific Reports, 10, Article number: 10756 (2020)

[J77] Peter J. Burke
"A 4G-Connected Micro-Rover With Infinite Range "
IEEE Journal on Miniaturization for Air and Space Systems, 1(3) 154-162 (2020)

[J76] Peter J. Burke
"4G Antipode: Remote Control of a Ground Vehicle From Around the World "
IEEE Journal on Miniaturization for Air and Space Systems, 1(3) 150-153 (2020)

[J75] Peter J. Burke
"Demonstration and application of diffusive and ballistic wave propagation for drone-to-ground and drone-to-drone wireless communications "
Scientific Reports, 10, Article number: 14782 (2020)

[J74] Lyuyang Hu ; Omkar Pathak ; Zeyu He ; Hunkyu Lee ; Mina Bedwany ; Jace Mica ; Peter J. Burke
"CloudStation": A Cloud-based Ground Control Station for Drones "
IEEE Journal on Miniaturization for Air and Space Systems (2020)

2019

[J73] Peter J. Burke
"Small Unmanned Aircraft Systems (SUAS) and Manned Traffic near John Wayne Airport (KSNA) Spot Check of the SUAS Facility Map: Towards a New Paradigm for Drone Safety Near Airports "
Drones, 3 (4), 1-11 (2019)

[J72] Jinfeng Li and Peter J. Burke
"Measurement of the combined quantum and electrochemical capacitance of a carbon nanotube "
Nature Communications, 10 (1), 1-9 (2019)

[J71] Anh H. Nguyen, Paul Marsh, Lauren Schmiess-Heine, Peter J. Burke, Abraham Lee, Juhyun Lee and Hung Cao
"Cardiac tissue engineering: state-of-the-art methods and outlook "
Journal of Biological Engineering, 13(1), 57 (2019)

[J70] Peter J. Burke
"A Safe, Open Source, 4G Connected Self-Flying Plane With 1 Hour Flight Time and All Up Weight (AUW) <300 g: Towards a New Class of Internet Enabled UAVs"
IEEE Access, 7(1), 67833 – 67855 (2019)

2018

[J69] Jinfeng Li, Phi H. Q. Pham, Weiwei Zhou, Ted D. Pham, and Peter J. Burke
"Carbon-Nanotube–Electrolyte Interface: Quantum and Electric Double Layer Capacitance"
ACS Nano, 12(10), 9763-9774 (2018)

[J68] Yi Lan, Sidra Farid, Xenia Meshik, Ke Xu, Min Choi, Saadia Ranginwala, Yung Yu Wang, P. Burke, Mitra Dutta and Michael A. Stroscio
"Detection of Immunoglobulin E with a Graphene based Field Effect Transistor aptasensor"
Journal of Sensors, 2018, 3019259 (2018)

[J67] Weiwei Zhou, Luye Mu, Jinfeng Li, Mark Reed, and Peter J. Burke
"Sensing the electrical activity of single ion channels with top-down silicon nanoribbons"
Nano Futures, 2(2), 025008 (2018)

[J66] Phi H. Q. Pham, Nhi V. Quach, Jinfeng Li, and Peter J. Burke
"Scalable and reusable micro-bubble removal method to flatten large-area 2D materials"
Appl. Phys. Lett. 112(16), 163106 (2018)

[J65] Nathaniel S Green, Phi H Q Pham, Daniel T Crow, Peter J Burke and Michael L Norton
"Layered graphene-mica substrates induce melting of DNA origami"
Materials Research Express, 5(4), 045035 (2018)

2017

[J64] Phi H.Q. Pham, Weidong Zhang, Nhi V. Quach, Jinfeng Li, Weiwei Zhou, Dominic Scarmardo, Elliott R. Brown and Peter J. Burke
"Broadband impedance match to two-dimensional materials in the terahertz domain"
Nature Communications, 8(1), 2233 (2017)

[J63] Debopam Datta, Xenia Meshik, Souvik Mukherjee, Ketaki Sarkar, Min S. Choi, Mojgan Mazouchi, Sidra Farid, Yung Yu Wang, Peter John Burke, Mitra Dutta, and Michael A. Stroscio
"Submillimolar Detection of Adenosine Monophosphate Using Graphene-Based Electrochemical Aptasensor"
IEEE Transactions on Nanotechnology, 16(2), 196-202 (2017)

[J62] Peter J. Burke
"Mitochondria, Bioenergetics and Apoptosis in Cancer"
Trends in Cancer, 3(12), 857-870 (2017)

[J61] Katie Zand, Ted Pham, Jinfeng Li, Weiwei Zhou, Douglas Wallace, Peter J. Burke
"Resistive Flow Sensing of Vital Mitochondria with Nanoelectrodes"
Mitochondrion, 37, 8-16 (2017)

[J60] Weiwei Zhou, Peter J. Burke
"Versatile bottom-up synthesis of tethered bilayer lipid membranes on nanoelectronic biosensor devices"
ACS Appl. Mater. Interfaces, 9(17), 14618–14632 (2017)

2016

[J59] Ted D. Pham, Phi H.Q. Pham, Jinfeng Li, Anthony Letai, Doug C. Wallace, Peter J. Burke
"Cristae remodeling causes acidification detected by integrated graphene sensor during

mitochondrial outer membrane permeabilization"
Scientific Reports, 6, Article number: 35907 (2016)

[J58] Phi H.Q. Pham, Weiwei Zhou, Nhi V Quach, Jinfeng Li, Jian-Guo Zheng, and Peter J. Burke
"Controlling Nucleation Density While Simultaneously Promoting Edge-Growth Using Oxygen-Assisted Fast Synthesis of Isolated Large-Domain Graphene"
Chemistry of Materials, in press (2016)

[J57] T. D. Pham, D. C. Wallace, P. J. Burke
"Microchambers with Solid-State Phosphorescent Sensor for Measuring Single Mitochondrial Respiration"
Sensors, 16(7), 1065 (2016)

2015

[J56] S. Mukherjee, X. Meshik, M. Choi, S. Farid, D. Datta, Y. Lan, S. Poduri, K. Sarkar, U. Baterdene, C.-E. Huang, Y. Y. Wang, P. J. Burke, M. Dutta, M. A. Stroscio
"A Graphene and Aptamer Based Liquid Gated FET-Like Electrochemical Biosensor to Detect Adenosine Triphosphate"
IEEE Trans. Nanobioscience, 14(8), 967–972 (2015)

[J55] E.R. Brown, W.-D. Zhang, L. Viveros, D. Neff, N.S. Green, M.L. Norton, P.H.Q. Pham, P.J. Burke
"Sensing of DNA by graphene-on-silicon FET structures at DC and 101 GHz"
Sensing and Bio-Sensing Research, 5, 19–23 (2015)

[J54] Sidra Farid, Xenia Meshik, Min Choi, Souvik Mukherjee, Yi Lan, Devanshi Parikh, Shripriya Poduri, Undarmaa Baterdene, Ching-En Huang, Yung Yu Wang, Peter Burke, Mitra Dutta, Michael A. Stroscioa
"Detection of Interferon gamma using graphene and aptamer based FET-like electrochemical biosensor"
Biosensors and Bioelectronics, 71, 294–299 (2015)

[J53] Weiwei Zhou, Yung Yu Wang, Tae-Sun Lim, Ted Pham, Dheeraj Jain & Peter J. Burke
"Detection of single ion channel activity with carbon nanotubes "
Scientific Reports, 5, 9208 (2015)

2014

[J52] Weidong Zhang, Phi Huy Quoc Pham, Elliott R. Brown, and Peter Burke
"AC Conductivity Parameters of Graphene Derived from THz Etalon Transmittance "
Nanoscale, 6, 13895-13899 (2014)

[J51] Yung-Yu Wang, Peter J. Burke
"Polyelectrolyte multilayer electrostatic gating of graphene field-effect transistors "
Nano Research, 7(11), 1650-1658 (2014)

[J50] Yung-Yu Wang, Pham Ted, Katayoun Zand, Jinfeng Li, and Peter J. Burke
"Charging the Quantum Capacitance of Graphene with a Single Biological Ion Channel"
ACS Nano, 8(5), 4228-4238 (2014)

2013

[J49] Yung-Yu Wang, Peter J. Burke
"A large-area and contamination-free graphene transistor for liquid-gated sensing applications"
Applied Physics Letters,103, 052103 (2013)

[J48] Katayoun Zand, Ted Pham, Antonio Davila Jr, Douglas C. Wallace, Peter J. Burke
"Nanofluidic Platform for Single Mitochondria Analysis Using Fluorescence Microscopy"
Analytical Chemistry, 85, 6018-6025 (2013)

2012

[J47] Nima Rouhi, Yung Yu Wang, Peter Burke.
"Ultrahigh conductivity of large area suspended few layer graphene films"
Applied Physics Letters, 101, 263101, (2012)

[J46] Nima Rouhi, Santiago Capdevila, Dheeraj Jain, Katayoun Zand, Yung Yu Wang, Ellitt Brown, Lluis Jofre, and Peter Burke.
"Terahertz Graphene Optics"
NanoResearch, 5(10), 667-678 (2012)

[J45] Tae-Sun Lim, Antonio Dávila Jr, Katayoun Zand, Douglas C. Wallace and Peter J. Burke
"Wafer-scale mitochondrial membrane potential assays"
Lab Chip, 12, 2719-2725 (2012)

2011

[J44] Nima Rouhi, Dheeraj Jain, and Peter John Burke
"High Performance Semiconducting Nanotube Inks: Progress and Prospects",
ACS Nano, 5(11), 8471-8487 (2011)

2010

[J43] N. Rouhi, D. Jain, K. Zand, P. J. Burke
"Fundamental Limits on the Mobility of Nanotube-Based Semiconducting Inks"
Advanced Materials, 23(1), 94-99 (2010)

[J42] N. Rouhi, D. Jain, P. J. Burke
"Nanoscale Devices for Large-Scale Applications"
IEEE Microwave Magazine, 11(7), 72-80 (2010)

[J41] D. Jain, N. Rouhi, C.Rutherglen, C. Densmore, S. Doorn, P. J. Burke
"Effect of source, surfactant, and deposition process on electronic properties of nanotube arrays"
Journal of Nanomaterials, 2011, Article ID 174268, 7 pages (2010)

[J40] Tae-Sun Lim, Antonio Dávila, Douglas C. Wallace and Peter Burke
"Assessment of mitochondrial membrane potential using an on-chip microelectrode in a microfluidic device"
Lab on a Chip, 10, 1683–1688 (2010)

[J39] P.J. Burke, C. Rutherglen,
"Towards a single-chip, implantable RFID system: is a single-cell radio possible?"
Biomedical Microdevices, 12, 589-596 (2010)

[J38] S. Kang, C. Rutherglen, N. Rouhi, Peter J. Burke, L.N. Pfeiffer, K.W. West
"An RF Circuit Model for a Quantum Point Contact"
IEEE Sensors Journal, 10(3), 391-394 (2010)

2009

[J37] C. Rutherglen, D. Jain, P.J. Burke,
"Nanotube electronics for radiofrequency applications"
Nature Nanotechnology, 4, 811-819 (2009)

[J36] C. Rutherglen, P.J. Burke
"Nano-Electromagnetics: Circuit and Electromagnetic Properties of Carbon Nanotubes"
Small, 5(8), 884-906 (2009)

[J35] L. Zheng, D. Jain, P.J. Burke,
"Nanotube-Peptide Interactions on a Silicon Chip"
Journal of Physical Chemistry C, 113, 3978-3985 (2009)

[J34] A.Y. Chen, A.S. Jani, L. Zheng; P.J. Burke, J. P. Brody,
"Microfabricated Arrays of Cylindrical Wells Facilitate Single-Molecule Enzymology of alpha-Chymotrypsin"
Biotechnology Progress, 25 (4), 929-937 (2009)

2008

[J33] C. Rutherglen, D.Jain, P.J. Burke
"RF Resistance and Inductance of Massively Parallel Single Walled Carbon Nanotubes: Direct, Broadband Measurements and Near Perfect 50 Ohm Impedance Matching"
Applied Physics Letters, 93, 083119 (2008)

[J32] Dwight Woolard, Peiji Zhao, Christopher Rutherglen, Zhen Yu, Peter Burke, Steven Brueck, Andreas Stintz
"Nanoscale Imaging Technology for THz-Frequency Transmission Microscopy"
International Journal of High Speed Electronics and Systems, 18(1), 205-222 (2008)

[J31] W.W. Zhou, C. Rutherglen, P.J. Burke
"Wafer Scale Synthesis of Dense, Aligned Arrays of SWNTs"
Nano Research, 1(2), 158-165 (2008)

2007

[J30] D. Wang, Z. Yu, S. McKernan, P.J. Burke
"Ultrahigh Frequency Carbon Nanotube Transistor Based on a Single Nanotube"
IEEE Transactions on Nanotechnology, 6(4), 400-403 (2007)

[J29] C. Rutherglen, P.J. Burke
"Carbon Nanotube Radio"
Nano Letters, 7(11), 3296-3299 (2007)
Link to accompanying video

2006

[J28] P.J. Burke, C. Rutherglen, Z. Yu
"Single-walled Carbon Nanotubes: Applications in High Frequency Electronics"
International Jounral of High Speed Electronics and Systems 16(4), 977-999 (2006)

[J27] S. Kang, Peter J. Burke, L.N. Pfeiffer, K.W. West
"Resonant Frequency Response of Plasma Wave Detectors"
Appl. Phys. Lett. 89, 213512 (2006)

[J22] Peter J. Burke, Shengdong Li, Zhen Yu
"Quantitative theory of nanowire and nanotube antenna performance"
IEEE Transactions on Nanotechnology 5(4), 314-334 (2006)

[J25] Zhen Yu, C. Rutherglen, Peter J. Burke
"Microwave Nanotube Transistor Operation at High Bias"
Applied Physics Letters, 88, 233115 (2006)

2005

[J26] S. Kang, Peter J. Burke, L.N. Pfeiffer, K.W. West
"ac ballistic transport in a two-dimensional electron gas measured in GaAs/AlGaAs heterostructures"
Physical Review B, 72, 165312 (2005)

[J24] Zhen Yu, Peter J. Burke
"Microwave Transport in Metallic Single-Walled Carbon Nanotubes"
Nano Letters, 5, 1403-1406 (2005)

2004

[J23] Shengdong Li, Zhen Yu, Peter J. Burke
"Silicon Nitride Gate Dielectric for Top-Gated Carbon Nanotube Field Effect Transistors"
Journal of Vacuum Science & Technology B: Microelectronics and Nanometer Structures, 22(6), 3112-3114 (2004);
also in Virtual Journal of Nanoscale Science & Technology, 10(26), (2004)

[J21] Shengdong Li, Zhen Yu, Christopher Rutherglen, Peter J. Burke
"Electrical properties of 0.4 cm long single-walled carbon nanotubes"
Nano Letters, 4(10), 2003-2007 (2004)

[J20] Lifeng Zheng, Shengdong Li, James P. Brody, Peter J. Burke,
"Manipulating nanoparticles in solution with electrically contacted nanotubes using dielectrophoresis",
Langmuir, 20(20), 8612-8619 (2004)

[J19] Zhen Yu, Shengdong Li, Peter J. Burke,
"Synthesis of Aligned Arrays of Millimeter Long, Straight Single-Walled Carbon Nanotubes",
Chemistry of Materials, 16(18), 3414-3416 (2004)

[J18] P.J. Burke,
"AC Performance of Nanoelectronics: Towards a Ballistic THz Nanotube Transistor"
Solid State Electronics, 48(10), 1981-1986 (2004)

[J17] S. Kang, P.J. Burke, L.N. Pfeiffer, K.W. West,
"Ballistic Transport at GHz Frequencies in Ungated HEMT Structures"
Solid State Electronics, 48(10), 2013-2017 (2004)

[J16] Lifeng Zheng, J.P. Brody, P.J. Burke,
"Electronic Manipulation of DNA, Proteins, and Nanoparticles for Potential Circuit Assembly"
Biosensors & Bioelectronics, 20(3), 606-619 (2004)

[J15] Shengdong Li, Zhen Yu, Sheng-Fen Yeng, W.C. Tang, Peter J. Burke,
"Carbon Nanotube Transistor Operation at 2.6 GHz"
Nano Letters, 4(4), 753-756 (2004)

2003

[J14] P.J. Burke
"An RF Circuit Model for Carbon Nanotubes"
IEEE Transactions on Nanotechnology 2(1), 55-58 (2003)

2002

[J13] P.J. Burke
"Luttinger Liquid Theory as a Model of the GHz Electrical Properties of Carbon Nanotubes"
IEEE Transactions on Nanotechnology 1(3), 129-144 (2002)

[J12] X.G. Peralta, S.J. Allen, M.C. Wanke, N.E. Harff, M.P. Lilly, J.A. Simmons, J.L. Reno, P.J. Burke, J.P. Eisenstein, "THz Detection by Resonant 2-D Plasmons in Field Effect Devices", International Journal of High Speed Electronics and Systems, 12(3), 925-937 (2002)

[J11] X.G. Peralta, S.J. Allen, M.C. Wanke, N.E. Harff, J.A. Simmons, M.P. Lilly, J.L. Reno, P.J. Burke, J.P. Eisenstein, "Terahertz photoconductivity and plasmon modes in double-quantum-well field-effect transistors", Applied Physics Letters, 81 (9), 1627-1629 (2002)

[J10] P.J. Burke, L.N. Pfeiffer, K.W. West
"Effect of Nyquist noise on the Nyquist dephasing rate in two-dimensional electrons systems"
Physical Review B, 65, 201310 R (2002)
also in Virtual Journal of Nanoscale Science & Technology, June 3 (2002)

[J9] P.J. Burke, J.P. Eisenstein, L.N. Pfeiffer, K.W. West
"An all-cryogenic THz transmission spectrometer"
Review of Scientific Instruments, 73(1), 130-135 (2002)

2000

[J8] P.J. Burke, I.B. Spielman, J.P. Eisenstein, L.N. Pfeiffer, and K.W. West
"High frequency conductivity of the high-mobility two-dimensional electron gas"
Applied Physics Letters, 76 (6), 745-747 (2000)

1999

[J7] P.J. Burke, R.J. Schoelkopf, D.E. Prober, A. Skalare, B.S. Karasik, M.C. Gaidis, W.R. McGrath, B. Bumble, and H.G. LeDuc
"Mixing and noise in diffusion and phonon cooled superconducting hot-electron bolometers"
Journal of Applied Physics, 85 (3), 1644-1653 (1999)

1998

[J6] P.J. Burke, R.J. Schoelkopf, D.E. Prober, A. Skalare, B.S. Karasik, M.C. Gaidis, W.R. McGrath, B. Bumble, and H.G. LeDuc
"Spectrum of thermal fluctuation noise in diffusion and phonon cooled hot-electron mixers"
Applied Physics Letters, 72 (12), 1516-1518 (1998)

1997

[J5] R.J. Schoelkopf, P.J. Burke, D.E. Prober, A. Skalare, B.S. Karasik, M.C. Gaidis, W.R. McGrath, B. Bumble, and H.G. LeDuc
"Noise bandwidth of diffusion-cooled hot-electron bolometers"
IEEE Transactions on Applied Superconductivity, 7 (2), 3576-3579 (1997)

[J4] R.J. Schoelkopf, P.J. Burke, A.A. Kozhevnikov, D.E. Prober, and M.J. Rooks
"Frequency dependence of shot noise in a diffusive mesoscopic conductor"
Physical Review Letters, 78 (17), 3370-3373 (1997)

1996

[J3] P.J. Burke, R.J. Schoelkopf, D.E. Prober, A. Skalare, W.R. McGrath, B. Bumble, and H.G. LeDuc
"Length scaling of bandwidth and noise in hot-electron superconducting mixers"
Applied Physics Letters, 68, 3343-3346 (1996)

[J2] A. Skalare, W.R. McGrath, B. Bumble, H.G. LeDuc, P.J. Burke, A.A Verheijen, R.J. Schoelkopf, and D.E. Prober

"Large bandwidth and low noise in a diffusion-cooled hot-electron bolometer mixer"
Applied Physics Letters, 68 (11), 1558-1560 (1996)

1995

[J1] A. Skalare, W.R. McGrath, B. Bumble, H.G. LeDuc, P.J. Burke, A.A. Verheijen, and D.E. Prober

"A heterodyne receiver at 533 GHz using a diffusion-cooled superconducting hot-electron bolometer mixer"
IEEE Transactions on Applied Superconductivity, 5 (2), 2236-2239 (1995)

Conference Papers:

2025

[C63] Sangjun Noh, Minghao Jiang, Jocelyn Leon, Phillip Hemmer, and Peter J. Burke
"Quantum sensing with an off-the-shelf super resolution microscope", Proc. SPIE 13340, Quantum Effects and Measurement Techniques in Biology and Biophotonics II, 133400B (21 March 2025); https://doi.org/10.1117/12.3061587

2019

[C62] PJ Burke
"4G coverage mapping with an ultra-micro drone"
2019 IEEE Radio and Antenna Days of the Indian Ocean (RADIO), 1-2 (2019)

[C61] Z Nemati, J Li, PJ Burke
"Integrated Fluorescence and Scanning Microwave Microscopy: Nano-Imaging with "Proof of Life""
2019 IEEE Radio and Antenna Days of the Indian Ocean (RADIO), 1-2 (2019)

2018

[C60] Jinfeng Li, Zahra Nemati, Kamel Haddadi, Douglas C. Wallace, Peter J. Burke ,
"Scanning Microwave Microscopy of Vital Mitochondria in Respiration Buffer"
IEEE/MTT-S International Microwave Symposium, Philadelphia, Pennsylvania, Jun. 10-15, (2018)

2016

[C59] P. J. Burke,

"A modified Hodgkin–Huxley model for nanoelectronics"
International Conference On Nanomedicine And Nanobiotechnology, Paris, France, Sept. 28-30, (2016)

2015

[C58] P. J. Burke, P. H. Q. Pham,
"Electromagnetic Coupling to Nano-devices: 2D vs. 1D"
Electromagnetics in Advanced Applications (ICEAA), 2015 International Conference on, Torino, Italy, Sept. 7-10, (2015)
DOI: 10.1109/ICEAA.2015.7297405

[C57] P. J. Burke, T. Pham, D. Wallace,
"An Electronic Assay of Cell Death"

Journal of World Mitochondria Society, Berlin, Germany, Oct 24-26, (2015)
DOI: 10.18143/JWMS_v6i1.356

[C56] W-D. Zhang, P. H. Q. Pham, E. R. Brown, and P. J. Burke,
"MM-Wave-to-THz Modulation with Graphene-Oxide-Silicon Etalon Structures"
PIERS 2015, Prague Czech Republic, July 6-9, (2015)

[C55] E. R. Brown, W-D. Zhang, D. Neff, N. S. Green, M. L. Norton, P. H. Q. Pham and P. J. Burke,
"Detection of DNA by Graphene-on-Silicon FET structure simultaneously at DC and 101 GHz"
EuMW 2015 Proceeding, Paris, France, September 6-11, (2015)
DOI: 10.1109/EuMC.2015.7345916

2014

[C54] P. H. Q. Pham, Y. Y. Wang, P. J. Burke, W. Zhang and E. R. Brown,
"Towards perfect impedance matching of free space to a 2D material"
Proceedings of the 44th European Microwave Conference, 1928-1930, Rome, Italy, Oct 6-9, (2014)
DOI: 10.1109/EuMC.2014.6986722

[C53] W-D. Zhang, E. R. Brown, Phi H. Q. Pham, and P. J. Burke,
"AC conductivity parameters of graphene films with thz spectroscopy"
Proc. 2014 IEEE National Aerospace Electronics Conference (NAECON), Dayton, OH, June 25-27,(2014)
DOI: 10.1109/NAECON.2014.7045824

2013

[C52] K. Zand, T. Pham, A. Davila Jr, D. C. Wallace, P. Burke,
"Trapping and Study Of Individual Mitochondria Using Nanofluidic Technology",
Mitochondrion 13(6), 943 (2013)
DOI:10.1016/j.mito.2013.07.110

[C51] Katayoun Zand, Ted Pham, Antonio Davila Jr, Douglas C. Wallace,Peter Burke,
"Novel Approach Towards Trapping and Imaging of Individual Mitochondria",
MMB 2013 Technical Digest (2013)

2012

[C50]Nima Rouhi, Peter Burke
"Size-Dependent Ultrahigh Conductance Devices Using Suspended Graphene Films"
MRS Fall meeting, November 2012, Boston, MA. (2012)

[C49] Nima Rouhi, Dheeraj, Jain, Peter J. Burke,
“Radio Frequency Nanoelectronics Based on Carbon Nanotubes”
SiRF, (2012)
DOI: 10.1109/SiRF.2012.6160169

2011

[C48] Tae-Sun Lim, Dheeraj Jain, Peter Burke
“Biomembrane Gated Carbon Nanotube Transistor as a Sensing Platform”
MicroTAS 2011, (2011)

[C47] T. Lim, D. Jain, P. Burke
“Fabrication of Supported Lipid Bilayer (SLB) and Nanotube Transistor Hybrid Biosensing Platform Using Microfluidic Channels”
IEEE NANO, (2011)
DOI: 10.1109/NANO.2011.6144371

[C46] N. Rouhi, D. Jain, S. Capdevila, L. Jofre, E. Brown, P. Burke
“Broadband Conductivity of Graphene from DC to THz”
IEEE NANO, (2011)
DOI: 10.1109/NANO.2011.6144485

[C45] D. Jain, N. Rouhi, P. J. Burke
“Novel approach towards performance enhancement of all semiconducting carbon nanotube devices for printed electronics”
IEEE NANO, (2011)
DOI: 10.1109/NANO.2011.6144409

[C44] Nima Rouhi, Dheeraj, Jain, Peter J. Burke
“Carbon Nanotube Purified Ink-Based Printed Thin Film Transistors: Novel Approach in Controlling the Electrical Performance”
DRC, (2011)
DOI: 10.1109/DRC.2011.5994420

[C43] Tae-Sun Lim, Dheeraj Jain, Peter Burke
“Protein nanopore-gated bio-transistor for membrane ionic current recording”
Device Research Conference (DRC), (2011)
DOI: 10.1109/DRC.2011.5994451

[C42] N. Rouhi, D. Jain, K. Zand, and P. J. Burke
“Performance Control of High Mobility, Printed Thin Film Transistors Using Semiconducting

Nanotube Ink"
MRS, (2011)
DOI: 10.1557/opl.2011.1378

2010

[C41] N. Rouhi, D. Jain, K. Zand, P. J. Burke
"All Semiconducting Nanotube Networks: Towards High performance printed Nanoelectronics"
MRS , (2010)
DOI: http://dx.doi.org/10.1557/opl.2011.545

[C40] Tae-Sun Lim, Antonio Davila, Douglas Wallace, Peter Burke,
"Bioassay Chip for Evaluation of Mitochondrial Membrane Potential with Integrated Ion-selective Microsensors",
in Proc. 10th Micro Total Analysis Systems (mTAS) Conference(2010)

[C39] N. Rouhi, D. Jain, K. Zand, P. J. Burke
"Semiconducting-Enriched Printed Carbon Nanotube Mat used for Fabrication of Thin Film Transistors"
IEEE NANO, (2010)
DOI: 10.1109/NANO.2010.5697793

[C38] N. Rouhi, D. Jain, K. Zand, P. J. Burke
"Carbon Nanotube Field Effect Transistors using Printed Semiconducting Tubes"
NSTI-Nanotech (2010)

[C37] D. Jain, N. Rouhi, C. Rutherglen, P. J. Burke
"Effect of source, surfactant, and deposition process on electronic properties of carbon nanotube arrays"
NSTI-Nanotech, (2010)
DOI: http://dx.doi.org/10.1155/2011/174268

[C36] Tae-Sun Lim, Antonio Davila, Douglas Wallace, Peter John Burke
"On-Chip Ion-selective Microsensor for Evaluation of Mitochondrial Membrane Potential"
NSTI-Nanotech, (2010)

[C35] N. Rouhi, D. Jain, K. Zand, P. J. Burke
"All-Semiconducting Nanotube Devices for RF and Microwave Applications"
International Microwave Symposium Digest (MTT), 2010 IEEE MTT-S (2010)
DOI: 10.1109/MWSYM.2010.5514711

2009

[C34] Hanson, G.W.; Ruilian Li; Dawei Wang; Hung, J.; Zhen Yu; McKeman, S.;Rutherglen,C.;Burke, P.;McCarthy, D.;
"Modeling and simulation of carbon nanotube antennas – computational challenges",
Conference Information: 30th Antenna Measurement Technique Association Annual Symposium, Boston, MA USA
Source: 30th Antenna Measurement Technique Association Annual Symposium Pages: 77-81 (2009)

2008

[C33] P. Burke, C. Rutherglen,
"RF Measurements of Nanoscale Devices: Challenges and Opportunities",
2008 Conference on Precision Electromagnetics Digest, 494-495 (2008)

[C32] W.W. Zhou, C. Rutherglen, P.J. Burke
"Nanotube Array Synthesis for Microwave Applications"
Proc. IEEE International Symposium on Antennas & Propagation, (2008)

[C31] Sungmu Kang, Chris Rutherglen, Nima Rouhi, P.J. Burke, L.N. Pfeiffer, K.W. West
"RF Circuit Model of a Quantum Point Contact"
Technical Program & Abstract Digest for the 2008 International Symposium on Spectral Sensing Research, (2008)

[C30] P.J. Burke, Chris Rutherglen, Nima Rouhi
"THz Spectral Sensing with Nanotechnology: An Overview"
Technical Program & Abstract Digest for the 2008 International Symposium on Spectral Sensing Research, (2008)

2007

[C29] C. Rutherglen, P.J. Burke
"Carbon Nanotube Radio: Demonstration of a CNT Based AM Demodulator"
Technical Program & Abstract Digest for the 2007 Nanoelectronic Devices for Defense & Security (Nano-DDS) Conference, (2007)

[C28] P.J. Burke, C. Rutherglen
"A Possible Architecture for Wirelessly Integrated RF Nanosystems"
Technical Program & Abstract Digest for the 2007 Nanoelectronic Devices for Defense & Security (Nano-DDS) Conference, (2007)

2006

[C27] Peter J. Burke, Chris Rutherglen, and Zhen Yu
"Carbon Nanotube Antennas"
Proc. SPIE Int. Soc. Opt. Eng. 6328, 632806-1 (2006)

2005

[C26] Zhen Yu, Chris Rutherglen, and Peter J. Burke
"Scaling of the microwave and dc conductance of metallic single-walled carbon nanotubes"
Proc. SPIE Int. Soc. Opt. Eng. 6003, 60030Q (2005)

[C25] Sungmu Kang, Peter J. Burke, L. N. Pfeiffer, and K. W. West
"Design, fabrication, and impedance of plasma wave detectors"
Proc. SPIE Int. Soc. Opt. Eng. 5995, 59950M (2005)

[C24] Peter J. Burke, C. Rutherglen, Zhen Yu,
"Carbon Nanotube Antennas"
Proc. of 9th International Conference on Electromagnetics in Advanced Applications, 937 (2005)

[C23] Peter J. Burke, Zhen Yu, S. Li, C. Rutherglen
"Nanotubes for RF and Microwaves" (invited plenary talk)
Proc. of European Microwave Week 2005, 1-5 (2005)

[C22] Peter J. Burke, Zhen Yu, S. Li, C. Rutherglen
"Nanotube Technology for Microwave Applications" (invited)
Proc. of IEEE MTT International Microwave Symposium 2005, (2005)

[C21] Zhen Yu, C. Rutherglen, S. Li, Peter J. Burke
"Using ultra-long nanotubes to make identical CNT FETs"
NTSI-Nanotech 2005 Proceedings, 3, 123 (2005)

[C20] Zhen Yu, Peter J. Burke
"Aligned Array FETs as a Route Towards THz Nanotube Transistors"
Proc. SPIE Int. Soc. Opt. Eng., 5790, 246 (2005)

2004

[C19] Shengdong Li; Zhen Yu; Sheng-Feng Yen; Burke, P.J.; Tang, W.C.
"Carbon nanotube GHz nano-resonator"

Microwave Symposium Digest, 2004 IEEE MTT-S International, Vol. 2, p. 987-990, DOI: 10.1109/MWSYM.2004.1339144 (2004)

[C18] Peter J. Burke,
"Carbon nanotube devices for GHz to THz applications",
Proc. SPIE Int. Soc. Opt. Eng., 5593, 52 (2004)

[C17] Lifeng Zheng, Shengdong Li, Peter J. Burke,
"Self-Assembled Gold Nanowires from Nanoparticles: An Electronic Route Towards DNA Nanosensors",
Proc. of SPIE, 5515, 117 (2004)

[C16] S.F. Yen, H. Lais, Z. Yu, S. Li, W.C. Tang, P.J. Burke
"GHz Electrical Properties of Carbon Nanotubes on Silicon Dioxide Micro Bridges",
Proc. of Nanotech2004, (2004)

[C15] Alan Lee, Peter J. Burke, and James P. Brody
"Electrochemiluminescence as a tool for microscopy at the nanoscale"
Proc. of SPIE 5331, 13 (2004)

[C14] Lifeng Zheng, Peter J. Burke, and James P. Brody
"Electronic manipulation of DNA and proteins for potential nano-bio circuit assembly"
Proc. of SPIE 5331, 126 (2004)

2003

[C13] P.J. Burke,
"Carbon Nanotube Devices for GHz to THz Applications"
Proceedings of the 2003 International Semiconductor Device Research Symposium, invited paper, (2003)

[C12] S.Kang, P.J. Burke, L.N. Pfeiffer, K.West,
"Crossover from Diffusive to Ballistic Transport as a Function of Frequency in a Two Dimensional Electron Gas"
Proceedings of the 2003 International Semiconductor Device Research Symposium, (2003)

[C11] L. Zheng, S. Li, Peter J. Burke, James P. Brody,
"Towards Single Molecule Manipulation with Dielectrophoresis Using Nanoelectrodes"
Proceedings of the 3rd IEEE Conference on Nanotechnology, 1, 437-440 (2003)

[C9] S. Li, Z. Yu, G. Gadde, Peter J. Burke, W.C. Tang,
"Carbon Nanotube Growth for GHz Devices"
Proceedings of the 3rd IEEE Conference on Nanotechnology, 1, 256-259 (2003)

2002

[C8] P.J. Burke
"An RF Circuit Model for Carbon Nanotubes"
Proceedings of the IEEE Conference on Nanotechnology 2002, also cond-mat/0207222, (2002)

[C7] X.G. Peralta, S.J. Allen, M.C. Wanke, J.A. Simmons, M.P. Lilly, J.L. Reno, P.J. Burke, J.P. Eisenstein
"In-plane magneto-plasmons in grating gated double quantum well field effect transistors"
Proceedings of the 26th International Conference on the Physics of Semiconductors, Edinburgh, England (2002)

[C10] X.G. Peralta, S. J. Allen, M. C. Wanke, N. E. Harff, J. A. Simmons, M. P. Lilly, J. L. Reno, W. E. Baca, P. J. Burke, J. P. Eisenstein
Resonant Terahertz Photoconductance of Grating Gated Double Quantum Well Field Effect Transistors
Proceedings FAR-IR, SUB-MM & MM DETECTOR TECHNOLOGY WORKSHOP, Wolf J., Farhoomand J. and McCreight C.R. (eds.), NASA/CP-211408, (2002)

1998

[C6] Boris S. Karasik, Anders J. Skalare, William R. McGrath, Bruce Bumble, Henry G. LeDuc, Jeff B. Barner, Alan W. Kleinsasser, P. J. Burke, Robert J. Schoelkopf, and Daniel E. Prober,
"Low-noise and wideband hot-electron superconductive mixer for terahertz frequencies",
Proc. SPIE Int. Soc. Opt. Eng. 3465, 170-179 (1998)

[C5] P.J. Burke, R.J. Schoelkopf, I. Siddiqi, D.E. Prober, Anders J. Skalare, Boris Karasik, M.C. Gaidis, William R. McGrath, Bruce Bumble, Henry G. LeDuc,
"Noise performance of diffusion cooled hot-electron bolometers: Theory vs. Experiment",
Proceedings of the 9th International Symposium on Space Terahertz Technology, Pasadena, CA, 17-34 (1998)

1996

[C4] R.J. Schoelkopf, P.J. Burke, D.E. Prober, Anders J. Skalare, William R. McGrath, Bruce Bumble, Henry G. LeDuc,
"Spectrum of output noise in diffusion and phonon cooled hot electron superconducting mixers",

Proceedings of the 7th International Symposium on Space Terahertz Technology, University of Virginia, 318-331 (1996)

1995

[C3] A. Skalare, W.R. McGrath, B. Bumble, H.G. LeDuc, P.J. Burke, A.A. Verheijen, D.E. Prober,
"A Superconducting Receiver at 533 GHz Using a Diffusion-Cooled Superconducting Hot Electron Bolometer Mixer"
Proceedings of the 6th International Symposium on Space Terahertz Technology, Caltech, 262-267 (1995)

1994

[C2] A. Skalare, W.R. McGrath, B. Bumble, H.G. LeDuc, P.J. Burke, A.A. Verheijen, D.E. Prober,
"A Superconducting Receiver at 533 GHz Using a Diffusion-Cooled Superconducting Hot Electron Bolometer Mixer"
Proceedings of the 5th International Symposium on Space Terahertz Technology, University of Michigan, Ann Arbor, MI, 157-168 (1994)

1993

[C1] D.E.Prober, P.J. Burke, B. Bumble, H.G. LeDuc
"Superconducting Terahertz Mixer Using a Transition Edge Bolometer"
Proceedings of the International Semiconductor Device Research Symposium, University of Virginia, 479 (1993)

Books / Book Chapters / Reviews / Patents:

2013

[BC7] Ted Pham, Katayoun Zand, D. Wallace, Peter Burke
"Flourescence Analysis of Single Mitochondria with Nanofluidic Channels"
in Methods in Molecular Biology, Springer Protocols, Humana Press, Mitochondrial Medicine: Methods and Protocols, Volkmar Weissig, Marvin Edeas (Eds.) (2013), in press

2008

[BC6] D. Woolard, P. Zhao, C. Rutherglen, Z. Yu, P. Burke, S. Brueck, and A. Stintz
"Nanoscale Imaging Technolgy for THz-Frequency Transmission Microscopy"
in Spectral Sensing Research for Water Monitoring Applications and Frontier Science and

Technology for Chemical, Biological, and Radiological Defense, edited by Dwight Woolard, Janet Jensen, World Scientific (2008)

2007

[BC5]Nanotubes and Nanowires, Editor P.J. Burke, World Scientific, (2007).

[BC3] P.J. Burke, C. Rutherglen, Z. Yu
"Single-walled Carbon Nanotubes: Applications in High Frequency Electronics"
in Nanotubes and Nanowires, Editor P.J. Burke, World Scientific, (2007)

2005

[BC4]P.J. Burke
"Electronics gets mechanical"
Physics World, v. 18, No. 3, p. 22-23 (2005)

2002

[BC1] X.G. Peralta, S.J. Allen, M.C. Wanke, N.E. Harff, M.P. Lilly, J.A. Simmons, J.L. Reno, P.J. Burke, J.P.
Eisenstein, W. Knap, Y. Deng, S. Rumyantsev, J. Lu, M. S. Shur
"THz Detection by Resonant 2-D Plasmons in Field Effect Devices"
In Frontiers in Electronics, editors Y. Park, M. Shur, W. Tang, River Edge, NJ, World Scientific (2002)

Patents:

15 issued patents

Conference presentations:

[CP1] "Diffusion cooled hot-electron bolometer mixer*", International Semiconductor Device Research Symposium*, Charlottesville, VA (1993)

[CP2] "Noise bandwidth of diffusion-cooled hot-electron bolometers", *Applied Superconductivity Conference*, Pittsburgh, PA (1996)

[CP3] "Electron temperature fluctuations and noise in diffusion-cooled hot-electron superconducting mixers, *APS March Meeting*, Kansas City, MO (1996)

[CP4] "High frequency noise spectrum of mesoscopic superconducting microbridges with normal metal leads", *APS March Meeting*, St. Louis, MO (1997)

[CP5] "Noise-bandwidth of diffusion cooled hot-electron bolometers", *8th International Symposium on Space Terahertz Technology*, Harvard University (1997)

[CP6] "High frequency quantum transport in high mobility 2DEGs", *Conference on Disorder and Interactions in Quantum Hall and Mesoscopic Systems*, Institute for Theoretical Physics, University of California at Santa Barbara, CA (1998)

[CP7] "Noise performance of diffusion cooled hot-electron bolometers: theory vs. experiment", *9th International Symposium on Space Terahertz Technology*, Pasadena, CA (1998)

[CP8] "Kinetic inductance and photon assisted tunneling in GaAs/AlGaAs double quantum wells", *APS March Meeting*, Los Angeles, CA (1998)

[CP9] "THz photon assisted tunneling in mesoscopic double-well systems", *APS March Meeting*, Atlanta, GA (1999)

[CP10] "An all-cryogenic THz transmission spectrometer", *APS March Meeting*, Seattle, WA (2001)

[CP11] INVITED: "Nanotechnology: Nanoelectronics, Nanomechanics, and Nanobiotechnology", *Taiwan-American Aerospace Technology Conference*, June 8, 2002, Anaheim, CA (http://www.taasa-web.org/taastc2002.htm)

[CP12] INVITED: "Nanotechnology: Nanoelectronics, Nanomechanics, and Nanobiotechnology", *First Annual Research Review*, The Henry Samueli School of Engineering, May 14, 2002, U.C. Irvine.

[CP13] "A technique to search for Luttinger liquid behavior in Carbon nanotubes at GHz frequencies", *International Conference on the Science and Applications of Nanotubes*, July 6, 2002, Boston College, MA

[CP14] INVITED: Panelist on "Nano-biotechnology", *The Nano-Republic Conference*, UCLA, July 17, 2002 (www.larta.org/NanoRepublic)

[CP15] INVITED: "The Promise and Challenges of Nanotechnology", *US / Taiwan 1st Summit Conference on SOC and Nano Technology*, September 14, 2002, Caltech, CA. (www.tessa-usa.org)

[CP16] "A nano-electronic RF resonator based on a single walled carbon nanotube", *2nd IEEE Conference on Nanotechnology* (IEEE-NANO 2002), August 28, 2002, Washington, DC

[CP17] INVITED: "Carbon Nanotube Devices for GHz to THz Applications", *International Semiconductor Device Research Symposium*, December 12, 2003, Washington, D.C.

[CP18] "Measurements of the GHz Electrical Properties of Individual Carbon Nanotubes", *GoMacTech Govermment Technology Conference,* March, 2004, Monterey, CA

[CP19] INVITED: "Nanoelectronics: Challenges and Solutions", *WESCON Nanoworld,* September 21, 2004, Anaheim, CA

[CP20] INVITED: "High frequency nanotubes for the roadmap", *International Technology Roadmap for Semiconductors (ITRS) workshop,* September 24, 2004, Leuven, Belgium

[CP21] INVITED: "Carbon Nanotube High Frequency Devices", *SPIE Optics East,* October, 25, 2004, Pittsburg, PA

[CP22] INVITED: "Nanoelectronics: Challenges and Solutions", *DesignCon 2005,* January 31, 2005, Santa Clara, CA

[CP23] INVITED: "Carbon Nanotube AC Properties", tutorial at the *March Meeting of the American Physical Society*, "Understanding Transport in Nanotube Devices", March 21-25, 2005, Los Angeles, CA

[CP24] "Carbon Nanotube Devices for GHz to THz Applications", *March Meeting of the American Physical Society*, March 21-25, 2005, Los Angeles, CA

[CP25] "AC Performance of Nanoelectronics", *SPIE Defense & Security Symposium*, March 28, 2005, Orlando, Florida

[CP26] INVITED: "Electrical properties of 0.4 cm single walled carbon nanotubes", *Foundations of Nanoscience (F-NANO)*, April 28, 2005, Snowbird, Utah

[CP27] INVITED: "Carbon Nanotube Devices for GHz to THz Applications", *IEEE International Microwave Symposium*, June 15, 2005, Long Beach, CA

[CP28] INVITED: Panelist, "On the Potential Impact of Nanotechnology in the Microwave Field", *IEEE International Microwave Symposium*, June 15, 2005, Long Beach, CA

[CP29] INVITED: "AC performance of Nanoelectronics", *NSF- MEXT Joint International Workshop for Carbon Nanotube and its Applications*, September 12, 2005, Stanford, CA

[CP30] INVITED: "Carbon Nanotube Antennas", *International Conference on Electromagnetics and Advanced Applications,* September 15, 2005, Torino, Italy

[CP31] INVITED: "Carbon Nanotubes: Potential for RF and millimeter wave applications", opening lecture, *European Microwave Week 2005*, October 3, 2005, Paris, France

[CP32] INVITED: "Nanotechnology: Challenges and Solutions", *Nanoworld 2005: Nanotechnology in Aerospace and Electronics*, November 4th and 5th, 2005, Loyola Marymount University, Los Angeles, CA

[CP33] INVITED: "Carbon Nanotubes as Microwave Devices", *IEEE Radio and Wireless Symposium*, January 17-19, 2006, San Diego, CA

[CP34] INVITED: "Carbon Nanotubes: Potential Use as Interconnects", *Electronic Components and Technology Conference (ECTC) Short Course,* May 30, 2006, San Diego, CA

[CP35] INVITED: "Nanotube Technology for RF and Microwave Devices and Systems", *DARPA Workshop: Nanotubes and Nanowires for Defense Applications,* Napa, California, February 29, 2006, Napa, California

[CP36] INVITED: "THz Performance of Nanoelectronics", *31st GoMacTech Conference*, March 20, 2006, San Diego, CA

[CP37] INVITED: "Carbon Nanotubes as Microwave Devices", *Nanotechnology Productization Status and Trends Motorola Labs Workshop Seminar,* May 23, 2006, Tempe, AZ

[CP38] INVITED: "Carbon Nanotube Antennas", *SPIE Optics & Photonics 2006 West,* August 13, 2006, San Diego, CA

[CP39] INVITED: "Theory and Measurements of the RF Impedance of Individual and Massively Parallel Single Walled Carbon Nanotubes", *Materials Research Society (MRS) Fall Meeting*, November 29, 2007, Boston, MA

[CP40] INVITED: "Carbon Nanotube RF Electronics", *DARPA/MTO CERA (Carbon Electronics for RF Applications) Workshop*, April 19, 2007, Arlington, VA

[CP41] INVITED: "Carbon Nanotubes: Potential Use as Interconnects", *Electronic Components and Technology Conference (ECTC) Short Course,* May 29, 2007, Reno, NV

[CP42] INVITED: "Energy Sources and Communications Protocols for Nano Devices", *U.S. Army Telemedicine and Advanced Technology Research Center (TATRC) workshop:" Nanotechnology Solutions for Long-term Implantable Devices",* October 23, 2007, University of Texas, Houston, TX

[CP43] INVITED: "Carbon Nanotubes as Microwave and mm-wave Antennas", *IEEE MTT-S 2007 International Microwave Symposium*, June 3, 2007, Honolulu, HW

[CP44] INVITED: "A Possible Architecture for Wirelessly Integrated RF Nanosystems", *2007 Nanoelectronic Devices for Defense & Security (Nano-DDS) Conference,* June 20, 2007, Crystal City, VA

[CP45] INVITED: "Future Directions for THz Nanoelectronics", *Army Research Office Workshop on THz Electronics*, December 10, 2007, N.C. State, North Carolina

[CP46] INVITED: "RF Measurements of Nanoscale Devices: Challenges and Opportunities", *Conference on Precision Electromagnetic Measurements*, June 12, 2008, Broomfield, CO

[CP47] INVITED: "THz Spectral Sensing with Nanotechnology: An Overview"*, 2008 International Symposium on Spectral Sensing Research*, June 27, 2008, Hoboken, NJ.

[CP48] INVITED: "RF Applications of Nanotubes", *Nanoelectronics for RF and Electronics Applications DARPA-ARL-AMRDEC Workshop*, August 28, 2008, Army Research Lab, Adelphi, MD

[CP49] INVITED: "Arrays of SWNT Devices for Analog RF: Overview of the Field", *European Microwave Week 09 (EuMW),* September 2009, Rome, Italy

[CP50] INVITED: "Carbon Nanotube & Graphene Electronics for RF and Biotech Applications", *Mokpo Nanoscience Conference*, November 2009, Mokpo, Korea

[CP51] INVITED: "RF applications of nanotubes in printed circuits", *International Conference on Flexible and Printed Electronics (ICFPE 2009),* November 2009, Sunchon, Korea

[CP52] INVITED: "Nanoantennas and Nano-Radios", *European Conference on Antennas and Propagation*, April 13, 2010, Barcelona, Spain

[CP53] INVITED: "Nanotube-Peptide Interactions on a Silicon Chip", *Electrochemical Society Meeting*, April 2010, Vancouver, Canada

[CP54] INVITED: "Carbon Nanotube & Graphene Electronics for RF and Biotech Applications", *21st International Conference on Molecular Electronics and Devices*, Sunchon, Korea, May 21, 2010

[CP55] INVITED: "Aligned Array Nanotube Devices for RF Applications", *IEEE MTT-S International Microwave Week*, Anaheim, CA, May 24, 2010

[CP56] INVITED: "Radio Frequency Carbon Nanotube Field Effect Transistors Using All-Semiconducting Nanotubes for Microwave and Antenna Applications", *IEEE International Symposium on Antennas and Propagation (APS/URSI)*, (in absentia) July 2010, Toronto, Canada

[CP57] INVITED: "Semiconducting-Enriched Printed Carbon Nanotube Mat used for Fabrication of Thin Film Transistors", *IEEE NANO 2010*, August 2010, Seoul, Korea

[CP58] INVITED: "Fundamental Limits on the Mobility of Nanotube-Based Semiconducting Inks", *IEEE Printed Electronics*, August 2010, Seoul, Korea

[CP59] INVITED: "Broadband Conductivity of Graphene from DC to THz", *IEEE NANO 2011*, August 2011, Portland, OR

[CP60] INVITED: "Sheet Resistance of Multi-Layer Graphene in Radio Frequency", *Nano-DDS 2011*, August 2011, Brooklyn, NY

[CP61] INVITED: "Nano-electromagnetics in 1d systems", *International Symposium on Electromagnetic Compatibiltiy (EMC Europe)*, September 21, 2012, Rome, Italy

[CP62] INVITED: "Effect of Source, Surfactant, Deposition Process on Electronic Properties of Nanotube Arrays", *FACSS (Federation of Analytical Chemistry and Spectroscopy Societies) 2011 Analytical Science and Innovation conference*, Reno, NV, October 4, 2011

[CP63] "Fabrication of Supported Lipid Bilayer (SLB) and Nanotube Hybrid Transistor Biosensing Platform Using Microfluidic Channels", *Micro TAS 2011*, October 5, 2011, Seattle, WA

[CP64] INVITED: "Radio Frequency Nanoelectronics Based on Carbon Nanotubes", *80th Automatic RF Techniques Group (ARFTG) Conference*, November 30, 2012, San Diego, CA

[CP65] INVITED: "Radio Frequency Nanoelectronics Based on Carbon Nanotubes", Silicon RF (SiRF) 2012, January 2012, Santa Clara, CA

[CP66] "Nanoelectrode and Nanofluidic Based Assays of Ion Channels, Mitochondria Membrane Potential, and Apoptosis", *3rd International LifeChips Symposium*, February 9, 2012, Irvine, CA

[CP67] "Supported Lipid Bilayer Nanopore Protein Gated All Semiconducting Nanotube Network Devices", *Biophysical Society 57th Annual Meeting*, February 2-6, 2013, Philadelphia, PA

[CP68] INVITED: "Nanofluidic Based Assays of Mitochondria", *Flow Cytometry Summit 2013*, March 25-26,2013, Irvine, CA

[CP69] INVITED: "Protein nanopore-gated bio-transistor for membrane ionic current recording", *Transport through Nanopores: From Understanding to Engineering*, August 1, 2013, Bremen, Germany

[CP70] "Nanofluidic Platform for Single Mitochondria Analysis using Fluorescence Microscopy", *21st ECDO (European Cell Death Organization) Euroconference on Apoptosis on "Cell death: a Biomedical paradigm"*, September 27, 2013, Paris, France

[CP71] INVITED: "Nanochannel Trap Arrays for Monitoring Single Mitochondrion Behavior", *NCI-NIBIB Point of Care Technologies for Cancer Conference*, January 10, 2014, Bethesda, Maryland

[CP72] INVITED: "THz Wireless Communication", *IEEE Radio and Wireless Symposium*, January 21, 2014, Newport Beach, CA

[CP73] INVITED: "Towards a Single Cell Radio" , *ACM NANOCOM*, May 13, 2014, Georgia Tech., Atlanta, Georgia

[CP74] "Broadband Terahertz Modulation Using Graphene Field Effect Transistors", *European Microwave Week (EuMW2014)*, Rome, Italy, October, 2014

[CP75] INVITED: "Electromagnetic Coupling to Nano-devices: 2D vs. 1D", *2015 International Conference on Electromagnetics in Advanced Applications (ICEAA),* September 11, 2015, Torino, Italy

[CP76] INVITED: "Nano-Radios for the Internet of Things", *US/Ireland NSF Workshop on Wireless Communications and Sensing – Devices, Components, & Systems*, September 30, 2014, Dublin, Ireland.

[CP77] "An Electronic Assay of Cell Death", *6th WMS World Congress on Targeting Mitochondria*, Oct 24-26, 2015, Berlin, Germany.

[CP78] INVITED: "Nano-electronics: Challenges and Opportunities for Commercialization", *NSF-ARO-AFOSR Workkshop on Reproducible Advnaced Technologies for Next-Generation Nano/Quantum Devices,* April 27, 2016, Arlington, VA.

[CP79] INVITED: "Nano-Electromagnetics: The Resistance Quantum, The Characteristic Impedance of Free Space, and Nano-Radios for the Internet of Things", *US-France Workshop on Advanced Nano-Imaging and Bio-Interface Technologies*, May 19, 2016, Irvine, CA.

[CP80] INVITED: " Nano-Electromagnetics: The Resistance Quantum, The Characteristic Impedance of Free Space, and Nano-Radios for the Internet of Things", *IEEE International Microwave Symposium*, May 23, 2016, San Francisco, CA.

[CP81] "A modified Hodgkin-Huxley model for nanoelectronics", *International Conference On Nanomedicine And Nanobiotechnology*, September 28, 2016, Paris, France.

[CP82] INVITED: "A modified Hodgkin-Huxley model for nanoelectronics", *Advances in Single-Molecule Research for Biology & Nanoscience*, February 5, 2017, Linz, Austria.

[CP83] INVITED: "Applications of 2d Materials in the Life Sciences", *Graphene and 2D Materials IEEE Workshop*, Institute for High Performance Microelectronics, Frankfurt-Oder, Germany, October 18, 2017.

[CP84] INVITED: "Scanning microwave microscopy of cristae remodeling of the interior of mitochondria", 90*th ARFTG (Automatic RF Techniques Group) Conference*, November 27, 2017, Boulder, Colorado

[CP85] INVITED: "Non-classical Behaviors in Biological Functions: Potential for Smart Sensing", AFOSR Workshop on Non-Classical Behaviors in Biological Functions: Potential for Smart Sensing , April 13, 2018, Arlington, VA.

[CP86] Poster: "Non-classical Behaviors in Biological Functions: Potential for Smart SensingScanning microwave microscopy of vital mitochondria in respiration buffer", Cell Symposia: Multifaceted Mitochondria, June 4, 2018, San Diego, CA.

[CP87] INVITED: "Applications of nano-electronics in electrophysiology and mitochondrial biology", IEEE Nanotechnology Materials and Device Conference (NMDC), October 16, 2018, Portland, OR.

[CP88] INVITED: "Nano-electronic probes of mitochondrial function", AFOSR Biophysics Program, May 7, 2019, Arlington, VA.

[CP89] INVITED: "Scanning Microwave Microscopy of Vital Mitochondria in Respiration Buffer", International Symposium on Electromagnetic Theory (EMTS 2019), May 31, 2019, San Diego, CA

[CP90] INVITED: "Carbon-Nanotube-Electrolyte Interface: Quantum and Electric Double Layer Capacitance", International Symposium on Electromagnetic Theory (EMTS 2019), May 31, 2019, San Diego, CA

[CP91] INVITED: “Biotronics: Roles of electricity in life at the cellular to organism level”, ARO Research Strategy Workshop for Biotronics, The University of Chicago, July 26, 2019, Chicago, IL

[CP92] "4G coverage mapping with an ultra-micro drone", 2019 IEEE Radio and Antenna Days of the Indian Ocean (RADIO), September 24, 2019, Reunion Island, France.

[CP93] Integrated Fluorescence and Scanning Microwave Microscopy: Nano-Imaging with “Proof of, Life”", 2019 IEEE Radio and Antenna Days of the Indian Ocean (RADIO), September 24, 2019, Reunion Island, France.

[CP93] Integrated Fluorescence and Scanning Microwave Microscopy: Nano-Imaging with “Proof of Life”", 2019 European Microwave Week, September 29, 2019, Paris, France.

Many additional since 2019 (not listed)

Departmental seminars:

[S1] "High frequency probes of collective modes and quantum coherence in semiconductor nanostructures", November 29, 2001, ECE Department Seminar, UCSB

[S2] "Effect of Nyquist Noise on the Nyquist Dephasing Rate in 2d Electron Systems", Solid State Physics Seminar, University of Maryland, May 3, 2002

[S3] "High frequency probes of collective modes and quantum coherence in semiconductor nanostructures", Laboratory for Physical Sciences, National Security Agency, Maryland, May 2, 2002

[S4] "Nanotechnology and Biotechnology: Applications for the Future", March 15, 2004, Physics Colloquium, Cal State, Long Beach

[S5] "Carbon nanotube high frequency applications", October 22, 2004, ECE Colloquium, University of California, San Diego

[S6] "Carbon nanotube high frequency applications", November 11, 2004, ECE Colloquium, University of Southern California

[S7] "AC performance of Nanoelectronics", Purdue Nanotechnology Seminar Series, May 26, 2005, Purdue University, West Lafayette, IN

[S8] "AC performance of Nanoelectronics", UC Riverside, 2008, Riverside, CA

[S9] "Carbon Nanotube & Graphene Electronics for RF and Biotech Applications", UNIST, September 2009, Ulsan, Korea

[S10] "Carbon Nanotube & Graphene Electronics for RF and Biotech Applications", Seoul National University, September 2009, Seoul, Korea

[S11] "RF Nano-Devices", Pierre & Marie Curie University, April 14, 2010, Paris, France

[S12] "RF Applications of Nanotechnology", University of Lille & Institute d'Electronique Micro et Nanotechnologie, April 16, 2010, Lille, France

[S13] "All-Semiconducting Nanotube Networks: Towards High Performance Printed Nanoelectronics" University of Lille & Institute d'Electronique Micro et Nanotechnologie, March 2011, Lille, France

[S14] "Nanoelectrode and Nanofluidic Based Assays of Ion Channels, Mitochondria Membrane Potential, and Apoptosis", University of Padova Graduate Seminar, September 24, 2012, University of Padova, Padova, Italy

[S15] "Nanoelectrode and Nanofluidic Based Assays of Ion Channels, Mitochondria Membrane Potential, and Apoptosis", Institute Gustave Roussy Seminar, September 26, 2012, Paris, France

[S16] "Nanoelectrode and Nanofluidic Based Assays of Ion Channels, Mitochondria Membrane Potential, and Apoptosis", 2012 Smalley Institute/Rice Centennial Lecture Series, November 29, 2012, Rice Univeristy, Houston, TX

[S17] "Nanoelectrode and Nanofluidic Based Assays of Ion Channels, Mitochondria Membrane Potential, and Apoptosis", Buck Institute for Aging seminar, Novato, CA, January 17, 2013

[S18] "Protein Nanotube Gated Bio-transistor for Membrane Ionic Current Recordings", Adlephi Army Research Lab seminar, February 11, 2014, Adelphi, MD.

[S19] "Interacting With Living Systems: Next Steps", California State University Northridge, April 22, 2016, Northridge, CA.

[S20] "Nano-Electromagnetics: The Resistance Quantum, The Characteristic Impedance of Free Space, and Nano-Radios for the Internet of Things", Yale University Solid State Seminar, November, 11, 2015, New Haven, CT.

[S21] "Nano-electronics based sensing platforms: From Electrophysiology with Nanowires to Programmable Assembly with DNA Nanotechnology", Defense Threat Reduction Agency (DTRA) seminar, June 23, 2016, Fort Belvoir, Alexandria, VA.

[S22] "A modified Hodgkin-Huxley model for nanoelectronics", *IEMN, University of Lille*, September, 2016, Lille, France.

[S23] "Charging the quantum capacitance of nanomaterials with biological ion channels ", *UCSD Materials Science Seminar,* April 21, 2019, San Diego, CA

[S24] "Nanoelectronic probes of mitochondrial function", UCLA Big Quantum in the Brain, Nov. 18, 2020, Los Angeles, CA (virtual).

[S25] Many additional since 2020 (not listed)