

Shadi A. Dayeh

Integrated Electronics and Biointerfaces Laboratory
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Education & Academic Training

- 3/2010 – 10/2012 Distinguished J. R. Oppenheimer Postdoctoral Fellow, Los Alamos National Laboratory. Advisor: S. Tom Picraux.
- 9/2008 – 3/2010 Director Postdoctoral Fellow, Los Alamos National Laboratory.
- 9/2003 – 9/2008 PhD in Electrical and Computer Engineering/Electronic Materials and Devices, University of California San Diego. Advisors: Edward T. Yu and Deli Wang.
- 8/2001 – 8/2003 MS in Electrical Engineering/Circuits and Devices, Southern Methodist University. Advisor: Donald P. Butler.
- 9/1997 - 7/2001 Maitrise-en-Sciences in Physics and Electronics, Lebanese University, Beirut, Lebanon.

Professional Experience

- 7/2019 – current Professor, Department of Electrical and Computer Engineering, UC San Diego
- 7/2016 – 7/2019 Associate Professor, Department of Electrical and Computer Engineering, University of California, San Diego (Also affiliate of Department of NanoEngineering and the Materials Science and Engineering Program)
- 11/2012 – 7/2016 Assistant Professor, Department of Electrical and Computer Engineering, University of California, San Diego.

Academic and Professional Recognitions

- 2018 International Symposium on Compound Semiconductors (ISCS) Young Scientist Award (for overcoming the critical thickness limitation in heteroepitaxy)
- 2015 Jacobs School of Engineering Teacher of the Year Award in Electrical and Computer Engineering.
- 2014 NSF Early CAREER Award.
- 2011 Distinguished Postdoctoral Performance Award for FY2010, LANL (for “Innovative research on semiconductive nanowires and their devices”).
- 2010 Distinguished J. Robert Oppenheimer Postdoctoral Fellowship, LANL (one of 2 appointments per year, open to all nationalities).
- 2009, 2010 & 2011 Los Alamos National Laboratory Achievement Award.
- 2008 Director Postdoctoral Fellowship, LANL.
- 2008 Advanced Substrates and Next Generation Semiconductors Workshop, Winner of Student Paper Competition.
- 2007 Spring MRS Meeting Best Poster Award.
- 2007 Spring MRS Meeting Graduate Student Award.
- 2007 34th Conference on Physics and Chemistry of Semiconductor Surfaces and Interfaces (PCSI-34) Young Scientist Award.
- 2007 Summer Teaching Fellow for ECE department, UCSD: Fundamentals of Devices and Materials.
- 2006 Electronic Materials Conference (EMC) Outstanding Oral Presentation.
- 2006 W. S. C. Chang’s Fellowship, ECE department, UCSD.
- 2005 Outstanding Teaching Assistant Award, ECE department, UCSD.

Selected Honors for Supervised Students and Postdocs

- 2018 Atsunori Tanaka, Best Paper Award at the 2018 Compound Semiconductor Week

2017 Renjie Chen, IEEE Electron Device Society PhD Student Fellowship Award (1 award in the US per year)

2016 Ren Liu, UC-National Lab in Residence Graduate Student Fellowship (1 of 4 at UC per 2 years)

2016 Lorraine Hossain, NSF Graduate Student Fellowship

2011 Binh-Minh Nguyen, Director Fellow, Los Alamos National Laboratory

Group Members

Current PhD students:

Name	Joined	Candidacy	Graduation	Recognition
1. Yun Goo Ro (ECE)	SU13	SU17	SP19	
	<i>Flexible solar powered wearable devices and laminar/depth cortical implants</i>			
2. Ren Liu (ECE)	SU14	FA16	SP19	2017-2018 UC-national lab in-residence graduate fellowship
	<i>Nanowire-neural interfaces for drug screening applications</i>			
3. Sang Heon Lee (ECE)	SU14	SP17	SP19	
	<i>Cortical and spinal microelectrodes</i>			
4. Lorraine Hossain (Mat. Sci.)	SU15	SP17 (Literature)	SP20	NSF Graduate Student Fellowship
	<i>Multimodal chronic cortical implants</i>			2018 Winner for Center for Wearable Systems elevator pitch competition
5. Woojin Choi (ECE)	FA15	SP18	SP20	
	<i>High power and high GaN devices</i>			
6. Andrew Bourhis (with Ian Galton) (ECE)	FA18	-	SP23	NSF Graduate Student Fellowship
	<i>Thin film transistors on flexible substrate for high density cortical implants</i>			
7. Po Chun Chen (ECE)	FA18		SP23	
	<i>GaN varactors on novel substrates</i>			
8. Samantha Russman (Bioengineering)	FA18		SP23	
	<i>Spinal cord implants for restoring function in patients with paralysis</i>			
9. Jihwan Lee (ECE)	FA18		SP23	
	<i>High density drug screening essays and depth cortical electrodes</i>			
10. Keundong Lee (Physics) with Gyu-Chul Yi	WI16		FA19	
	<i>Multimodal neural electrodes</i>			
Ritwik Vatsyayan (ECE)	FA18		SP24	
	<i>Thin film transistor device modeling for neural sensing applications</i>			

Current Postdoctoral Fellows and Resident MD's:

Name	Joined in	Recognition
1. Youngbin Tchoe (ECE)	SU18	2017 Best Thesis Award at the Department of Physics, Seoul National University
	<i>Nanowires for high density drug screening platforms and in-vivo intracellular potentials</i>	
2. Hongseok Oh (ECE)	FA17	2018 Best Thesis Award at the Department of Physics, Seoul National University
	<i>Devices for closed loop neural prosthesis</i>	
3. Daniel Cleary, MD, PhD	SU18	NIH F32 NRSA postdoctoral fellowship
	<i>Single unit recording from the human brain</i>	

4. Joel Martin, MD, PhD	FA17	
	<i>High efficacy spinal cord implants</i>	

Former Group Members**Former PhD's granted**

Name	Joined	Graduated	Current Position	Recognition
1. Renjie Chen (ECE)	SU13	SP18	Intel Inc.	2018 Materials Research Society Graduate Student Award
	<i>Thesis title: Metal-Semiconductor Compound Contacts to Nanoscale Transistors</i>			2017 IEEE Electron Device Society PhD Fellowship
2. Atsunori Tanaka (Mat. Sci.)	SU13	SP19	Intel Inc.	2018 Best Pater Award at the Compound Semiconductor Week
	<i>Thesis title: Heteroepitaxial Thick GaN Layers and Vertical High-Power Devices by Selective Area MOCVD Growth</i>			2018 MRS Grad Student Award Best paper award at the 2017 IUMRS Int.'l Symposium
3. Mehran Ganji (ECE)	WI15	SP19	Postdoc, Rice University	Institute for Engineering in Medicine (IEM) fellowship
	<i>Thesis title: Mechanistic Electrochemical Characterization of Novel Microelectrode Arrays and Their Application in Mapping Brain Activity Across Species and Humans</i>			
4. Supanee Sukrittanon (Mat. Sci.; co-advised with Charles Tu)	FA13	FA15	Intel Inc.	
	<i>Thesis title: Dilute Nitride GaNP Wide Bandgap Solar Cells Grown by Gas-Source Molecular Beam Epitaxy</i>			
5. Nasim Vahidi (ECE, joint with Tim Gentner)	FA17	SP19		Rita L. Atkinson Graduate Fellowship
	<i>Thesis title: Tools to Investigate Composite Receptive Fields in Songbird Auditory Region</i>			
6. Siarhei Vishniakou* (ECE)	SU14	FA15	Google	NSF I-Corps to establish Dimensional Touch Inc.
	<i>Thesis title: Flexible solar powered wearable devices and laminar/depth cortical implants</i>			
7. Namseok Park* (ECE)	SU14	FA15	Roswell Biotechnologies	
	<i>Thesis title: Development of Integration of Sensors and Circuits for Wearable Electronics</i>			
The following students performed, in whole or in part, their PhD thesis with me at Los Alamos National Laboratory				
8. Wei Tang (Mat. Sci., UCLA)	FA09	FA12	Amazon	
	<i>Thesis title: Silicide/silicon heterointerfaces, reaction kinetics and ultra-short channel devices with Prof. King-Ning Tu</i>			
9. Xing (Daisy) Dai (ECE, Nanyang)	SP11	SP14	Almae Technology, France	

Technological University	Thesis title: <i>Transport Design in Quasi One-Dimensional III-V Wires, Tubes, and Fin Structures</i> With Prof. Cesare Soci	
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* S. Vishniakou and N. Park transferred to my group from Prof. Deli Wang's group; they continued as postdocs in the lab for 1 additional year; Vishniakou and Dayeh won an NSF I-Corps grant and established Dimensional Touch Inc. to commercialize force sensors for interactive displays.

Former MS's granted

Name	Joined	Graduated	Current Position	Recognition
1. Farid Azzazy (ECE)	FA12	FA14	Qualcomm Inc.	
	Thesis title: <i>Fabrication and Characterization of Silicon Microwire Neural Electrode Arrays on Flexible Substrates</i>			

Former Staff, Postdocs, and undergraduate students

Name	Joined	Graduated	Position at IEBL	Current Position
1. Jinkyong Yoo (w S.T. Picraux)	FA10	SP13	Postdoctoral Fellow	CINT Scientist, Los Alamos National Laboratory
2. Yoontae Hwang	FA11	FA13	Postdoctoral Fellow	Senior Engineer, Samsung Electronics
3. Binh-Minh Nguyen	FA12	SP14	Director Postdoctoral Fellow	Technical Staff at Hughes Research Laboratory
4. Massoud L. Khraiche	FA13	FA15	Staff Research Associate	Assistant Professor, American University of Beirut
5. Phil Mages	FA14	FA16	Research Associate	Deceased
6. Howard Dabbous	SU17	SU17	Visiting Scholar	MD Student at American University of Beirut
7. Keisuke Matsushita	FA15	SP16	Graduate student Gordon Scholarship	Graduate student at UCSD
8. Jeonseop Sim	FA15	FA16	Graduate student Samsung Scholarship	Graduate student at UCSD
9. Ahmed Taha El-Thakeb Youssef	FA15	FA16	Graduate student	Graduate student at UCSD
10. Cory Heath	FA12	SU13	Undergraduate student, Frieda Daum Urey Academic Fellowship, QI Undergraduate Research Scholar	
11. Michael Mullins-Jensen	SU13	SP14	Undergraduate student	AT&T
12. Oscar Guerrero	SP16	SU16	Undergraduate student, Stars Award, NACME Scholarship, ABRCMS Travel grant, GaSGC UROP Award, GEM Fellowship. Currently a graduate student at Stanford University	
13. Valeria Gonzalez	SU16	WI17	Undergraduate student, NACME Scholarship, UCSD STARS Fellow, SACNAS. Currently a graduate	

			student at UCSD	
14. Adrian Luna	SP16	SU16	Undergraduate student	SPAWAR
15. Martin Magno	SP16	FA16	Undergraduate student, McNair Fellow	Graduate student at UCSD
16. Timothy Searcy	SP16	FA16	Undergraduate student	SPAWAR

Professional Leadership and Services

2018	Organizer for the Electrochemical Society AIMES meeting, session “Semiconductors, Dielectrics, and Metals for Nanoelectronics”
2017	Elected member, Electronic Materials Conference
2016	Editor, MRS Advances
2015 – 2017	Associate Editor, Nanoscale Research Letters
2015	Co-Editor for the Elsevier book series “Semiconductor Nanowires I: Growth and Theory” and lead Co-Editor for “Semiconductor Nanowires II: Properties and Devices”
2014	Co-Editor, ECS Proceedings
2012 – 2016	Editor, Journal of Nanomaterials
2014-2018	Optoelectronic Devices Committee, IEEE Electron Device Society (EDS).
2009-2014	Compound Semiconductor Devices and Circuits Committee, IEEE
2012-2016	Member of the Board of Governors for the IEEE Council on Electronic Design Automation (CEDA).
2010- 2014	Compound Semiconductor Devices and Circuits Committee, IEEE Electron Device Society (EDS).
2012-2014	IEEE Council on Electronic Design Automation (CEDA) as an Electron Devices Society (EDS) representative.
2010 May-Nov	President of the Los Alamos Postdoc Association (>400 postdocs)
2009-2010	IEEE EDS Student/GOLD Ambassador/Lecturer for North America West Region.
2007-2008	Chapter Leader, International Microelectronics and Packaging Society (iMAPS).
2010-2012	Member of Graduate of the Last Decade (GOLD) Committee, IEEE EDS.
	Member of Career Assistance Committee, IEEE EDS.
2006-2015	Member of Material Research Society (2006-current), Lebanese Syndicate of Engineering

Session Chair

- AIMES 2018 Electrochemical Society Meeting, session “Semiconductors, Dielectrics, and Metals for Nanoelectronics”
- 60th Electronic Materials Conference, 2018 session “Electronic Materials for Biological Applications”.
- 232nd 2017 ECS Meeting, session D1, “Semiconductors, Dielectrics, and Metals for Nanoelectronics 15: In Memory of Samares Kar”.
- The 15th International Conference on Advanced Materials, 2017 Symposium C7, “Advances in Semiconductor Nanowires: Growth, Theory, Characterisation, Processing and Devices”.

- 59th Electronic Materials Conference, 2018 session “Electronic Materials for Biological Applications”.
- 58th Electronic Materials Conference, 2017 session “Contacts for Semiconductor Devices”.
- 57th Electronics Materials Conference, 2015: Symposium on “Contacts for Semiconductor Devices”.
- 226th Electrochemical Society Meeting, 2014: Symposium on “Semiconductors, Dielectrics, and Metals for Nanoelectronics”.
- 56th Electronic Materials Conference, 2014: “Contacts to Semiconductor Growth on Si Substrates and Si-Based Heterojunctions”.
- 224th Electrochemical Society Meeting, 2013: Symposium on “Semiconductors, Dielectrics, and Metals for Nanoelectronics”.
- 222nd ECS Meeting, 2012: Symposium on “Low-Dimensional Nanoscale Electronic and Photonic Devices”.
- 9th International Workshop on Epitaxial Semiconductors and Novel Index Surfaces 2012: Transport symposium.
- TMS 2012: Symposium on “Mechanical properties related to interface physics”.
- SPIE 2010: “Nanoepitaxy/Nanoheteroepitaxy: Novel characterization of materials and growth properties”.
- 218th ECS Meeting, 2010: Symposium on “SiGe, Ge, and related compounds: materials, processing, and devices”.
- SPIE 2009: “Toward single photon and single electron nanodevices”.

Program Committee Member

- Program committee member, 2018 ECS symposium on “Semiconductors, Dielectrics, and metals for Nanoelectronics”.
- Committee member of the Electronics Materials Conference, 2017 – 2020.
- Program committee member, 228th ECS symposium on “Semiconductors, Dielectrics, and metals for Nanoelectronics”.
- Invited Organizer, 57th Electronics Materials Conference, 2015; symposium “Contacts for Semiconductor Devices”.
- Organizer: Fall 2015 MRS meeting; symposium “Synthesis and Applications of Nanowires and Hybrid 1D-0D/2D/3D Semiconductor Nanostructures”.
- Program committee member: SPIE 2010-2015: “Nano Epitaxy symposium”.

Reviewer

Advanced Materials, Advanced Energy Materials, Advanced Functional Materials, Applied Physics Letters, Applied Surface Science, European Physics Letters, IEEE Electron Device Letters, IEEE Transactions on Electron Devices, IEEE Transactions on Nanotechnology, IET Circuits Devices & Systems, Journal of American Chemical Society, Journal of Applied Physics, Journal of Electronic Materials, Journal of Materials Research, Journal of Physical Chemistry, Journal of Vacuum Science and Technology, Langmuir, Materials Chemistry and Physics, Materials Research Letters, Materials Science and Engineering B, Microporous and Mesoporous Materials, Nano Letters, Nanoscale, Nature Communications, Nature Nanotechnology, Photonics Technology Letters, Small, Science and Technology of Advanced Materials, Scientific Reports.

Grant And Facility User Proposal Reviewer

National Science Foundation
Department of Energy, Basic Energy Sciences program.
NASA EPSCoR Program

NASA Postdoctoral Fellowship program.
Kuwait-MIT Center for Natural Resources and the Environment
Center for Integrated Nanotechnologies, Los Alamos and Sandia National Laboratories

Patents:

1. Shadi Dayeh et al. "Addressable Vertical Nanowire Probe Arrays and Fabrication Methods" US Patent PCT/US2017/014143; Int. patent application # WO2017127551A1.
2. Shadi Dayeh and Farid Azzazy, "Flexible Penetrating Cortical Multielectrode Array and Manufacturing Methods Thereof". US patent application # US20170231518A1.
3. Shadi Dayeh et al., "Monolithic thin film elements and performance electronics, solar powered systems and fabrication," US patent application # US20180040649A1.
4. Shadi Dayeh and Renjie Chen. "Solid-State Wafer Bonding of Functional Materials on Substrates and Self-Aligned Contacts" US patent application # US20170317050A1.
5. Deli Wang et al., "Nanowire Photodetector and Image Sensor with Internal Gain," US Patent 9024295.

Selected press highlights

1. Based on UCSD press release: "'Neuron-reading' Nanowires Could Accelerate Development of Drugs to Treat Neurological Diseases"
http://ucsdnews.ucsd.edu/pressrelease/neuron_reading_nanowires_could_accelerate_drug_development_to_treat_disease
 - a. R&D magazine: "Novel nanowires could help develop neurological drug treatments"
<https://www.rdmag.com/article/2017/04/novel-nanowires-could-help-develop-neurological-drug-treatments>
 - b. Medical condition news: "New nanowire technology may serve as platform to screen drugs for neurological diseases" <http://www.news-medical.net/news/20170411/New-nanowire-technology-may-serve-as-platform-to-screen-drugs-for-neurological-diseases.aspx>
 - c. Aznano: "Non-Destructive Nanowire Technology Could Quicken Development of Drugs to Treat Neurological Diseases"
<http://www.azonano.com/news.aspx?newsID=35518>
2. Based on UCSD press release: "New Brain Mapping Tool Produces Higher Resolution Data During Brain Surgery"
http://ucsdnews.ucsd.edu/pressrelease/new_brain_mapping_tool_produces_higher_resolution_data_during_brain_surgery
 - a. Science and Enterprise: "High-Resolution Surgical Brain Monitor Demonstrated"
<http://sciencebusiness.technewslit.com/?p=30937>
 - b. Innovator's Magazine: "Giving brain surgeons a helping hand"
<https://www.innovatorsmag.com/giving-brain-surgeons-a-helping-hand/>
 - c. GE Reports, 5 Coolest Things on Earth This Week: "It's A Brain Wrap"
<http://www.gereports.com/5-coolest-things-earth-week-10/>
3. Based on JSOE press release: "Transistor Contacts in the Making: Live Atomic Scale Dynamics"
http://jacobsschool.ucsd.edu/news/news_releases/release.sfe?id=2237
and video available here: <https://www.youtube.com/watch?v=EUegQrZuKMI>
 - a. Highlight on Proptochips Website:
http://www.protochips.com/bibliographies/?fwp_product=fusion

4. GaN ‘Tangos’ With Silicon To Overcome Material Limitations:
https://compoundsemiconductor.net/article/102323/GaN_%E2%80%98Tangos%E2%80%99_With_Silicon_To_Overcome_Material
5. Based on JSOE press release: [Improving Lithium-Ion Batteries with Nanoscale Research Between UC San Diego and the National Labs.](#)
 - a. IEEE Spectrum, [Band-Gap Engineering of Nanowires Could Boost Batteries.](#)
 - b. New Energy and Fuel, [Nano Scale Electrode Architectures for Lithium Ion Batteries.](#)
6. Jacobs School News, Pule Magazine, [New Electron Beam Writer Enables Next-Gen Biomedical and Information Technologies.](#)
7. Center for Integrated Nanotechnologies, 2010 Annual Report, [Postdoc Highlight – Shadi Dayeh.](#)
8. Los Alamos National Laboratory PADSTE Science Highlights, Mar. 23, 2011: [Shadi Dayeh and Cristiano Nisoli receive Postdoctoral Distinguished Performance Awards.](#)
9. Los Alamos National Laboratory, Feb 3, 2010: [Lab selects Distinguished Postdoctoral Fellows.](#)
10. Center for Integrated Nanotechnologies, Feb 1, 2010: [CINT Postdoc receives Prestigious Fellowship.](#)
11. IEEE The Institute newsletter, July 6, 2007: [IEEE Member Recognitions.](#)
12. Photonics Today, May 21, 2007: [Grad Student Recognized for Nanowire Work.](#)
13. Eurekalert, May 14, 2007: [UC San Diego Electrical Engineering Grad Student Racks up Awards.](#)

Research Grants

Title	Granting agency	Amount of total award (include indirect costs)	Time period of contract/grant	Role (e.g. PI, co-investigator, project leader, etc.) List co-PIs/corresponding share of total award (total must = 100%)
SNM: Scalable Nanomanufacturing of Fab Compatible High-Density Nanowire Arrays for High-Throughput Drug Screening	NSF-CMMI	\$1.5M	9/1/2017-8/30/2021	PI (100%) Project Leader
Monolithically integrated high-power GaN devices and Si CMOS circuits for high frequency and high power conversion	NSF-ECCS	\$360K	7/1/2017-6/30/18	PI (100%) Project Leader
Exploiting superior electrochemical characteristics of scaled PEDOT:PSS microelectrode arrays for high fidelity electrocorticography	NSF-ECCS	\$100K	8/1/2017-7/31/20	PI (100%). Project Leader
Multi-modal Nanoscale Cellular Probes	UC Lab Fees Research Program	\$135K	1/1/2017-12/31/2018	PI (100%) Project Leader
Microdevice mediated functional brain	NIH-NEI (brain initiative)	\$465K	9/30/2016-7/31/18	Co-PI (45%). Device integration for implantation

imaging with high temporal and spatial resolution				
Dimensional touch – pressure-sensitive touchscreens for mobile applications	NSF-i-Corps	\$50K	9/15/2015-3/14/2016	PI (100%) Project Leader
Correlated In-Situ TEM Studies on Metal-alloy/III-V Nanoscale Contact Interactions and Properties	NSF-DMR	\$390K	9/15/2015-8/31/2018	PI (100%). Project Leader
High Density, Flexible, and Bio-compatible 3D Optogenetic Neural Interfaces	Calit2 CSRO	\$50K	7/16/2014 – 7/5/2015	PI (100%). Project Leader
Bio-Compatible Electro-Fluidic Neural Interfaces for Mapping the Brain	NSF-ECCS	\$400K	01/01/2014 – 12/31/2018	PI (100 %). Project Leader
Active Biocompatible Multifunctional and Implantable Neural Probes	CBAM-UCSD	\$30K	7/1/2014 – 6/30/2015	PI (100 %). Project Leader
3-D Nanowire Heterostructures from Earth Abundant Materials by Low-cost Fabrication Process for High-efficiency Photoelectrochemical Hydrogen Generation	NSF-CMMI	\$297.6K	8/1/12 – 7/31/15	PI (100%). Took project leadership and responsibility on 7/1/2014 after Prof. Deli Wang, who conceived, wrote submitted, and was awarded this grant, separated from UCSD.
Multi-Contact MultiModality 3D Micropillar Arrays	CBAM-UCSD	\$30K	12/1/2013 – 11/30/2014	PI (100 %). Project Leader
Minority carrier devices based on concentric nanowires: Theory and Experiment	LANL	\$300 K	02/01/2012 – 02/01/2014	PI (100 %). Project Leader
High Density Neural Recording Using Nanowire Capacitor Sensors	LANL	\$1.074M	09/01/2010 – 09/01/2013	PI (100 %). Project Leader

One dimensional nanomaterials for enhanced solar conversion	LANL	\$1.025M	09/01/2009 – 09/01/2012	Co-investigator (10%). Co-wrote proposal and led project with S. T. Picraux.
Assessment of Silicon Nanowire Architecture for PV Application	DOE	\$1.049M	11/01/2009 – 03/06/2012	Co-investigator (10%). Proposed research idea that was the foundation for the project. Co-led project with S. T. Picraux

Academic Services at UCSD:Classes taught at UCSD

Course # and Title	Quarter	#Enrolled	% Recommend Instructor
ECE135B: Electronic Devices	SP17	11	100%
ECE136L: Microelectronics Laboratory	WI17	33	92.9%
ECE135B: Electronic Devices	SP16	18	100%
ECE136L: Microelectronics Laboratory	WI16	20	100%
ECE236A: III-V Compound Semiconductor Materials FA15		12	93.3%
ECE135B: Electronic Devices	SP15	27	100%
ECE136L: Microelectronics Laboratory	WI15	22	86%
ECE103: Fundamentals of Devices and Materials WI15		85	100%
ECE236A: III-V Compound Semiconductor Materials FA14		16	84%
ECE135B: Electronic Devices	SP14	11	83%
ECE136L: Microelectronics Laboratory	WI14	8	n/a
ECE103: Fundamentals of Devices and Materials FA13		91	76%
ECE135B: Electronic Devices	SP13	7	100%

ECE135B: Electronic Devices. *In depth treatment of basic semiconductor devices including solar cells, MOS CAP, MISFETs and BJTs.*

ECE103: Fundamentals of Devices and Materials. *Introduction to electronic materials, current transport, and basic semiconductor device operation.*

ECE136L: Microelectronics Laboratory. *Principles of semiconductor device processing, the fabrication and characterization of Si-based diodes, MOSFETs, MOS Caps, and III-V LEDs.*

ECE236A: Semiconductor Heterostructure Materials. *Graduate level course on heterostructures bandoffsets and measurements, epitaxy techniques and mechanisms, strain and strain relaxation in heterostructure materials, influence of strain on band-structure, quantum wells and their band structures, two-dimensional electron gas, nN and pN heterostructures, tunnel and quantum transport, nitrides.*

Committee Service

Fall 2018	Selection Committee for the IDEA Center Director of Strategic Initiatives and Assessment
Spring 2018	Panelist, UCSD Summer Engineering Institute; Panelist, UCSD IDEA Center Overnight Program

Fall 2017	Chair of faculty search ad-hoc committee in Electronic Materials and Devices
Fall 2017	Curriculum Advisor, Medical Devices and Systems
Fall 2017	JSOE Faculty Representative for the IDEA Center Board
Fall 2014 – 2015	Chair of faculty search ad-hoc committee in Electronic Materials and Devices
Fall 2015 – 2017	ECE Alumni Board
Fall 2015 – 2016	Undergraduate Education Initiative Committee
Fall 2014 – current	UCSD Chemical Safety and Surveillance Committee
Fall 2012 – 2014	Depth advisor for the Electronic Materials and Devices.
Fall 2012 – 2014	Admissions committee
Summer 2014	Ad-hoc committee, co-chair of EDM faculty-hire focus group
Fall 2014 – 2015	Course director, ECE103/107
Fall 2014 – current	Faculty affairs committee
Fall 2014 – current	Undergraduate Education Initiative Committee

Academic Services as a Student at UCSD

07-08/2007	Instructor for ECE103, UCSD: Fundamentals of Devices and Materials. <i>CAPE (Course and Professor Evaluation) Rating:</i> Recommend professor (91%); Recommend course (86%).
9/2003-12/2005	Teaching Assistant, ECE, UCSD for: (1) Fundamentals of Devices and Materials (ECE103: Summer04, Fall04, Winter05, Summer05), (2) Microelectronics Laboratory (ECE136L: Fall05), (3) Introduction to Electrical Engineering I (ECE20A: Spring04, Fall04). (4) Fundamentals of Electrical Engineering. (ECE53A&B: Fall03, Winter04, Spring05).
04/2005-12/2006	Lead teaching assistant consultant (TAC) for Sciences and Engineering, Center of Teaching and Development, UCSD.
05/31/2006	Guest speaker for ECE87 (Micro/Nano Electronics Seminar) “Graduate school, things to consider”.
02/21/2007	Guest speaker for ECE87 (Micro/Nano Electronics Seminar) “Graduate school, things to consider”.
09/2006-08/2008	Head Teaching Assistant for ECE, UCSD.
09/2006-08/2008	Member of the Academic Dishonesty Hearing Board, UCSD: Representative of the Jacobs School of Engineering and Graduate Student Association.
03/15/2008	Keynote graduate student speaker in <i>ECE</i> graduate student recruitment dinner.

Publications

Journal Papers: 84 refereed journal papers, h-index=34, # of citations > 7200 (Google Scholar)

1. S. A. Dayeh, D. P. Butler, and Z. Çelik-Butler, “Micromachined Infrared Bolometers on Flexible Polyimide Substrate,” *Sensors and Actuators (Physical A)*, Vol. 118, No. 1, (January 2005), pp. 49-56.
2. X. Zhou, S. A. Dayeh, D. Aplin, D. Wang, and E. T. Yu, “Direct Observation of Ballistic and Drift Carrier Transport in InAs Nanowires,” *Applied Physics Letters*, Vol. 89, No. 5, (July 2006), pp. 053113-3.
3. X. Zhou(*), S. A. Dayeh(*) , D. Aplin, D. Wang, and E. T. Yu, “Scanned Electrical Probe Characterization of carrier transport behavior in InAs Nanowires,” *Journal of Vacuum Science and Technology B*, Vol. 24, (July 2006), pp. 2036-2036-5. (*) Equal contribution

4. B. Xiang, P. Wang, X. Zhang, S. A. Dayeh, D. P. R. Aplin, C. Soci, D. Yu, and D. Wang, "Rational Synthesis of P-type ZnO Nanowire Arrays using Simple Chemical Vapor Deposition," *Nano Letters*, Vol. 7, No. 2, (January 2007), pp. 323-328.
5. S. A. Dayeh, D. Aplin, X. Zhou, P. K. L. Yu, E. T. Yu, and D. Wang, "High Electron Mobility Indium Arsenide Nanowire Field Effect Transistors," *Small*, Vol. 3, No. 2, (February 2007), pp. 326-332.
6. S. A. Dayeh, C. Soci, P. K. L. Yu, E. T. Yu, and D. Wang, "Influence of Surface States on the Extraction of Transport Parameters from InAs Nanowire Field Effect Transistors," *Applied Physics Letters*, Vol. 90, No. 16, (April 2007), pp. 162112-162112-3
7. C. Soci, A. Zhang, B. Xiang, S. A. Dayeh, D. Aplin, J. Park, X. Bao, Y.-H. Lo, and D. Wang, "ZnO Nanowire UV Photodetectors with High Internal Gain," *Nano Letters*, Vol. 7, No. 4, (April 2007), pp. 1003-1009.
8. X. Zhou, S. A. Dayeh, D. Wang, and E. T. Yu, "Scanning Gate Microscopy of InAs Nanowires," *Applied Physics Letters*, Vol. 90, No. 23, (June 2007), pp. 233118-233118-3.
9. X. Zhou, S. A. Dayeh, D. Wang, and E. T. Yu, "Analysis of local carrier modulation in InAs semiconductor nanowire transistors," *Journal of Vacuum Science and Technology B*, Vol. 25, (July 2007), pp. 1427-1427-5.
10. S. A. Dayeh, E. T. Yu, and D. Wang, "III-V Nanowire Growth Mechanism: V/III Ratio and Temperature Effects," *Nano Letters*, Vol. 7, No. 8, (July 2007), pp. 2486-2490.
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Review and Invited Articles

1. S.A. Dayeh, “One Dimensional Semiconductor Heterostructures: Challenges and Opportunities,” *ECS Transactions* 50, Honolulu, Hawaii, October 9, 2012, pp. 55-60. **invited paper.**
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7. R. Chen, X. Dai, K. L. Jungjohann, W. M. Mook, J. Nogan, C. Soci, and S. A. Dayeh, “The Dynamics of Nickelidation for Self-Aligned Contacts to InGaAs Channels,” *ECE Transactions*, Vol. 80, 2017, pp. 53 – 69. **invited paper.**

Books and Book Chapters

1. S.T. Picraux, J. Yoo, I.H. Campbell, S.A. Dayeh, and D.E. Perea, “Semiconductor Nanowires for Solar Cells,” in **Semiconductor Nanostructures for Optoelectronic Devices**, Gyu-Chul Yi, Ed., Berlin-Heidelberg: Springer, 2012, pp. 297-326.
2. S. Dayeh and S.T. Picraux, “Growth of Germanium, Silicon, and Ge/Si Heterostructure Nanowires,” in **Processing, Properties, and Applications of Nanowires of Silicon and Silicides**, Pan Sanford, 2013, pp. 23-58 Book Cover.
3. B.-M. Nguyen, J. Yoo, S. A. Dayeh, P. Schuele, D. Evans, and S. T. Picraux, “Design of Radial p-i-n Si Nanowires for High Performance Solar Cells,” in **The Wonder of Nanotechnology: Present and future for Optoelectronics Quantum Devices and their Applications for Environment**, M. Razeghi, L. Esaki, and K. von Klitzing, Eds., Washington: Bellingham, 2013, pp. 823-842.
4. J. Wan, J. Wan, S. Cristoloveanu, S. T. Le, A. Zaslavsky, C. L. Royer, S. A. Dayeh, D. E. Perea, and S. T. Picraux, “Sharp-Switching CMOS-Compatible Devices with High Current Drive,” in **Future Trends in Microelectronics: Frontiers and Innovations**, Serge Luryi, Jimmy Xu, and Alexander Zaslavsky, Eds., Hoboken, New Jersey: John Wiley and Sons, 2013, pp. 81-92.

5. X. Dai, A. Olivier, C. Wilhelm, S. A. Dayeh, and C. Soci, "Advanced Group III-V Nanowire Growth Toward Large-Scale Integration," in **Semiconductor Nanowires: Materials, Synthesis, Characterization and Applications**, Jordi-Arbiol and Qihua Xiong, Eds., Cambridge: Elsevier, 2013, pp. 71-124.
6. Editor for ECS Transactions, vol. 64, No. 8, 2014, "Semiconductors, Dielectrics, and Metals for Nanoelectronics 12," Editors S. Kar, M. Houssa, S. Van Elshocht, D. Misra, K. Kita, D. Landheer, S. Dayeh, and H. Jagannathan.
7. A. F. i Morral, S. A. Dayeh, and C. Jagadish, Editors for the book "**Semiconductor Nanowires I: Growth and Theory (Semiconductors and Semimetals)**", Academic Press, Elsevier, 2015.
8. S. A. Dayeh, A. F. i Morral, and C. Jagadish, Editors for the book "**Semiconductor Nanowires II: Properties and Applications (Semiconductors and Semimetals)**", Academic Press, Elsevier, 2016.
9. R. Chen and S. A. Dayeh, "Metal-Semiconductor Compound Contacts to Nanowire Transistors," in **Nanowire Electronics, Springer-Singapore, 2019, pp. 111-158.**
10. Editor for ECS Transactions, vol. 86, no.2, 2018, "**Semiconductors, Dielectrics, and Metals for Nanoelectronics 16,**" D. Misra, S. De Gendt, S. Dayeh, K. Kita.

Refereed Conference Proceedings

1. A. Mahmood, S.A. Dayeh, D.P. Butler, and Z. Çelik-Butler, "Micromachined infrared sensor arrays on flexible polyimide substrates Sensors," *Proc. of the 2nd IEEE Int. Conf. on Sensors*, Toronto, Canada, October 22 – October 24, 2003, pp. 777-782.
2. S.A. Dayeh, D.P. Butler, Z. Celik-Butler, and P. Wisian-Neilson, "Uncooled micromachined bolometer arrays on flexible substrates," *Proceedings of SPIE-Infrared Technology and Applications XXIX*, San Diego, CA, September 30, 2003, pp. 537-547.
3. J. Law, S.A. Dayeh, D. Wang, and E.T. Yu, "Scanning Capacitance Characterization of Potential Screening in InAs Nanowire Devices," *Proceedings of the 8th IEEE Conference on Nanotechnology*, Arlington, TX, August 18 - 21, 2008, pp. 569-572.
4. S.A. Dayeh, D. Susac, P. Chen, Y. Jing, K.L. Kavanagh, S.S. Lau, E.T. Yu, and D. Wang, "Optimal Control over the InAs Nanowire Growth for System Integration and their Structural and Transport Properties," *Proceedings of the 8th IEEE Conference on Nanotechnology*, Arlington, TX, August 18 - 21, 2008, pp. 576-579.
5. S.A. Dayeh, J.Y. Huang, A.V. Gin, and S.T. Picraux, "Synthesis, Fabrication, and Characterization of Ge/Si Axial Nanowire Heterostructure Tunnel FETs," *Proceedings of the 10th IEEE Conference on Nanotechnology*, Seoul, Republic of South Korea, August 17 - 20, 2010, pp. 238-241.
6. S.A. Dayeh and S.T. Picraux, "Axial Ge/Si Nanowire Heterostructure Tunnel FETs," *ECS Transactions*, 33, Las Vegas, NV, October 10 - 15, 2010, pp. 373-378.
7. S.A. Dayeh and S.T. Picraux, "Ge/Si Core/Multi-shell Heterostructure FETs," *ECS Transactions*, 33, Las Vegas, NV, October 10 - 15, 2010, pp. 681-686.

8. M.A. Seo, S.A. Dayeh, P. Upadhyaya, J. Martinez, B.S. Swartzentruber, S.T. Picraux, A.J. Taylor, and R.P. Prasankumar, "Polarization Anisotropy of Transient Carrier Dynamics in Single Si Nanowires," *2011 Conference on Lasers and Electro-Optics*, Baltimore, MD, May 3 - 5, 2011, pp. 1-2.
 9. M.A. Seo, J. Yoo, S.A. Dayeh, S.T. Picraux, A.J. Taylor, and R.P. Prasankumar, "Tracking Charge Carriers Through Space and Time in Single Silicon Core-Shell Nanowires," *2012 Conference on Lasers and Electro-Optics*, San Jose, CA, May 6 - 11, 2012, pp. 1-2.
 10. M.A. Seo, J. Yoo, D.E. Perea, S.A. Dayeh, S.T. Picraux, A.J. Taylor, and R.P. Prasankumar, "Tracking Ultrafast Carrier Dynamics in Single Semiconductor Nanowire Heterostructures," *XVIIIth International Conference on Ultrafast Phenomena*, Lausanne, Switzerland, July 8-13, 2012, EPJ Web of Conferences 41, pp. 04030-1-04030-3.
 11. W. Tang, S. T. Picraux, A. M. Gusak, K. N. Tu, and S. A. Dayeh, "Dynamical Imaging of Nickel Disilicide Nucleation and Step Flow Propagation in Defect-Engineered Si Nanowires," *226th ECS Meeting*, Oct. 5-9, 2014, Cancun, Mexico, pp. 101-108.
 12. W. Tang, S. T. Picraux, X. Liu, K. N. Tu, and S. A. Dayeh, "In-situ TEM Study on Au Mediated Growth of NiSi₂ in Si Nanowire: A Vapor-Liquid-Solid Analogy," *226th ECS Meeting*, Oct. 5-9, 2014, Cancun, Mexico, pp 85-90.
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13. J. Hermiz, Nick Rogers, Erik Kastner, Mehran Ganji, Daniel Cleary, Joseph Snider, David Barba, Shadi A. Dayeh, Eric Halgren, and Vikash Gilja, "A Clinic Compatible Open Source Electrophysiology System," 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando, Florida, Aug. 16 – 20, 2016.

Invited Talks

1. S.A Dayeh, "Controlling the Growth and Transport Properties of III-V Semiconductor Nanowires," *International Microelectronics and Packaging Society Monthly Meeting*, San Diego Chapter, San Diego, April 24, 2007.
2. S.A Dayeh, "Synthesis and Fabrication of III-V Semiconductor Nanowires for Electronic Applications," *Los Alamos National Laboratory*, Los Alamos, New Mexico, April 7, 2008.
3. S.A Dayeh, "Synthesis, Characterization, and Transport Properties of III-V and Si/Ge Heterostructure Nanowires: A Tutorial," *Graduate Seminar, Lebanese University, Faculty of Sciences-I*, Beirut, Lebanon, June 1, 2009.
4. S.A Dayeh, "Synthesis, Characterization, and Transport Properties of III-V and Si/Ge Heterostructure Nanowires," *Center for High Technology Materials, University of New Mexico*, Albuquerque, New Mexico, December 7, 2012.
5. S.A Dayeh, "Synthesis, Characterization, and Transport Properties of III-V and Si/Ge Heterostructure Nanowires," *Applied Materials and Technology*, San Jose, CA, November 4, 2009.
6. S.A Dayeh, "Synthesis, Characterization, and Transport Properties of III-V and Si/Ge Heterostructure Nanowires," *Stanford University*, EE Department, Stanford, California, November 4, 2009.

7. S.A Dayeh, "Advances in the Growth and Characterization of InAs Nanowires," *SPIE 2009 Meeting*, San Diego Convention Center, San Diego, CA, Aug. 4th, 2009.
8. S.A Dayeh, "IEEE, the Institute and its Electron Device Society," *Center for High Technology Materials*, University of New Mexico, Albuquerque, New Mexico, December 7, 2012. [*IEEE EDS Ambassador Lecture*]
9. S.A Dayeh, "Advances in the Growth and Characterization of InAs Nanowires," *ELEN 200, Graduate Engineering Seminar Series, Santa Clara University*, Santa Clara, California, November 11, 2009. [*IEEE EDS Ambassador Lecture*]
10. S.A Dayeh, "Fundamentals of Nanoepitaxy in groups IV and III-V Semiconductors," *SPIE 2010 Meeting*, San Diego Convention Center, San Diego, CA, August 2, 2010. [*Conference Tutorial*]
11. S.A Dayeh, "Synthesis and Bandgap Engineering in Ge/Si Nanowire Heterostructures," *Physics Department, Seoul National University*, Seoul, South Korea, August 16, 2010.
12. S.A Dayeh, "Synthesis and Bandgap Engineering in Ge/Si Nanowire Heterostructures," *SKKU Advanced Institute of Nanotechnology, Sungkyunkwan University*, Suwon, Republic of South Korea, August 23, 2010.
13. S.A Dayeh, "Defect, Interface and Bandgap Engineering in Ge/Si Axial Nanowire Heterostructures," *38th Conference on the Physics and Chemistry of Semiconductor Surfaces and Interfaces (PCSI-38)*, San Diego, California, January 16, 2011.
14. S.A Dayeh, "Axial and Radial Semiconductor Heterostructure Nanowires: Fault Nucleation, Coherency Limits and Bandgap Engineered Devices," *School of Physical and Mathematical Sciences, Nanyang Technological University*, Singapore, August 15, 2012.
15. S.A Dayeh, "Axial and Radial Semiconductor Heterostructure Nanowires: Fault Nucleation, Coherency Limits and Bandgap Engineered Devices," *ECE Department, National University of Singapore*, Singapore, August 18, 2012.
16. S.A Dayeh, "Synthesis and Defect Control in Bandgap Engineered Ge/Si Nanowire Devices," *Materials Science and Engineering, Stanford University*, October 24, 2011.
17. S.A Dayeh, "Synthesis and Defect Control in Bandgap Engineered Ge/Si Nanowire Devices," *Molecular Foundry, Lawrence Berkeley National Laboratory*, October 31, 2011.
18. S.A Dayeh, "Understanding Fault Nucleation and Propagation in Axial and Radial Heterostructure Nanowires," *International Symposium on Plasticity and Its Current Applications*, San Juan, Porto Rico, January 3-8, 2012.
19. S.A Dayeh, "Defect, Interface Engineering, and Structure-Transport Correlation in InAs and Ge/Si Semiconductor Nanowires," *2012 TMS Annual Meeting & Exhibition*, Orlando, Florida, March 12, 2012.

20. S.A Dayeh, "Axial and Radial Semiconductor Nanowire Heterostructures: Fault Nucleation, Coherency Limits and Bandgap Engineered Devices," *9th International Workshop on Epitaxial Semiconductors on Patterned Substrates and Novel Index Surfaces (ESPS-NIS) 2012*, Eindhoven Technical University, Netherlands, May 8, 2012.
21. S.A Dayeh, "Defects and Charge Transport in Nanowire Heterostructures," *6th Nanowire Growth Workshop*, St. Petersburg, Russia, June 4, 2012.
22. S.A Dayeh, "One Dimensional Semiconductor Heterostructures: Challenges and Opportunities," *Electrochemical Society Meeting*, Honolulu, Hawaii, October 9 2012.
23. S.A Dayeh "One Dimensional Semiconductor Heterostructures: Challenges and Opportunities," *Qualcomm*, San Diego, CA, August 14, 2012.
24. S.A Dayeh, "One Dimensional Semiconductor Heterostructures for Electronics and Biosensors," *8th Annual IEEE SF Bay Nanotechnology Council Fall Symposium, Nanovation: From Science to Startups*, UC Berkeley, October 27, 2012.
25. S.A Dayeh, "Engineered Substrates for Electronics and Bio-Interfaces," *ECE 296 Seminar*, UC San Diego, November 16, 2012.
26. S.A Dayeh, "Nanoscale Heterogeneous Reactions and Interfaces in Ge/Si and for III-V on Si Integrated Devices," *224th ECS Meeting*, San Francisco, CA, October 28, 2013.
27. S.A Dayeh, "Nanoscale Heterogeneous Reactions and Interfaces in Ge/Si and for III-V on Si Integrated Devices," *IBM Watson Research Center*, December 16, 2013.
28. S.A Dayeh, "Material Heterointegration at Multiple Scales for Energy Applications," *Engineers for a Sustainable World Annual Meeting*, San Diego, CA, April 9, 2014.
29. S.A Dayeh, "Bio- and CMOS-compatible 3D Platforms for Neural Interfaces," *CMOS Emerging Technologies Research*, Grenoble, France, July 8, 2014.
30. S.A Dayeh, "Compound and Alloyed Contacts to Ge/Si and InGaAs Nanowires and FinFETs," *SPIE Meeting*, San Diego, CA, Aug. 17-21, 2014.
31. S.A Dayeh, "Nickel Compound and Alloy Contacts to Nanoscale Si, Ge, and InGaAs Channels," *Solid State Devices and Materials (SSDM2014)*, Tsukuba, Japan, Sept. 8-11, 2014.
32. S.A Dayeh, "Heterointegration Technologies for Advanced 3D Neural Interfaces," *226th Electrochemical Society Meeting*, Cancun, Mexico, Oct. 5-10, 2014.
33. S.A Dayeh, "3D Penetrating Neuronal Probes on Insulating and Flexible Substrates for Brain Mapping," *Functional Nanomaterials Workshop*, King Abdullah University of Science and Technology, Jeddah, Saudi Arabia, Mar. 14-17, 2015.
34. S.A Dayeh, "Scalable Nanowire Technologies for Physiological Interfaces," *Seminar at the Solid State Physics Department*, Lund University, Sweden, June 3, 2015.

35. S.A Dayeh, "Nanoscale Solid State Devices for Physiological Interfaces," *Seminar at SABIC, Pittsfield, Massachusetts*, June 20, 2015.
 36. S.A Dayeh, "Nanoscale Electronic Materials for Neurophysiological Interfaces," *IEEE Nanotechnology Materials and Devices Conference*, Anchorage, Alaska, Sept. 15, 2015.
 37. S.A Dayeh, "Probing Greater Details in Brain Activity with Smaller Nanowire Probes," *Neurotechnology Research in San Diego*, Sanford Burnham Consortium, San Diego, California, Sept. 19, 2015.
 38. S.A Dayeh, "Scalable Nanowire Technologies for Physiological Interfaces," *Applied Physics Colloquium at Harvard John A. Paulson School of Engineering*, Harvard University, MA, Nov. 13, 2015.
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39. S.A Dayeh, "Nanowire Arrays Probe Inner Potentials of Human Stem cell Derived Neurons", Korea University, South Korea, Feb. 1, 2016.
 40. S.A Dayeh, "Flexible Conformal and Minimally Invasive 1D Electrodes", UCSD Center for Multiscale Imaging of Brain Function Mini-Symposium, Mar. 24, 2016.
 41. S.A Dayeh, "Compact High-Performance Wearable Electronics with Integrated Energy Harvesting," Center for Wearable Sensors Summit, UCSD, May 14, 2016.
 42. S.A Dayeh, "Integrated Flexible Technologies for Wearable and Cortical Implants," Institute for Materials Science, Los Alamos National Laboratory, Aug. 11, 2016.
 43. S.A Dayeh, "Strain Engineered Crack-Free GaN on Si for Integrated Vertical High Power GaN Devices with Si CMOS", Electrochemical Society Prime 2016 Meeting, Hawai'i Convention Center, Hawai'i, Oct. 4, 2016.
 44. S.A Dayeh, "High Density Individually Addressable Nanowire Arrays for Intracellular Mapping of Neuronal Activity" Electrochemical Society Prime 2016 Meeting, Hawai'i Convention Center, Hawai'i, Oct. 4, 2016.
 45. S.A Dayeh, "1D Probes in Neurophysiology: From Cell Culture to Mapping Intact Brains", 2016 Fall Materials Research Society Meeting, Hynes Convention Center, Boston, MA, 2016.
 46. S.A Dayeh, "Integrated Flexible Technologies for Wearables and Cortical Implants", Department of Chemistry and Biochemistry, Cal State Long Beach, 2017.
 47. S.A. Dayeh, "The Dynamics of Nickelidation for Self-Aligned Contacts to InGaAs Channels," 232nd Electrochemical Society Meeting, National Harbor, Maryland, 2017.
 48. S.A. Dayeh, "Engineering Devices for Clinical Neurophysiology," 2018 Spring Materials Research Society Meeting, Phoenix, AZ, 2018.
 49. S.A. Dayeh, "Nanowires for Clinical Translation for Brain Mapping and Drug Screening Applications," 2018 Nanowire Week, Hamilton, Ontario, Canada, June 11-15, 2018.

50. S. A. Dayeh, "Scalable and Minimally Invasive Technologies for Recording Surface Units and Intracellular Potentials at Depth in Intact Brains," Caltech Human Single Neuron Conference, Caltech, Pasadena, Nov. 1-2, 2018.
51. S. A. Dayeh, "Development and Clinical Implications of Minimally Invasive Neurotechnologies," 2018 Center for Wearable Sensors Research Summit, UC San Diego, Nov. 7, 2018.
52. S. A. Dayeh, "New Electrode Materials for Thin and Minimally Invasive Clinical Neural Interfaces," Blackrock Microsystems, Salt Lake City, Utah, Nov. 29, 2019.
53. S. A. Dayeh, "Microelectrodes for Large-Scale Clinical Mapping: Considerations and some Solutions," IEEE EMBS Neural Engineering Research Conference, San Francisco, March 22, 2019.
54. S. A. Dayeh, "Microelectrode Arrays for Large Scale Clinical Mapping: Electrochemical and Density Considerations, IEEE Nanotechnology Conference, Macao, June 26, 2019.
55. S. A. Dayeh, "Bioelectronic Interfaces with the Human Nervous System," The Vi Technical Club, San Diego, CA, Aug. 1, 2019.
56. S. A. Dayeh, "Microelectrode Arrays for Large Scale Clinical Mapping: Electrochemical and Density," IEEE International Flexible Electronics Technology Conference, Vancouver, Canada, Aug. 13, 2019.
57. S. A. Dayeh, "Microelectrode Arrays for Clinical Mapping: Considerations and Brain Recordings with 1024 Channels," The 16th U.S.-Korea Forum on Nanotechnology: Nanomedicine Focusing on Single Cell Level and Sensors Related to Human Cognition and Brain Research," San Diego, CA, Sept. 23-34, 2019.

Other Conference Presentations

1. Shadi Dayeh, Donald P. Butler, Zeynep Çelik-Butler, and Ali Yildiz, "Uncooled Semiconducting YBaCuO Microbolometers on Rough Substrates," TEXMEMSIV, Lubbock, Texas, July 11th, 2002.
2. Shadi A. Dayeh, Zeynep Çelik-Butler, and Donald P. Butler, "Micromachined Infrared Microsensors on Flexible Substrate," TEXMEMSV, Automation and Robotics Institute, Fort-Worth, Texas, May 6, 2003.
3. Aamer Mahmoud, Shadi Dayeh, Donald P. Butler, and Zeynep Çelik-Butler, "Micromachined Infrared Sensor Arrays on Flexible Polyimide Substrates," IEEE Emerging Telecommunication Technologies Symposium, Richardson, TX, 26-27 Sept. 2003.
4. Aamer Mahmoud, Shadi A. Dayeh, Donald P. Butler, Zeynep Çelik-Butler, and Patty Wisian-Neilson, "Micromachined Infrared Sensor Arrays on Flexible Polyimide Substrates," IEEE International Conference on Sensors, Toronto, Canada, Proceedings of IEEE 2, 22-24 Oct. 2003.
5. Shadi A. Dayeh, Donald P. Butler, Zeynep Çelik-Butler, and P. Wisian-Neilson, "Uncooled micromachined bolometer arrays on flexible substrates," SPIE Proceedings 5074, pp. 537-547, 2003.
6. Shadi A. Dayeh, David Aplin, Xiaotian Zhou, Paul K. K. Yu, Edward T. Yu, and Deli Wang, "Synthesis and Characterization of InAs Nanowires," Electronic Materials Conference 2005, UCSB, Santa Barbra, CA.
7. X. Zhou, S. A. Dayeh, D. Aplin, D. Wang, and E. T. Yu, "Scanned Probe Electrical Characterization of Carrier Transport Behavior in InAs Nanowires," 33rd Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-33), Cocoa Beach, Florida, 15-19 January 2006.

8. Deli Wang, Bin Xiang, Shadi Dayeh, and David Aplin, "Hierarchical 3D ZnO Nanowire Networks," MRS Spring Meeting, San Francisco, California, 18-21 April, 2006.
9. Fengyan Zhang, Shadi Dayeh, Robert Barrowcliff, Sheng-Teng Hsu, and Deli Wang, "Iridium Oxide Nanotubes as high Sensitivity Chemo/Bio Sensors," Invited, MRS Spring Meeting, San Francisco, California, 18-21 April, 2006.
10. Shadi A. Dayeh, David Aplin, Edward T. Yu, Paul K.L. Yu, and Deli Wang, "Growth Mechanism and Optimization of InAs Nanowires Synthesized by OMVPE," Electronic Materials Conference, Pennsylvania State University, Pennsylvania, 2006. Outstanding Student Oral Presentation.
11. Xiaotian Zhou, Shadi A. Dayeh, Deli Wang, and Edward T. Yu, "Scanning Gate Microscopy Characterization of InAs Nanowires," 34th Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-34), Salt Lake City Marriot, Utah, 14-18 January 2007.
12. Shadi A. Dayeh, Cesare Soci, Paul K. L. Yu, Deli Wang, and Edward T. Yu, "Interface State Effects on the Transport Properties of InAs Nanowire Field Effect Transistors," 34th Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-34), Salt Lake City Marriot, Utah, 14-18 January 2007. PCSI-34 Young Scientist Award.
13. Bin Xiang, Pengwei Wang, Xingzheng Zhang, Shadi. A. Dayeh, David P. R. Aplin, Cesare Soci, Dapeng Yu, and Deli Wang, "Rational Synthesis of P-type ZnO Nanowire Arrays," MRS Spring Meeting, Moscone West, San Francisco, CA, 9-13 April, 2007.
14. Cesare Soci, Bin Xiang, Arthur Zhang, Jung Park, Shadi Dayeh, Xinyu Bao, YuHwa Lo, and Deli Wang, "Ultrahigh Sensitivity ZnO UV Detectors," MRS Spring Meeting, Moscone West, San Francisco, CA, 9-13 April, 2007.
15. Shadi A. Dayeh, Paul K. L. Yu, Edward T. Yu, and Deli Wang, "Field-, Diameter-, and Surface State-Dependent Transport Behavior in Semiconductor Nanowires," MRS Spring Meeting, Moscone West, San Francisco, CA, 9-13 April, 2007. Best Poster Award.
16. Shadi A. Dayeh, "Synthesis and Fabrication of Compound Semiconductor Nanowires and Devices for Novel Electronics," MRS Spring Meeting, Moscone West, San Francisco, CA, 9-13 April, 2007 (Award Session). MRS Graduate Student Award: Silver Medal.
17. Shadi A. Dayeh, Paul K. L. Yu, Edward T. Yu, and Deli Wang, "III-V Nanowire Growth Mechanism: VLS or VSS," Electronic Materials Conference, University of Notre Dame, Indiana, June 20-22nd, 2007.
18. Bin Xiang, Pengwei Wang, Xingzheng Zhang, Shadi. A. Dayeh, David P. R. Aplin, Cesare Soci, Dapeng Yu, and Deli Wang, "Rational Synthesis of P-type ZnO Nanowire Arrays," NSTI Nanotech 2007, Santa Clara Convention Center, Santa Clara, California, May 20-24, 2007.
19. Cesare Soci, Arthur Zhang, Bin Xiang, Shadi A. Dayeh, David P. R. Aplin, Xinyu Bao, Yu-Hwa Lo, and Deli Wang, "Ultrahigh sensitivity Nanowire Photodetectors," SPIE Optics and Photonics, San Diego Convention Center, San Diego, CA, 26-30 August 2007.
20. Cesare Soci, Arthur Zhang, Bin Xiang, Jung Park, Shadi A. Dayeh, Xinyu Bao, Yu-Hwa Lo, and Deli Wang, "Ultrahigh sensitivity Nanowire Photodetectors," NSTI Nanotech 2007, Santa Clara Convention Center, Santa Clara, California, May 20-24, 2007.
21. Shadi A. Dayeh, Edward T. Yu, and Deli Wang, "Optimal Control over the Vapor-Liquid-Solid Nanowire Morphology through Surface Kinetics," MRS Fall Meeting, Hynes Convention Center, Boston, MA, November 27-29, 2007.
22. Shadi A. Dayeh, Edward T. Yu, and Deli Wang, "Transport Properties of InAs Nanowires," MRS Fall Meeting, Hynes Convention Center, Boston, MA, November 27-29, 2007.
23. Shadi A. Dayeh, Edward T. Yu, and Deli Wang, "Mechanistic Studies and Precise Control of III-V Nanowire Growth," 35th Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-35), La Fonda Hotel, Santa Fe, New Mexico, January 13-17, 2008.
24. Shadi A. Dayeh, Sarah Eichfeld, Yi Jing, Peng Chen, Edward T. Yu, Deli Wang, Joan M. Redwing, and S. S. Lau, "Vertically-Aligned Si Nanowires on Silicon on Insulator," MRS Spring Meeting, Moscone West, San Francisco, CA, 9-13 April, 2008.

25. Shadi A. Dayeh, Yi Jing, Peng Chen, Edward T. Yu, Deli Wang, and S. S. Lau, "Integration of Vertical and Electrically-Isolated III-V Nanowires on Insulator on Silicon," MRS Spring Meeting, Moscone West, San Francisco, CA, 24-28 March, 2008.
26. Shadi A. Dayeh, Darija Susac, Karen L. Kavanagh, Edward T. Yu, and Deli Wang, "Structural and Electrical Properties of Zincblende and Wurtzite InAs Nanowires," Electronic Materials Conference, University of California-Santa Barbara, Santa Barbara, CA 25-27 June, 2008.
27. Jeremy J. M. Law, Shadi A. Dayeh, Deli Wang, and Edward T. Yu, "Scanning Capacitance Characterization of Potential Screening in InAs Nanowires," Electronic Materials Conference, University of California-Santa Barbara, Santa Barbara, CA 25-27 June, 2008.
28. Shadi A. Dayeh, Yi Jing, Peng Chen, Edward T. Yu, Deli Wang, and S. S. Lau, "Integration of Vertical and Electrically-Isolated III-V Nanowires on Insulator on Silicon," Advanced Substrates and Next Generation Semiconductors Workshop, The Conference Center at the Maritime Institute, Baltimore, Maryland, April 30- May 1, 2008. Winner Student Paper Competition.
29. Shadi A. Dayeh, Darija Susac, Peng Chen, Yi Jing, Karen L. Kavanagh, S. S. Lau, Edward T. Yu, and Deli Wang, "Optimal Control over the InAs Nanowire Growth for System Integration and their Structural and Transport Properties," 8th IEEE Conference on Nanotechnology, Arlington Convention Center, Arlington, Texas, Aug. 18 – 21, 2008. Finalist for best paper award.
30. Jeremy J. M. Law, Shadi A. Dayeh, Deli Wang, and Edward T. Yu, "Scanning capacitance characterization of Potential Screening in InAs Nanowires," 8th IEEE Conference on Nanotechnology, Arlington Convention Center, Arlington, Texas, Aug. 18 – 21, 2008.
31. Cesare Soci, Arthur Zhang, Bin Xiang, Shadi Dayeh, David Aplin, Xinyu Bao, Yu-Hwa Lo, and Deli Wang, "Ultrahigh Sensitivity UV Photodetectors," Electronic Materials Conference, University of California-Santa Barbara, Santa Barbara, CA, 25-27 June, 2008.
32. Xinyu Bao, Cesare Soci, Darija Susac, John Bratvold, David P. R. Aplin, Wei Wei, C.-Y. Chen, Shadi A. Dayeh, Karen L. Kavanagh, and Deli Wang, "Heteroepitaxial Growth of Vertical GaAs Nanowires on Si(111) Substrates by Metal Organic Chemical Vapor Deposition," MRS Fall Meeting, Hynes Convention Center, Boston, MA, December 1-5, 2008.
33. S. T. Picraux, Pradeep Manandhar, and Shadi A. Dayeh, "Si/Ge Nanowires: Vertical Synthesis and Integration," Invited, MRS Spring Meeting, Moscone West, San Francisco, CA, April 13 – 17, 2009.
34. S. T. Picraux, Pradeep Manandhar, and Shadi A. Dayeh, "Synthesis, Properties, and Integration of Si/Ge Nanowire Electronics," Invited, Nano and Giga Challenges in Electronics, Photonics, and Renewable Energy, Hamilton, Ontario, Canada, Aug. 10 – 14, 2009.
35. Shadi A. Dayeh, Cesare Soci, Xinyu Bao, Wei Wei, David Aplin, and Deli Wang, "Rational Synthesis of III-N Nanowires Using MOCVD," The 36th International Symposium on Compound Semiconductors, UC Santa Barbara, Aug. 30 – Sept. 2, 2009.
36. Son T. Le, Shadi A. Dayeh, S. T. Picraux, and Alexander Zaslavsky, "Growth and Transport Properties of axial p-n Junction Germanium Nanowires," The Second International Workshop on Nanotechnology and Application – IWNA 2009, Vietnam National University, HoChiMinh City, Vietnam, Nov. 12 – 14, 2009.
37. Shadi A. Dayeh, Eli Sutter, and S. T. Picraux, "Direct Observation and Analysis in the Gibbs-Thomson Effect in Germanium Nanowires," 37th Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-37), La Fonda Hotel, Santa Fe, New Mexico, January 10-14, 2010.
38. Shadi A. Dayeh, Ian H. Campbell, Jianyu Huang, Aaron Gin, and S. T. Picraux, "Uniqueness of the Vapor-Liquid-Solid Mechanism for Novel Axial and Radial Ge/Si Heterostructure Materials and Devices," 37th Conference on the Physics And Chemistry Of Semiconductor Interfaces (PCSI-37), La Fonda Hotel, Santa Fe, New Mexico, January 10-14, 2010.
39. Praveen K. Sekhar, Shadi A. Dayeh, Katherine L. Page, David Kuiper, Amanda Klingensmith, Sridhar Balasubramanian, and Mary Anne With, "Combinatorial Strategies Adopted by Los Alamos Postdoc Association (LAPA) for Personal and Professional Growth of Postdocs," 8th National Postdoc Association Meeting, U Penn, Philadelphia, Pennsylvania, March 12 – 14, 2010. This poster

- led to the third place of the Best Poster Award Competition at the NPA meeting. Dayeh developed poster and co-presented it with Sekhar.
40. Shadi A. Dayeh, Eli Sutter, and S. T. Picraux, "Direct Observation and Analysis in the Gibbs-Thomson Effect in Germanium Nanowires," MRS Spring Meeting, Moscone West, San Francisco, CA, April 5 – 9, 2010.
 41. Shadi A. Dayeh, Jianyu Huang, Aaron Gin, and S. T. Picraux, "Unique Axial Ge/Si Heterostructure Nanowire Materials and Devices," MRS Spring Meeting, Moscone West, San Francisco, CA, April 5 – 9, 2010.
 42. Son T. Le, Shadi A. Dayeh, S. T. Picraux, and Alexander Zaslavsky, "Electrical rectification in axial in-situ doped Ge nanowire pn junctions," APS March Meeting 2010, Portland, Oregon, March 15 – 19, 2010.
 43. Shadi A. Dayeh, Ian H. Campbell, Jianyu Huang, Aaron Gin, and S. T. Picraux, "Elimination of Au Diffusion in Ge-based Core/Shell Nanowires for High Performance Photodetectors and FETs," MRS Spring Meeting, Moscone West, San Francisco, CA, April 5 – 10, 2010.
 44. E. Sutter, S. A. Dayeh, S. T. Picraux, and P. Sutter, "Size Dependent Phase Diagram of Nanoscale Alloy Drops: Understanding Nanowire Growth at the Ultimate Size Limit," E-MRS, Strasbourg, France, June 7 – 11, 2010.
 45. Shadi A. Dayeh, Jian Yu Huang, Aaron V. Gin, and S. T. Picraux, "Elimination of Gold Diffusion in the Heterostructure Core/Shell growth of High Performance Ge/Si Nanowire HFETs," IEEE NANO'10 Aug. 17-20, 2010.
 46. Shadi A. Dayeh, Jian Yu Huang, Aaron V. Gin, and S. T. Picraux, "Synthesis, Fabrication, and Characterization of Ge/Si Axial Nanowire Heterostructure Tunnel FETs," IEEE NANO'10, Aug. 17-20, 2010.
 47. Shadi A. Dayeh, Greg Swadener, and S. T. Picraux, "Synthesis and Properties of Ge and Ge/Si Heterostructured Nanowires," Invited, 2010 International Symposium on Materials for Enabling Nanodevices, California Nano-Systems Institute at UCLA, Sept. 8-10, 2010.
 48. Shadi A. Dayeh and S. T. Picraux, "Ge/Si Core/Multi-shell Heterostructure FETs," 218th ECS Meeting, Las Vegas, Nevada, Oct. 10-15, 2010.
 49. Shadi A. Dayeh and S. T. Picraux, "Axial Ge/Si Nanowire Heterostructure Tunnel FETs," 218th ECS Meeting, Oct. 10-15, Las Vegas, Nevada, 2010.
 50. Shadi A. Dayeh, Jianyu Huang, Aaron Gin, and S. T. Picraux, "Axial Ge/Si Nanowire Heterostructures: Synthesis and Asymmetric Band-gap Engineered Tunnel FETs," AVS International Symposium, Albuquerque, NM, Oct. 17-22, 2010.
 51. Shadi A. Dayeh and S. T. Picraux, "Size effects in the synthesis of Ge and Ge/Si nanowire heterostructures," AVS International Symposium, Albuquerque, NM, Oct. 17-22, 2010.
 52. Aditya D. Mohite, Shadi A. Dayeh, Wei Tang, Gregory J. Swadener, S. T. Picraux, and Han Htoon, "Direct Measurement of Strain in Germanium-Silicon Core-Shell Nanowires," MRS Fall Meeting, Boston, Massachusetts, Nov. 29 – Dec. 2, 2010.
 53. Aaron V. Gin, Shadi A. Dayeh, S. Tom Picraux, Nikolai Kalugin, Stephen Howell, Dan Ward, Doug Naterlson, and Igal Brener, "Nanofabrication of Graphene, Semiconductor Nanowire, and Plasmonic Devices at the Center for Integrated Nanotechnologies," 2010 Workshop on Innovative Devices and Systems (WINDS), Hapuna Beach Prince Hotel, Kohala Coast, Big Island of Hawai'i, Dec. 5-10, 2010.
 54. MinAh Seo, Shadi A. Dayeh, Prashanth Upadhyaya, Julio Martinez, Brian S. Swartzentruber, S. T. Picraux, Antoinette J. Taylor, and Rohit P. Prasankumar, "Polarization dependence of ultrafast dynamics in single Si nanowires," APS March Meeting, Dallas, TX, March 21-25, 2011.
 55. Aditya D. Mohite, Daniel E. Perea, Sanjeev Singh, Shadi A. Dayeh, Samuel T. Picraux, and Han Htoon, "Measurement of Minority Carrier Diffusion Lengths in VLS-grown p-n Junction Silicon Nanowires," MRS Spring Meeting, San Francisco, CA, April 25 – 29, 2011.

56. Minah Seo, Shadi A Dayeh, Prashanth Upadhya, S. T. Picraux, Julio Martinez, Brian Swartzentruber, Antoinette Taylor, and Rohit Prasankumar, "Polarization anisotropy of transient carrier dynamics in single Si Nanowires," CLEO, Baltimore, MA, May 1-6, 2011.
57. Wei Tang, Shadi Dayeh, Tom Picraux, and King-Ning Tu, "Silicide/Silicon/Silicide Heterostructures with Ultra-Thin Silicon Gap and Realization of FET Device," Electronic Materials Conference, UCSB, Santa Barbara, CA, June 22-24, 2011.
58. Xing Dai, Vaithianathan Veeramuthu, Alexander Larrue, Shadi A. Dayeh, Haibin Su, and Cesare Soci, "Y-Junction GaAs nanowires by a Novel VLS Growth Mechanism," International Conference on Materials for Advanced Technologies (ICMAT), June 26 – July 1, 2011.
59. Shadi A. Dayeh, Jian Wang, Wei Tang, Karen L. Kavanagh, and S. T. Picraux, "Two Coherent Limits in Core/Shell Semiconductor Nanowires," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
60. Xiaohua Liu, Li Qiang Zhang, Li Zhong, Yang Liu, He Zheng, Jiang Wei Wang, Jeong-Hyun Cho, Shadi A. Dayeh, Tom Picraux, John P. Sullivan, Scott X. Mao, and Jian Yu Huang, "Ultrafast Electrochemical Lithiation of Individual Si Nanowire Anodes," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
61. Jinkyong Yoo, Shadi A. Dayeh, S. T. Picraux, and Ian H. Campbell, "Single Crystalline Radial P-N Junction Si Nanopillars for Photovoltaic Applications," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
62. Wei Tang, Shadi Dayeh, Tom Picraux, and King-Ning Tu, "Silicide/Silicon/Silicide Nanowire Heterostructures and FET Devices with Ultra-Short Channel Length," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
63. Shadi A. Dayeh, Jian Wang, Nan Li, Jian-Yu Hwang, and S. Tom Picraux, "Atomic Level Understanding of Defect Nucleation and Kinking Using Semiconductor Heterostructure Nanowires," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
64. Xing Dai, Shadi A. Dayeh, Nan Meng, Alexandre Larrue, Haibin Su, and Cesare Soci, "Self Assembled GaAs Nanowire Junctions," MRS Fall Meeting, Boston, Massachusetts, Nov. 28 – Dec. 2, 2011.
65. Xing Dai, Shadi A. Dayeh, Nan Meng, Alexandre Larrue, Haibin Su, and Cesare Soci, "Self Assembly and Electrical Properties of GaAs Nanowire Junctions," Intitute of Physics Singapore (IPS) Meeting, Singapore, Feb. 23 – 24, 2012.
66. M. A. Seo, J. Yoo, D. E. Perea, S. A. Dayeh, S. T. Picraux, A. J. Taylor, and R. P. Prasankumar, "Tracking Ultrafast Carrier Dynamics in Single Semiconductor Nanowire Heterostructures," XVIIIth International Conference on Ultrafast Phenomena, Lausanne, Switzerland, 8 - 13 July 2012.
67. Wei Tang, Shadi Dayeh, Tom Picraux, Xiaohua Liu, Jianyu Huang, and King-Ning Tu, "Gold Catalyzed Ni Disilicide Formation in Si Nanowires: A New Solid-Liquid-Solid (SLS) Phase Growth Mechanism," MRS Spring Meeting, San Francisco, CA, April 9 – 13, 2012.
68. Jinkyong Yoo, Shadi A. Dayeh, Wei Tang, Ian H. Campbell, S. T. Picraux, Paul Schuele, and David Evans, "Tailoring Radial Si Nanowire Growth for Single Crystal Photovoltaic Arrays," MRS Spring Meeting, San Francisco, CA, April 9 – 13, 2012.
69. Son T. Le, Danuel Perea, Pooya Jannaty, Aditya Mohite, Shadi Dayeh, Alexander Zaslavsky, and S. Tom Picraux, "Axial Si/Ge Hetero-nanowire for Tunneling Transistors and Photovoltaics," MRS Spring Meeting, San Francisco, CA, April 9 – 13, 2012.
70. Daniel E. Perea, Jinkyong Yoo, Shadi A. Dayeh, Daniel K. Shreiber, S. T. Picraux, and Theva Thevuthasan, "Controlling axial p-n heterojunction abruptness through catalyst allowing in vapor-liquid-solid- grown semiconductor nanowires," MSA Microscopy and Microanalysis, Phoenix, AZ, July 29 – August 2, 2012.
71. Yoontae Hwang and Shadi A. Dayeh, "An All-solid Nickel Silicide Wafer Bonding with Wide Thermal Budget," Electronic Materials Conference, Penn. State Univ., June 20 – 22, 2012.

72. Son T. Le, D. Perea, P. Jannaty, Xu Lou, S. A. Dayeh, A. Zaslavsky, and S. T. Picraux, "Axial Si/Ge hetero-nanowires for gate-all-around tunneling transistors," Lester Eastman Conference on High Performance Devices, Brown University, RI, Aug. 7-9, 2012.
73. Son T. Le, Pei Liu, D. Perea, Aditya Mohite, P. Jannaty, J. Faucher, Xu Luo, S. A. Dayeh, D. Pacifici, A. Zaslavsky, and S. T. Picraux, "Axial Si/Ge heteronanowires for photovoltaic applications," Lester Eastman Conference on High Performance Devices, Brown University, RI, Aug. 7-9, 2012.
74. Yoontae Hwang, Jennifer Schei, S. Tom Picraux, John S. George, and Shadi A. Dayeh, "High-density electrically isolated capacitive pillar arrays for high fidelity neural sensors," Neuroscience Meeting, Novel Electrophysiological Methods II, New Orleans, LA, Oct. 13-17, 2012.
75. Son T. Le, Binh-Minh Nguyen, Danny Perea, Aditya Mohite, Pooya Jannaty, Xu Luo, Pei Liu, Joseph Faucher, Shadi A. Dayeh, Domenico Pacifici, Alexander Zaslavsky, and Tom Picraux, "Design, Fabrication and Characterization of Axial Si/Ge Heteronanowires for Optoelectronics and Photovoltaic Applications," MRS Fall meeting, Hynes Convention Center, Boston, MA, Nov. 25- 30, 2012.
76. Andrew D. Gamalski, Daniel E. Perea, Jinkyong Yoo, Shadi A. Dayeh, Nan Li, Caterina Ducati, Amit Misra, S. Thomas Picraux, and Stephan Hofmann, "The Kinetics of Ge-Si Heterostructure Nanowire Synthesis with AuGa Catalysts," MRS Fall meeting, Hynes Convention Center, Boston, MA, Nov. 25- 30, 2012.
77. Jinkyong Yoo, Binh Minh Nguyen, Shadi Dayeh, Aditya Mohite, Tom Picraux, Paul Schuele, and David Evans, "Design Rules for High-performance Photovoltaic Applications Based on Si Radial p-i-n Junction Nanowire Arrays," MRS Fall meeting, Hynes Convention Center, Boston, MA, Nov. 25-30, 2012.
78. Yoontae Hwang, Jennifer L. Schei, John S. George, Tom Picraux, and Shadi A. Dayeh, "High-density Capacitive Pillar Arrays for High Fidelity Neural Sensors," MRS Fall meeting, Hynes Convention Center, Boston, MA, Nov. 25- 30, 2012.
79. Yang Liu, Xiao Hua Liu, Shadi A. Dayeh, John P. Sullivan, and Jian Yu Huang, "Controlling the Lithiation Behavior of Ge Nanowires via Surface Modifications: An in-situ Transmission Electron Microscopy Study," MRS Fall meeting, Hynes Convention Center, Boston, MA, Nov. 25- 30, 2012.
80. Xiaohua Liu, He Zhang, Li Zhong, Shan Huang, Khim Karki, Li Q. Zhang, Yang Liu, Akihiro Kushima, Wen T. Liang, Jiang W. Wang, Jeong H. Cho, Eric Epstein, and S. A. Dayeh et al., "Anisotropic Swelling of Si Nanowires and Size Dependent Fracture of Si Nanoparticles During Lithiation," 2012 TMS Annual Meeting & Exhibition, Orlando, FL, March 11-15, 2012.
81. Xing Dai, Binh-Minh Nguyen, Yoontae Hwang, Cesare Soci, and Shadi A. Dayeh, "A Novel Approach for High Performance InAs FinFETs on Silicon," The Physics and Chemistry of Semiconductor Surfaces and Interfaces (PCSI-40), Waikoloa, Hawaii, Jan. 20 – 24, 2013.
82. Shixiong Zhang, Shadi Dayeh, Yan Li, Scott A. Crooker, Darryl L. Smith, and S. Tom Picraux, "Electrical Spin Injection and Detection in Si Nanowires," APS March Meeting, March 18 - 22, 2013.
83. Xing Dai, Binh-Minh Nguyen, Yoontae Hwang, Cesare Soci, and Shadi A. Dayeh, "A Novel Approach for High Performance InAs FINFETs on Silicon," Institute of Physics Singapore (IPS) Meeting, March 4-6, 2013, Singapore.
84. Jinkyong Yoo, Shadi A. Dayeh, Wei Tang, Alp Findikoglu, and S. T. Picraux, "Novel Observation in Nanoscale Radial Epitaxial Growth," MRS Spring Meeting, San Francisco, CA, April 1-5, 2013.
85. Wei Tang, S. T. Picraux, Jianyu Huang, Andriy Gusak, King-Ning Tu, and Shadi A. Dayeh, "Imaging Silicide Nucleation and Atomic Step Flow at Defect-engineered Nanoscale Si Channels," MRS Spring Meeting, San Francisco, CA, April 1-5, 2013.
86. Binh-Minh Nguyen, Yang Liu, Wei Tang, and Shadi A. Dayeh, "Tailoring Si-Ge/Si Core/Shell Reaction Rates through in-situ Microscopy for Ultra-short Channel Nanowire Field Effect Transistors," MRS Spring Meeting, San Francisco, CA, April 1-5, 2013.

87. Son Le, Daniel Perea, Pooya Jannaty, Xu Luo, Shadi Dayeh, Alexander Zaslavsky, and Thomas Picraux, "Axial Si/Ge Hetero-nanowires for Tunneling Transistors," APS March Meeting, Baltimore, Maryland, March 18-22, 2013.
88. A. Zaslavsky, Jing Wan, Son T. Le, P. Jannaty, S. Cristoloveanu, C. Le Royer, D. E. Perea, S. A. Dayeh, and S. T. Picraux, "Sharp-Switching High Current Tunneling Devices," 223rd ECS Meeting, Toronto, Canada, May 12 – 16, 2013.
89. S. T. Picraux, J. Yoo, D. E. Perea, and S. A. Dayeh, "Si/Ge Nanowires: Nanoscale Growth, Heterostructuring, and Energy Conversion," Nanowires 2013, Weizmann Institute of Science, Israel, Nov. 12-15, 2013. **(Invited)**
90. Yang Liu, Xiaohua Liu, Katherine L. Jungjohann, Shadi A. Dayeh, Sulin Zhang, Ju Li, and Ting Zhu, "In-situ Lithiation Behavior of Diverse Si Nanostructures for Li Ion Battery," MRS Fall Meeting Hynes Convention Center, Boston, MA, Dec. 1- 6, 2013.
91. Jinkyong Yoo, Binh-Minh Nguyen, Shadi A. Dayeh, Tom Picraux, Paul Schuele, and David Evans, "High-Performance Crystalline Si Radial p-i-n Junction Nanowire Photovoltaic Applications," MRS Fall Meeting, Hynes Convention Center, Boston, MA, Dec. 1- 6, 2013.
92. Binh-Minh Nguyen and Shadi A. Dayeh, "Single Crystalline Si/Ge/Si Core-Multiple Shell Nanowires for Advanced Cylindrical Well Field Effect Transistors," MRS Fall Meeting, Hynes Convention Center, Boston, MA, Dec. 1- 6, 2013.
93. Jinkyong Yoo, Shadi A. Dayeh, Wei Tang, and Tom Picraux, "Universal Growth Mechanism of Si Nanoscale Three-Dimensional Epitaxy," MRS Fall Meeting, Hynes Convention Center, Boston, MA, Dec. 1- 6, 2013.
94. Minah Seo, Jinkyong Yoo, Shadi A. Dayeh, Samuel T. Picraux, Antoinette J. Taylor, and Rohit Prasankumar, "Ultrafast Optical Microscopy on Single Semiconductor Nanowires," SPIE Photonics West, San Francisco, CA, February 2 – 5, 2014. **(Invited)**
95. Wei Tang, Tom Picraux, Xiaohua Liu, King-Ning Tu, and Shadi Dayeh, "Phase Stability, Phase Transformations, and Reactive Phase Formation in Electronic Materials," 2014 TMS Annual Meeting & Exhibition, San Diego, CA, Feb. 16 – 20, 2014.
96. D. K. Patil, Z. Su, B. Tian, M. Nguyen, J. Yoo, S. A. Dayeh, and S. Frolov, "Quasiballistic Hole Transport in Ge/Si Core/Shell Nanowires," American Physical Society March Meeting, Denver, Colorado, March 3-7, 2014.
97. Jinkyong Yoo, Daniel E. Perea, Shadi A. Dayeh, Paul Schuele, David Evans, and S. T. Picraux, "Si Radial p-i-n Junction Nanowires on Stainless Steel Substrate for Photovoltaic Applications," MRS Spring Meeting, San Francisco, CA, April 21 – 25, 2014.
98. Yang Liu, Xiao Hua Liu, Binh-Minh Nguyen, Jinkyong Yoo, John P. Sullivan, S. Tom Picraux, and Shadi A. Dayeh, "Lithium Ion Transport in Si-Ge Heterostructures: An in-situ TEM study in nano-ionics," MRS Spring Meeting, San Francisco, CA, April 21 – 25, 2014.
99. Shadi A. Dayeh, Wei Tang, and Binh-Minh Nguyen, "Heterogeneous Reactions and Interfaces at Nanoscale Dimensions," Nanotech Advanced Materials and Applications, Washington, DC, June 15-18, 2014.
100. Renjie Chen and Shadi A. Dayeh, "Kinetics of Nickelide Contact Formation to InGaAs Fin Channels," Electronic Materials Conference, Santa Barbara, CA, June 25-27, 2014.
101. Yang Liu, Xiao Hua Liu, Binh-Minh Nguyen, Jinkyong Yoo, John P. Sullivan, S. T. Picraux, and Shadi A. Dayeh, "In-situ Transmission Electron Microscopy (TEM) Study on the Lithium Ion Transport in Si-Ge Heterostructures," Microscopy and Microanalysis, Hartford, CT, Aug. 3-7, 2014.
102. Jinkyong Yoo, Shadi A. Dayeh, Norman Bartelt, and S. T. Picraux, "Silicon Epitaxy in Nanoscale for Photovoltaic Applications," SPIE Meeting, San Diego, CA, Aug. 19-21, 2014. **(Invited)**
103. Wei Tang, S. Tom Picraux, Andriy M Gusak, King-Ning Tu, and Shadi A. Dayeh, "Dynamical Imaging of Nickel Disilicide Nucleation and Step Flow Propagation in Defect-Engineered Si Nanowire," 226th Electrochemical Society Meeting, Cancun, Mexico, Oct. 5-10, 2014.

104. Wei Tang, S. Tom Picraux, Xiaohua Liu, King-Ning Tu, and Shadi A. Dayeh, "In Situ TEM Study on Au Mediated Growth of NiSi₂ in Si Nanowire: A Vapor-Liquid-Solid Analogy," 226th Electrochemical Society Meeting, Cancun, Mexico, Oct. 5-10, 2014.
105. Wei Tang, Shadi A. Dayeh, S. T. Picraux, and K. N. Tu, "Ultrashort Channel Silicon Nanowire Transistors with Nickel Silicide Source/Drain Contacts," 226th Electrochemical Society Meeting, Cancun, Mexico, Oct. 5-10, 2014.
106. Jinkyong Yoo, Shadi A. Dayeh, Norman Bartelt, and S. T. Picraux, "Radial Epitaxy of Silicon for Optoelectronic Applications," 226th Electrochemical Society Meeting, Cancun, Mexico, Oct. 5-10, 2014. **(Invited)**
107. Renjie Chen and Shadi A. Dayeh, "Kinetics and Structure of Nickelide Contact Formation to InGaAs Fin Channels," 226th Electrochemical Society Meeting, Cancun, Mexico, Oct. 5-10, 2014.
108. Jinkyong Yoo, Binh-Minh Nguyen, Ian H. Campbell, Shadi A. Dayeh, Paul Schuele, David Evans, and S. T. Picraux, "Epitaxial Control of the Morphology Si Radial p-i-n Junction Nanowires for Enhanced Quantum Efficiency," MRS Fall Meeting, Boston, MA, Nov. 30 – Dec. 5th, 2014.
109. Minah Seo, Jinkyong Yoo, Shadi A. Dayeh, Samuel Tom Picraux, Antoinette J. Taylor, and Rohit P. Prasankumar, "Tracking Carriers Through Space and Time in Single Silicon Nanowires Using Ultrafast Optical Microscopy," MRS Fall Meeting, Boston, MA, Nov. 30 – Dec. 5th, 2014.
110. A. Zarassi, Z. Su, D. K. Patil, S. M. Frolov, M. Hocevar, M. Nguyen, J. Yoo, and S. A. Dayeh, "Transport Through Double Quantum Dots in Ge/Si core/shell Nanowires," American Physical Society March Meeting, San Antonio, Texas, March 2 – 6, 2015.
111. Zhaoen Su, Azarin Zarassi, Dharamraj Patil, Sergey Frolov, Moira Hocevar, Minh Nguyen, Jinkyong Yoo, and Shadi A. Dayeh, "Superconducting Contacts to Ge/Si Core/Shell Nanowires," American Physical Society March Meeting, San Antonio, Texas, March 2 – 6, 2015.
112. Renjie Chen and Shadi A. Dayeh, "Kinetics and Structure of Nickelide Contact Formation to InGaAs Fin Channels," MRS Spring Meeting, April 6 – 10, 2015.
113. Renjie Chen, Ren Liu, Sang-Heon Lee, John Scott, Yimin Zou, and Shadi A. Dayeh, "High Density Intra-Cellular 3D Neuronal Probes," Tech Connect World, Washington, DC, June 14-17, 2015.
114. Namseok Park, Yun Goo Ro, Siarhei Vishniako, and Shadi A. Dayeh, "Monolithic Integration of Self Powered Wearable Electronics," Tech Connect World, Washington, DC, June 14-17, 2015.
115. Sang Heon Lee, Farid Azzazy, and Shadi A. Dayeh, "Novel 3D Minimal Tissue-Penetrating Probes on Conformal Flexible Substrates for In-Vivo Brain Mapping," Tech Connect World, Washington, DC, June 14-17, 2015.
116. Siarhei Vishniakou, Deli Wang, and Shadi A. Dayeh, "Transparent, Scalable, and Flexible Piezoelectric Pressure Sensors," Tech Connect World, Washington, DC, June 14-17, 2015.
117. Renjie Chen, Ren Liu, Sang Heon Lee, John Scott, Yimin Zou, and Shadi A. Dayeh, "High Density Intra-Cellular 3D Neuronal Probes," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
118. Sang Heon Lee, Farid Azzazy, and Shadi A. Dayeh, "Novel 3D Minimal Tissue-Penetrating Probes on Conformal Flexible Substrates for In-Vivo Brain Mapping," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
119. Yun Goo Ro, Namseok Park, Siarhei Vishniakou, and Shadi A. Dayeh, "Monolithic Integration of Self Powered Wearable Electronics," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
120. Yun Goo Ro, Renjie Chen, and Shadi A. Dayeh, "Surface Passivation Studies on Vertical Junction Silicon Microwire Solar Cells," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
121. Renjie Chen and Shadi A. Dayeh, "Size and Orientation Effects on the Kinetics and Structure of Nickelide Contacts to InGaAs Fin Channels," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.

122. Supanee Sukritnnon, Charles W. Tu, and Shadi A. Dayeh, "Fabrication and Performance of Dilute Nitride GaP/GaN Core/Shell Nanopillar-Based Solar Cells," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
123. Atsunori Tanaka and Shadi A. Dayeh, "Size Effects on the Selective Area Growth of GaN on Sapphire," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
124. Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Beyond 10 μ m Thick Crack-Free GaN Growth on Si for High Power Device Applications," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
125. Siarhei Vishniakou, Namseok Park, Phat Phan, Jacob Stanley, James Wingert, Deli Wang, and Shadi A. Dayeh, "Transparent, Scalable, and Flexible Piezoelectric Pressure Sensors," 57th Electronics Materials Conference, Columbus, Ohio, June 24-26, 2015.
126. Yun Goo Ro, Renjie Chen, and Shadi A. Dayeh, "Surface Passivation Studies on Vertical Junction Silicon Microwire Solar Cells," Solid State Devices and Materials Conference, Hokkaido, Japan, Sept. 19, 2015.
127. Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Beyond 10 μ m Thick Crack-Free GaN Growth on Si for High Power Device Applications," Solid State Devices and Materials Conference, Hokkaido, Japan, Sept. 19, 2015.
128. Yun Goo Ro, Renjie Chen, Namseok Park, Ahmed Youssef, Siarhei Vishniakou, and Shadi A. Dayeh, "Flexible Nanowire Solar Cells for Wearable Electronics," MRS Fall Meeting, Boston, Massachusetts, Nov. 29 – Dec. 4, 2015.
129. Sang Heon Lee, Farid Azzazy, and Shadi A. Dayeh, "Novel 3D Tissue-Penetrating Probes on Conformal Flexible Substrates for In-Vivo Brain Mapping," MRS Fall Meeting, Boston, Massachusetts, Nov. 29 – Dec. 4, 2015.

130. Supanee Sukrittanon, Ren Liu, Yun Goo Ro, Janet L. Pan, Shadi A. Dayeh, and Charles W. Tu, "Dilute Nitride GaNP Wide Bandgap Solar Cells," 31st North American Molecular Beam Epitaxy Conference, Mayan Riviera, Mexico, Oct. 4-7, 2015.
131. Ahmed T. E. Youssef, Renjie Chen, Ren Liu, Sang Heon Lee, Massoud L. Khraiche, Yoontae Hwang, Yun Goo Ro, Atsunori Tanaka, Keisuke Matsushita, Sandy Hinckley, Anne Bang, and Shadi A. Dayeh, "Probing Human Pluripotent Stem Cell Neurons: Electrical Modeling and Physiological Measurement," 43rd Conference on the Physics and Chemistry of Surfaces and Interfaces, Rancho Mirage, Palm Springs, California, Jan. 17 – 21, 2016.
132. Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Strain Engineering for Beyond 10 μ m Thick Crack-Free GaN Growth on Si for High Power Device Applications," 43rd Conference on the Physics and Chemistry of Surfaces and Interfaces, Rancho Mirage, Palm Springs, California, Jan. 17 – 21, 2016.
133. Renjie Chen, and Shadi A. Dayeh, "Ex-situ and In-situ TEM Studies of Ni-InGaAs Reaction in InGaAs Fins," 43rd Conference on the Physics and Chemistry of Surfaces and Interfaces, Rancho Mirage, Palm Springs, California, Jan. 17 – 21, 2016.
134. Yun Goo Ro, Renjie Chen, Ahmed T. E. Youssef, Namseok Park, Ren Liu, and Shadi A. Dayeh, "Mechanistic Studies for the Development of Thin Si Microwire Solar Cells for Wearable Electronics," 43rd Conference on the Physics and Chemistry of Surfaces and Interfaces, Rancho Mirage, Palm Springs, California, Jan. 17 – 21, 2016.
135. A. Tanaka, R. Chen, and Shadi A. Dayeh, "Beyond 10 μ m Thick Crack-Free GaN Growth on Si for High Power Device Applications," 2016 Lawrence Symposium on Epitaxy, McCormick Scottsdale, Scottsdale, Arizona, Feb. 24, 2016.
136. Azarin Zarassi, Zhaoen Su, Jens Schwenderling, Sergey M. Frolov, Moira Hovevar, Binh-Minh Nguyen, Jinkyong Yoo, and Shadi A. Dayeh, "Charge Instability in Double Quantum Dots in Ge/Si Core/Shell Nanowires," American Physical Society March Meeting 2016, Baltimore Maryland, Mar. 14 – 18, 2016.

137. Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Strian Engineering for over 10 μm Thick Crak-Free GaN Growth on Si for High Power Applications," 58th Electronic Materials Conference, Newark, Delaware, Jun. 22 – 24, 2016.
138. Mehran Ganji, Atsunori Tanaka, and Shadi A. Dayeh, "Sterilization Effects on PEDOT-PSS Microarrays on Parylene C for In Vivo Clinical Applications," 58th Electronic Materials Conference, Newark, Delaware, Jun. 22 – 24, 2016.
139. Ahmed T. E. Youssef, Yun Goo Roo, Namseok Park, Cooper Levy, James F. Buckwalter, and Shadi A. Dayeh, "Compact High-Performance Integrated Wearable Electronics with Energy Harvesting," 58th Electronic Materials Conference, Newark, Delaware, Jun. 22 – 24, 2016.
140. Supanee Sukrittanon, Ren Liu, Janet L. Pan, Katherine L. Jungjohann, Shadi A. Dayeh, and Charles W. Tu, "Dilute-Nitride GaNP Planar and Core/Shell Microwire Solar Cells," The 43rd International Symposium on Compound Semiconductors (ISCS), Toyama International Conference Center, Toyama, Japan, Jun. 26 – 30, 2016.
141. Rui La, Ren Liu, Weichuan Yao, Janet Pan, Shadi A. Dayeh, Jie Xiang, and Charles W. Tu, "Self-Catalyzed Core-Shell GaAs/GaNAs Nanowires Grown on Patterned Si (111) by Gas Source Molecular Beam Epitaxy," 32nd North American Molecular Beam Eptiaxy Conference, Saratoga Springs, New York, Sep. 18 – 21, 2016.
142. Nicholas Rogers, John Hermiz, Erik Kaestner, Mehran Ganji, Robert S. Barter, Shadi A. Dayeh, Eric Halgren, and Vikash Gilja, "Spatial Correlation in a 400 micron pitch electrocorticography grid," Society for Neuroscience Meeting, San Diego, California, Nov. 12 – 16, 2016.
143. John Hermiz, Nicholas Rogers, Erik Kaestner, Mehran Ganji, Robert Carter, Sydney Cash, David Barba, Shadi A Dayeh, Eric Halgren, and Vikash Gilja, "Assessing Very High Density Intraoperative ECoG Grids Using a 7x8 Grid with 400 um pitch," Society for Neuroscience Meeting, San Diego, California, Nov. 12 – 16, 2016.
144. Eric Kaestner, John Hermiz, Nicholas Rogers, Mehran Ganji, Robert S. Carter, Syndey Cash, David Barbara, Shadi A. Dayeh, Vikash Gilja, and Eric Halgren, "Cognitive Responses Recorded During Neurosurgery Using Microarray PEDOT:PSS Electrodes," Society for Neuroscience Meeting, San Diego, California, Nov. 12 – 16, 2016.
145. Ren Liu, Renjie Chen, Ahmed T. E. Youssef, Sang Heon Lee, Sandy Hinckley, Massoud L. Khraiche, John Scott, Yoontae Hwang, Atsunori Tanaka, Yun Goo Ro, Albert K. Matrushita, Xing Dai, Cesare Soci, Steven Biesmans, Anthony James, John Nogan, Katherine L. Jungjohan, Douglas V. Pete, Dennise B. Webb, Yimin Zou, Anne Bang, and S. A. Dayeh, "High Density Individually Addressable Nanowire Arryas Record Intracellular Neuronal Potentials," Society for Neuroscience Meeting, San Diego, California, Nov. 12 – 16, 2016.
146. Sang Heon Lee, Farid Azzazy, Mehran Ganji, Massoud L. Khraiche, John Hermiz, Nicholas Rogers, Ahmed Youssef, Vikash Gilja, and Shadi A. Dayeh, "Novel 3D Minimal Tissue-Penetrating Probes on Conformal Flexible Substrates for in-vivo Brain Mapping," Society for Neuroscience Meeting, San Diego, California, Nov. 12 – 16, 2016.
147. Keundong Lee, Mehran Ganji, Lorraine Hossain, Yun Goo Ro, Sang Heon Lee, Jong-woo Park, Dongha Yoo, Jiyoun Yoon, Gyu-Chul Yi, Shadi A Dayeh, "Flexible Inorganic Light Emitting Diodes and Transparent PEDOT:PSS/Parylene C for Simultaneous Optogenetics and Electrocorticography", SPIE BiOS 2017, San Francisco, California, Jan. 28 – Feb. 2, 2017.
148. Renjie Chen, Katherine L. Jungjohann, William M. Mook, John Nogan, and Shadi A. Dayeh, "Direct Observation of Alloyed Contact Formation in Nanowire Cross-Section," International Conference on Frontiers of Characterization and Metrology for Nanoelectronics, Monterey Marriot, Monterey, California, Mar. 21 – 23, 2017.
149. Renjie Chen and Shadi A. Dayeh, "In-situ TEM Observation of Nickelide Contact Formation in InGaAs Nanowire Channels," International Conference on Frontiers of Characterization and Metrology for Nanoelectronics, Monterey Marriot, Monterey, California, Mar. 21 – 23, 2017. **(NEW)**

150. Woojin Choi, Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Vertical 19 μm Thick GaN Trench Gate MISFETs," 59th Electronics Materials Conference, University of Notre Dame, South Bend, Indiana, Jun. 28 – 30, 2017.
151. Lorraine A. Hossain, Ezequiel Arneodo, Nicholas Rogers, Mehran Ganji, John Hermiz, Vikash Gilja, Timothy Gentner, and Shadi A. Dayeh, "Translation of PEDOT/Parylene C ECoG Microelectrode Arrays for Recording Auditory Cognitive Activity in Birds," 59th Electronics Materials Conference, University of Notre Dame, South Bend, Indiana, Jun. 28 – 30, 2017.
152. Mehran Ganji, Atsunori Tanaka, Ahmed Youssef, Vikash Gilja, Eric Halgren, and Shadi A. Dayeh, "Size Effects in Scaling Electroencephalography Arrays of PEDOT:PSS/Au, PEDOT:PSS/Pt, Au, and Pt," 59th Electronics Materials Conference, University of Notre Dame, South Bend, Indiana, Jun. 28 – 30, 2017.
153. Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh "Selective Area Growth and Characterization of Over 15 μm Thick Vertical GaN Diodes on Si," 59th Electronics Materials Conference, University of Notre Dame, South Bend, Indiana, Jun. 28 – 30, 2017.
154. Renjie Chen, Katherine L. Jungjohann, William M. Mook, John Nogan, and Shadi A. Dayeh, "Dynamics of Contact Formation in the Cross-Section and Along InGaAs Nanowire Channels," 59th Electronics Materials Conference, University of Notre Dame, South Bend, Indiana, Jun. 28 – 30, 2017.
155. Ren Liu, Renjie Chen, Sang Heon Lee, Sandy Hinckley, Massoud L. Khraiche, John Scott, Deborah Pre, Yoontae Hwang, Atsunori Tanaka, Yun Goo Ro, Yimin Zou, Anne G. Bang, and Shadi A. Dayeh, "High Density Individually Addressable Nanowire Arrays Record Intracellular Activity from Primary Rodent and Human Stem Cell Derived Neurons," The 15th International Conference on Advanced Materials, Kyoto University, Kyoto, Japan, Aug. 27 – Sept. 1, 2017.
156. Yun Goo Ro, Renjie Chen, Ren Liu, Ahmed Youssef, and Shadi A. Dayeh, "Mechanistic Studies for the Development of Thin Si Microwire Solar Cells for Wearable Electronics," The 15th International Conference on Advanced Materials, Kyoto University, Kyoto, Japan, Aug. 27 – Sept. 1, 2017.
157. Atsunori Tanaka, Woojin Choi, Renjie Chen, and Shadi A. Dayeh, "When GaN and Si Tango, Thermal Mismatches are Overcome for Thick GaN-on-Si Vertical Power Devices," The 15th International Conference on Advanced Materials, Kyoto University, Kyoto, Japan, Aug. 27 – Sept. 1, 2017.
158. Renjie Chen, Katherine L. Jungjohann, William M. Mook, John Nogan, and Shadi A. Dayeh, "Recording and Analysis of the Atomic Scale Dynamics of Contact Formation in InGaAs Nanowires by In-situ Heating TEM," CINT Users Meeting, Santa Fe, New Mexico, Sept. 25-26, 2017. **(Invited)**
159. Mehran Ganji, Atsunori Tanaka, and Shadi A. Dayeh, "Scaling Effects on the Electrophysiological Stimulation Capabilities of PEDOT:PSS, Pt, and Au" 232nd Electrochemical Society Meeting, National Harbor, Maryland, Oct. 1 – 5, 2017.
160. Mehran Ganji and Shadi A. Dayeh, "Nanoporous Au Improves Metal-PEDOT:PSS Adhesion in Neural Electrodes," 60th Electronics Materials Conference, University of California Santa Barbara, California, Jun. 27 – 29, 2018.
161. Ren Liu, Sang Heon Lee, Yun Goo Ro, Atsunori Tanaka, Agnieszka D'Antonio-Chronowska, Deborah Pre, Kelly Frazer, Anne Bang and Shadi A. Dayeh, "High-Yield, Ultra Sharp Nanowire Arrays for Intracellular Recordings of Excitable Cells," 60th Electronics Materials Conference, University of California Santa Barbara, California, Jun. 27 – 29, 2018.
162. Hongseok Oh, Siarhei Vishniakou, Gyu-Chul Yi, and Shadi A. Dayeh, "Flexible ZnO Thin-Film Transistor Array for Real-Time Force Imaging Technology in Wearable Devices," 60th Electronics Materials Conference, University of California Santa Barbara, California, Jun. 27 – 29, 2018.
163. Atsunori Tanaka, Renjie Chen, Woojin Choi, and Shadi A. Dayeh, "Structural and Electrical Characterization of Defect Annihilation in Thick GaN Layers on Si, GaN, and CTE Matched Substrates," 60th Electronics Materials Conference, University of California Santa Barbara, California, Jun. 27 – 29, 2018.

164. Woojin Choi, Atsunori Tanaka, and Shadi A. Dayeh, "Self-Aligned Vertical Trench Gate 15 μ m-Thick GaN MISFETs on Si," 60th Electronics Materials Conference, University of California Santa Barbara, California, Jun. 27 – 29, 2018.
165. Atsunori Tanaka, Woojin Choi, Renjie Chen, and Shadi A. Dayeh, "Si Complies with GaN to Overcome Thermal Mismatches for the Heteroepitaxy of Thick GaN on Si," 2018 Compound Semiconductor Week, Massachusetts Institute of Technology, Boston, Massachusetts, May 29 – June 1, 2018. **(Best paper award)**
166. Woojin Choi, Atsunori Tanaka, Renjie Chen, and Shadi A. Dayeh, "Vertical 18 μ m Thick GaN Trench Gate MISFETS on Si," 2018 Compound Semiconductor Week, Massachusetts Institute of Technology, Boston, Massachusetts, May 29 – June 1, 2018.
167. Lorraine Hossain, John Hermiz, Ezequiel Arneodo, Mehran Ganji, Nick Rogers, Timothy Gentner, Vikash Gilja, and Shadi A. Dayeh, "Translation of PEDOT/Parylene C ECoG Microelectrode Arrays for Recording Stimulus Driven Action Potentials in Songbirds," 2018 Society for Neuroscience Meeting, San Diego Convention Center, Nov. 3-7, 2018.
168. Mehran Ganji, Lorraine Hossain, Ezequiel Arneodo, John Hermiz, Angelique Paulk, Vikash Gilja, Sydney Cash, Eric Halgren, Timothy Gentner, and Shadi A. Dayeh, "Platinum Nanorod (PtNR) Microelectrodes Record Action Potentials from the Cortical Surface" 2018 Society for Neuroscience Meeting, San Diego Convention Center, Nov. 3-7, 2018.
169. Nicholas Rogers, Lorraine Hossain, Martin Thunemann, Kivilcim Kilic, Payam A. Saisan, Qun Cheng, Kimberly Weldy, Vikash Gilja, Shadi Dayeh, and Anna Devor, "Towards Reconstruction of Neuronal Circuit Activity from Electrophysiological Signals Obtained from the Cortical Surface," 2018 Society for Neuroscience Meeting, San Diego Convention Center, Nov. 3-7, 2018.