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R E S U M E

Personal details

Full name: **Eilam Yalon**

Date of birth: January 9 1980

Marital status: Married + 2

Email: eilamy@technion.ac.il

ACADEMIC DEGREES

2009 – 2015: PhD, Department of Electrical Engineering, Technion – Israel Institution of Technology. Advisor: Prof. Dan Ritter.
Research topic: “Novel Bipolar Transistor Structures and their Applications".
2004 – 2009: BSc in materials engineering and physics (double major),
Department of Materials Engineering, Technion – Israel Institution of Technology.
Graduated Cum Laude.

ACADEMIC APPOINTMENTS

2018-present: Assistant Professor, Electrical Engineering, Technion – Israel Institute of Technology.
2015-2018: Post-doctoral researcher, Electrical Engineering, Stanford University.
Studied novel devices based on 2-dimensional semiconductors, phase change, resistive switching materials and their combinations. Focused on energy dissipation and self-heating effects in nanoscale devices.

PROFESSIONAL EXPERIENCE

2007 – 2009: Intel, quality and reliability (Q&R) group of the LAN access division (LAD). Planned schedule and materials budget for Si integrated circuit product qualification. Managed, executed and analyzed quality and reliability tests according to microelectronics industry standards. Conducted an academic project in collaboration with the Technion – IIT: “Time, temperature and voltage dependence of speed degradation in CMOS transistors”.

RESEARCH INTERESTS

Nano-electronics, semiconductor device physics, energy-efficient electronics, power and heat dissipation in devices, two-dimensional (2D) materials and their application in electronic devices, emerging memory technologies: resistive memory (RRAM) and phase-change materials (PCM).

TEACHING EXPERIENCE

2013 – 2014 and 2018 – present: Lecturer, "Fundamental physics of semiconductor devices" (046225 combined undergraduate + graduate), Department of Electrical Engineering, Technion – Israel Institute of Technology.
(link to video lectures in Hebrew)
2010 – 2012: Teaching assistant, "Fundamental physics of semiconductor devices" (046225), Department of Electrical Engineering, Technion – IIT.
Outstanding Teaching Assistant Award 2010-2012.
2009 – 2012: Teaching assistant, "Basics of semiconductor devices" (044125/7 undergraduate), Department of Electrical Engineering, Technion – IIT.
(link to video tutorials in Hebrew, available at Technion)
Outstanding Teaching Assistant Award 2010-2012.

DEPARTMENTAL ACTIVITIES

2018 – Secretary of Department council
2019 – Advisor for students under academic probation

PUBLIC PROFESSIONAL ACTIVITIES

Referee for the following journals: IEEE Electron Device Letters (golden reviewer), IEEE Transactions on Electron Device (golden reviewer), IEEE Transactions on Nanotechnology, IEEE Journal of Electron Device Society (golden reviewer), IEEE Transactions on Circuits and Systems, Applied Physics Letters, IOP Nanotechnology, Journal of Applied Physics, Scientific Reports, PLOS ONE, Solid State Electronics, ECS Journal of Solid State Science and Technology, ECS Solid State Letters, Microelectronics Journal, Materials Science in Semiconductor Processing.

Member of International advisory board (IAB), Conference "Emerging Materials, Technologies and Applications for Non-volatile Memory Devices" in CIMTEC international congress (http://www.cimtec-congress.org/).
Member of the Technical Program Committee (TPC), IEEE International Reliability and Physics Symposium (IRPS). (https://irps.org/)
Guest Editor of focus session on microelectronics based on 2D materials in the journal Nanotechnology (IOP).

MEMBERSHIP IN PROFESSIONAL SOCIETIES

IEEE (member)
MRS (member)

FELLOWSHIPS, AWARDS AND HONORS

- Technion excellence in teaching (top 12%) winter 2018-2019
- Northern California Career development Chair 2018-2019.
- Andrew and Erna Finci Viterbi Fellowship 2016-17 and 2017-18.
- Ilan Ramon-Fulbright Fellowship 2014-15.
- Muriel and David Jacknow Prize for consistent excelling in teaching and for contribution to advancing academic education of undergraduate students 2012-2013.
- Russell Berrie Scholarship for Outstanding students in Nanoscience and Nanotechnology 2012-14 (3 times).
- Clore Israel Foundation Scholarship 2013
- IEEE non-volatile memory technology symposium (NVMTS) 2012 best poster award
- Technion award for excellence in teaching 2010-2012 (6 times).

PUBLICATIONS

Theses

E. Yalon, "Novel bipolar transistors and their applications", PhD dissertation, January 2015.

Refereed papers in professional journals

[1] **E. Yalon**, D. Cohen Elias, A. Gavrilov, S. Cohen, R. Halevy, and D. Ritter, "A Degenerately Doped $In_{0.53}Ga_{0.47}As$ Bipolar Junction Transistor," *IEEE Electron Device Letters* 32, 21-23 (2011).

[2] **E. Yalon**, A. Gavrilov, S. Cohen, D. Mistele, B. Meyler, J. Salzman, and D. Ritter, "Resistive Switching in HfO_2 probed by a Metal Insulator Semiconductor Bipolar Transistor", *IEEE Electron Device Letters* 33, 11-13 (2012).

[3] **E. Yalon**, S. Cohen, A. Gavrilov and D. Ritter, "Evaluation of the local temperature of conductive filaments in resistive switching materials," *Nanotechnology* 23, 465201 (2012).

[4] **E. Yalon**, I. Riess, and D. Ritter, "Heat Dissipation in Resistive Switching Devices: Comparison of Thermal Simulations and Experimental Results", *IEEE Transactions on Electron Device* 61, 1137-1144 (2014).

[5] S. Mehari, **E. Yalon**, A. Gavrilov, D. Mistele, G. Bahir, M. Eizenberg, and D. Ritter, "Comparison of Simulations and Measurements of Gate Leakage Currents in Metal/Al_2O_3/GaN/AlGaN/AlN/GaN Capacitors", *IEEE Transactions on Electron Device* 61, 3558-3561 (2014).

[6] Y. Calahorra, **E. Yalon** and D. Ritter, "On the diameter dependence of metal-nanowire Schottky barrier", *Journal of Applied Physics* 117 (3), 034308 (2015).

[7] V.G. Karpov, R.E.E Maltby, I.V. Karpov, and **E. Yalon**, "Field-Induced Nucleation in the Presence of a Metal Electrode", *Physical Review Applied* 3, 044004 (2015).

[8] D. Kalaev, **E. Yalon** and I. Riess, "On the direction of the conductive filament growth in valence change memory devices during electroforming", *Solid State Ionics* 276, 9-17 (2015).

[9] **E. Yalon**, I Karpov, V Karpov, I Riess, D Kalaev, and D Ritter, "Detection of the insulating gap and conductive filament growth direction in resistive memories", *Nanoscale* 7, 15434–15441 (2015).

[10] S. Recher, **E. Yalon**, D. Ritter, I. Riess, and S. Salzman, "Dual bipolar resistive switching in the sub-forming regime of HfO_2 RRAM devices", *Solid State Electronics* 111, 238-242 (2015).

[11] **E. Yalon**, A. A. Sharma, M. Skowronski, J. A. Bain, D. Ritter, and I. Karpov, "Thermometry of filamentary RRAM devices", *IEEE Transactions on Electron Device* 62, 2972-2977 (2015).

[12] **E. Yalon**, A. Gavrilov, S. Cohen, and D. Ritter, "Validation and Extension of Local Temperature Evaluation of Conductive Filaments in RRAM Devices", *IEEE Transactions on Electron Device* 62, 3671-3677 (2015).

[13] **E. Yalon**, C. J. McClellan, K. K. H. Smithe, R. Xu, M. Muñoz Rojo, S. V. Suryavanshi, A. J. Gabourie, C. M. Neumann, F. Xiong, and E. Pop, "Energy Dissipation in Monolayer MoS_2 Electronics", *Nano Letters* 17, 3429–3433 (2017).

[14] L. Gao, **E. Yalon**, A. R. Chew, S. Deshmukh, A. Salleo, E. Pop and A. A. Demkov, "Effect of oxygen vacancies and strain on the phonon spectrum of thin HfO_2 films", *Journal of Applied Physics* 121, 224101 (2017).

[15] L. Cai, C. J. McClellan, A. L. Koh, H. Li, **E. Yalon**, E. Pop, X. Zheng, "Rapid Flame Synthesis of Atomically Thin MoO_3 down to Monolayer Thickness for Effective Hole Doping of WSe_2", *Nano Letters* 17, 3854-3861 (2017).

[16] **E. Yalon**, S. Deshmukh, M. M. Rojo, F. Lian, C. M. Neumann, F. Xiong, and E. Pop, "Spatially Resolved Thermometry of Resistive Memory Devices", *Scientific Reports* 7, 15360 (2017).

[17] S. W. Fong, C. M. Neumann, **E. Yalon**, M. M. Rojo, E. Pop, and H.-S. P. Wong, "Dual-Layer Dielectric Stack for Thermally-isolated Low-energy Phase-change Memory", *IEEE Transactions on Electron Devices* 64, 4496-4502 (2017).

[18] **E. Yalon**, O. B. Aslan, K. K. H. Smithe, C. J. McClellan, F. Xiong, A. Sood, C. M. Neumann, K. E. Goodson, T. F. Heinz, and E. Pop, "Temperature Dependent Thermal Boundary Conductance of Monolayer MoS_2 by Raman Thermometry", *ACS Applied Materials and Interfaces* 9, 43013-43020 (2017).

[19] K. K. H. Smithe, A. V. Krayev, C. S. Bailey, H. R. Lee, **E. Yalon**, Ö. B. Aslan, M. Muñoz Rojo, S. Krylyuk, P. Taheri, A. V. Davydov, T. F. Heinz, and E. Pop, "Nanoscale Heterogeneities in Monolayer $MoSe_2$ Revealed by Correlated Scanning Probe Microscopy and Tip-Enhanced Raman Spectroscopy", *ACS Appl. Nano Mater.*, DOI:10.1021/acsanm.7b00083 (2017).

[20] Z. Lin, Y. Lei, S. Subramanian, N. Briggs, […], **E. Yalon**, […], E. Pop, V. H. Crespi, J. A. Robinson, and M. Terrones, "Recent progresses on 2D materials beyond graphene: From Ripples, Defects, Intercalation, and Valley Dynamics, to Straintronics, Power dissipaters and Borophene", *APL Materials* 6, 080701 (2018).

[21] M. Lanza, H.-S. P. Wong, E. Pop, D. Ielmini, D. Strukov, […], **E. Yalon**, […], "Recommended methods to study resistive switching devices", *Advanced Electronic Materials*, 1800143 (2018).

[22] M. Muñoz Rojo, Z. Li, C. Sievers, A. Bornstein, **E. Yalon**, S. Deshmukh, S. Vaziri, M.-H. Bae, F. Xiong, D. Donadio, E. Pop, "Thermal Transport Across Graphene Step Junctions", *2D Materials* 6, 011005 (2019).
[23] **E. Yalon**, I. M. Datye, J.-S. Moon, K.-A. Son, K. Lee, and E. Pop, "Energy-efficient indirectly heated phase change RF switch", *IEEE Electron Dev. Lett.* 40, 455-458 (2019).
[24] C.M. Neumann, K.L. Okabe, **E. Yalon**, R.W. Grady, H.-S.P. Wong, E. Pop, "Engineering Thermal and Electrical Interface Properties of Phase Change Memory with Monolayer MoS_2," *Appl. Phys. Lett*. 114, 082103 (2019).
[25] K.L. Okabe, A. Sood, **E. Yalon**, C.M. Neumann, M. Asheghi, E. Pop, K.E. Goodson, H.-S.P. Wong, "Understanding the Switching Mechanism of Interfacial Phase Change Memory," J. Appl. Phys. 125, 184501 (2019).
[26] X Jing, Y Illarionov, **E Yalon**, P Zhou, T Grasser, Y Shi, M Lanza, "Engineering Field Effect Transistors with 2D Semiconducting Channels: Status and Prospects", *Advanced Functional Materials*, 1901971, 2019.
[27] S. Vaziri*, **E. Yalon***, M. Muñoz Rojo, S.V. Suryavanshi, H. Zhang, C.J. McClellan, C.S. Bailey, K.K.H. Smithe, A.J. Gabourie, V. Chen, S. Deshmukh, L. Bendersky, A.V. Davydov, E. Pop, "Ultrahigh Thermal Isolation Across Heterogeneously Layered Two-Dimensional Materials," *Science Adv*. 5, eaax1325 (2019). Covered by *Nature News*: https://www.nature.com/articles/d41586-019-02466-y. *Equal contribution.
[28] S. Deshmukh, **E. Yalon**, F. Lian, K.E. Schauble, F. Xiong, I.V. Karpov, E. Pop, "Temperature-Dependent Contact Resistance to Nonvolatile Memory Materials," *IEEE Trans. Elec. Dev*. 66, 3816 (2019).
[29] D. Miron, I. Krylov, M. Baskin, **E. Yalon**, L. Kornblum, "Understanding Leakage Currents through Al_2O_3 on $SrTiO_3$", *J. Appl. Phys*. 126, 185301 (2019).
[30] I. M. Datye, M. M. Rojo, **E. Yalon**, S. Deshmukh, M. J . Mleczko, E. Pop, "Localized Heating in $MoTe_2$-Based Resistive Memory Devices Mapped by Scanning Thermal Microscopy", *Nano Letters* 20, 1461-1467 (2020).
[31] I. Krylov, Y. Qi, V. Korchnoy, K. Weinfeld, M. Eizenberg, and **E. Yalon**, "The role of temperature on structure and electrical properties of titanium nitride films grown by low pressure plasma enhanced atomic layer deposition", *Journal of Vacuum Science and Technology A* 38, 032403 (2020).
[32] D. Miron, D. Cohen-Azarzar, B. Hoffer, M. Baskin, S. Kvatinsky, **E. Yalon**, L. Kornblum, "Oxide 2D electron gases as a reservoir of defects for resistive switching", *Appl. Phys. Lett.* 116, 223503 (2020).
[33] D. Somvanshi, E. Ber, C.S. Bailey, E. Pop, **E. Yalon**, "Improved Current Density and Contact Resistance in Bilayer MoSe2 by AlOx Capping," *ACS Appl. Mater. Interfaces*. 12, 36355-36361 (2020).
[34] I. Krylov, Y. Qi, V. Korchnoy, K. Weinfeld, M. Eizenberg, and **E. Yalon**, "Zero temperature coefficient of resistance in back-end-of-the-line compatible titanium aluminum nitride films by atomic layer deposition", *Appl. Phys. Lett.* 117, 041902 (2020).
[35] D. Miron, D. C. Azarzar, N. Segev, M. Baskin, F. Palumbo, **E. Yalon,** L. Kornblum, "Band structure and electronic transport across Ta_2O_5/Nb:$SrTiO_3$ interfaces", *J. Appl. Phys.* 128, 045306 (2020).

[36] N. Wainstein, G. Adam, **E. Yalon**, S. Kvatinsky, "High-Performance Radiofrequency Switches Based on Resistive Memory Technologies - A Survey", *Proceedings of the IEEE* (in press).
[37] I. Krylov, V. Korchnoy, X. Xu, K. Weinfeld, **E. Yalon**, D. Ritter, and M. Eizenberg, "Electrical and structural properties of conductive nitride films grown by plasma enhanced atomic layer deposition with significant ion bombardment effect" *J. Appl. Phys*. 128, 065301 (2020).
[38] K. Schauble, D. Zakhidov, **E. Yalon**, S. Deshmukh, R. Grady, K. Cooley, C. McClellan, S. Vaziri, D. Passarello, S. Mohney, M. Toney, A. Sood, A. Salleo, Eric Pop, "Uncovering the Effects of Metal Contacts on Monolayer MoS_2", *ACS Nano,* DOI: 10.1021/acsnano.0c03515, in press (2020).
[39] N. Wainstein, G. Ankonina, S. Kvatinsky, **E. Yalon**, "Electro-thermal Compact Model and Measurements of Indirectly-Heated Phase Change RF Switches", *IEEE Trans. Elec. Dev. DOI: 10.1109/TED.2020.3020290, in press (2020).*

Refereed papers in conference proceedings

[1] **E. Yalon**, D. Cohen Elias, A. Gavrilov, S. Cohen, R. Halevy, and D. Ritter, "An InGaAs Bipolar Junction Transistor having Degenerately Doped Base and Emitter Layers," *IEEE 68th Annu. Device Research Conf*., June 2010, late news
[2] **E. Yalon**, A. Gavrilov, S. Cohen, D. Mistele, V. Mikhelashvili B. Meyler, J. Salzman, and D. Ritter, "Tunneling Emitter Bipolar Transistor as a Characterization Tool for Dielectrics and their Interfaces," *ECS Trans.* 41, 325-334, Oct. 2011.
[3] **E. Yalon**, S. Cohen, A. Gavrilov, B. Meyler, J. Salzman, and D. Ritter, "Experimental Evaluation of the Temperature in Conductive Filaments Created in Resistive Switching Materials", *Nature Conference, Frontiers in Electronic Materials: Correlation Effects and Memristive Phenomena*, June 2012.
[4] **E. Yalon** and D. Ritter, "Metal-insulator-semiconductor bipolar transistor as a $4F^2$ vertical RRAM selection device," in Proc. *IEEE NVM Technol. Symp*., Oct.-Nov. 2012.
[5] **E. Yalon**, A. Gavrilov, S. Cohen, and D. Ritter, "Validation and Extension of the Temperature Extraction Method of Conductive Filaments in Resistive Switching Materials," *IEEE 71st Annu. Device Research Conf*., June 2013.
[6] **E. Yalon**, I. Riess, and D. Ritter, "Heat Dissipation Mechanisms in Resistive Switching Devices", *in Proc. IEEE NVM Technol. Symp*., Aug. 2013. (Invited talk).
[7] **E. Yalon**, D. Kalaev, A. Gavrilov, S. Cohen, I. Riess, and D. Ritter, "Detection of the conductive filament growth direction in resistive memories", *IEEE 72nd Annu. Device Research Conf*. June 2014, late news.
[8] S. Deshmukh, R. Islam, C. Chen, **E. Yalon**, K.C. Saraswat, and E. Pop, "Thermal modeling of metal oxides for highly scaled nanoscale RRAM", *IEEE Simulation of Semiconductor Processes and Devices (SISPAD),* Sep. 2015.
[9] **E. Yalon**, C. J. McClellan, K. K. H. Smithe, Y. C. Shin, R. Xu, and E. Pop, "Direct Observation of Power Dissipation in Monolayer MoS_2 Devices", *IEEE 74th Annu. Device Research Conf*. June 2016, late news.

[10] F. Xiong, **E. Yalon**, A. Behnam, C.M. Neumann, K.L. Grosse, S. Deshmukh, and E. Pop, "Towards Ultimate Scaling Limits of Phase-Change Memory", *IEEE Int. Elec. Dev. Meeting (IEDM)*, Dec. 2016.

[11] C.J. McClellan, **E. Yalon**, K.K.H. Smithe, S.V. Suryavanshi, E. Pop, "Effective n-type Doping of Monolayer MoS_2 by AlOx," *IEEE Device Research Conference (DRC)*, Jun 2017.

[12] S. V. Suryavanshi, A. J. Gabourie, A. B. Farimani, **E. Yalon**, E. Pop, "Thermal Boundary Conductance of the MoS_2-SiO_2 Interface", *IEEE International Conference on Nanotechnology*, Aug. 2017. (best paper award)

[13] S. Deshmukh, F. Lian, **E. Yalon**, G. Pitner, H. -S. P. Wong, E. Pop, "Sub-15 nm Nanowires Enabled by Cryo Pulsed Self-Aligned Nanotrench Ablation on Carbon Nanotubes", *IEEE International Conference on Nanotechnology*, Aug. 2017.

[14] E. Pop, **E. Yalon**, M. Munoz Rojo, M. Mleczko, C. English, N. Wang, K. Smithe, S. Suryavanshi, I. Datye, C. McClellan, A. Gabourie, "Electronic, Thermal, and Unconventional Applications of 2D Materials", *IEEE International Conference on Nanotechnology*, Aug. 2017, Pittsburg, PA.

[15] **E. Yalon** and E. Pop, "Spatially Resolved Thermometry of PCM Devices", *IEEE Non-Volatile Memory Technol. Symp. (NVMTS)*, Aug. 2017. (Invited talk).

[16] M. Datye, M. M. Rojo, **E. Yalon**, M. J. Mleczko, and E. Pop, "Localized Heating in $MoTe_2$-Based Resistive Memory Devices", *IEEE Device Research Conference (DRC)*, June 2018.

[17] S. Deshmukh, M. M. Rojo, **E. Yalon**, S. Vaziri, and E. Pop, "Probing Self-Heating in RRAM Devices by Sub-100 nm Spatially Resolved Thermometry", *IEEE Device Research Conference (DRC)*, June 2018.

[18] C. J. McClellan, **E. Yalon**, L. Cai, S. Suryavanshi, X. Zheng, and E. Pop, "Sub-Thermionic Steep Switching in Hole-Doped WSe2 Transistors", *IEEE Device Research Conference (DRC)*, June 2018.

[19] **E. Yalon**, K. Okabe, C. M. Neumann, H.-S. P. Wong, and E. Pop, "Energy-Efficient Phase Change Memory Programming by Nanosecond Pulses", *IEEE Device Research Conference (DRC)*, June 2018.

[20] N. Wainstein, T. Tsabari, Y. Goldin, **E. Yalon**, S. Kvatinsky, "A Dual-Band CMOS Low-Noise Amplifier using Memristor-Based Tunable Inductors", *IEEE Computer Society Annual Symposium on VLSI (ISVLSI)*, July 2019.

[21] **E. Yalon** "Energy Efficiency of Phase Change Reset Programming ", *IEEE Non-Volatile Memory Technol. Symp. (NVMTS)*, Oct. 2019.

Patents

[1] Dan Ritter, **Eilam Yalon**, "Device, a method for measuring temperature and a programmable insulator-semiconductor bipolar transistor", US 13913448, 2013.

[2] Shahar Kvatinsky, Barak Hoffer, Nicolas Wainstein, **Eilam Yalon**, "LOGIC GATES AND STATEFUL LOGIC USING PHASE CHANGE MEMORY", US Provisional Application No. 63/006,114.

CONFERENCES

Invited talks

[1] **E. Yalon**, I. Riess, and D. Ritter, "Heat Dissipation Mechanisms in Resistive Switching Devices", *in Proc. IEEE NVM Technol. Symp*., Aug. 2013.
[2] **E. Yalon**, D. Ritter, "Study of the Resistive Switching Effect using a Three Terminal Bipolar Device", *SRC Review Meeting*, Sept. 2015.
[3] **E. Yalon**, D. Ritter, "Study of the Resistive Switching Effect using a Three Terminal Bipolar Device", *CIMTEC*, June 2016.
[4] **E. Yalon**, "Energy Dissipation in 2D Electronic Devices", *Graphene and Beyond 5th annual workshop*, May 2017.
[5] **E. Yalon** and E. Pop, "Spatially Resolved Thermometry of PCM Devices", *IEEE Non-Volatile Memory Technol. Symp. (NVMTS)*, Aug. 2017.
[6] **E. Yalon** "Energy Efficiency of Phase Change Reset Programming ", *IEEE Non-Volatile Memory Technol. Symp. (NVMTS)*, Oct. 2019.

Contributed talks

[1] S. Mehari, **E. Yalon**, A. Gavrilov, D. Mistele, G. Bahir, M. Eizenberg, and D. Ritter, "Modeling and Measurement of Gate Leakage Current in Metal/Al_2O_3/GaN/AlGaN/GaN Capacitors", *MRS 10th International Conference on Nitride Semiconductors*, Aug. 2013.
[2] **E. Yalon**, K. K. H. Smithe, O. B. Aslan, C. J. McClellan, F. Xiong, Y. C. Shin, A. Sood, S. V. Suryavanshi, A. J. Gabourie, R. Xu, C. M. Neumann, K. E. Goodson, T. F. Heinz and E. Pop, "Thermal Boundary Conductance between Monolayer MoS_2 and SiO_2 via In-Situ Raman Spectroscopy of Functioning MoS2 Transistors". *MRS Spring Meeting* 2017.
[3] F. Xiong, **E. Yalon**, C. J. McClellan, A. Sood, J. Zhang, J. Sun, K. E. Goodson, Y. Cui, and Eric Pop, "Probing electrical and thermal properties in electrochemically Li-intercalated MoS_2 nanosheets with Raman spectroscopy", *MRS Spring Meeting* 2017.
[4] C. J. McClellan, L. Cai, **E. Yalon**, X. Zheng, and Eric Pop, "Record Current Density in Monolayer p-type WSe_2 with Ultrathin MoO_3 Hole Doping Layers", *MRS Spring Meeting* 2017.
[5] **E. Yalon**, M. Munoz-Rojo, Z. Li, R.L. Xu, A. Gabourie, S. Suryavanshi, and Eric Pop, "Thermal Transport in Two-Dimensional Materials and Devices", *MRS Spring Meeting 2017*.
[6] F. Xiong, A. Sood, H. Wang, **E. Yalon**, C.J. McClellan, J. Zhang, J. Sun, K. Goodson, Y. Cui, E. Pop, "Tuning Electrical and Thermal Properties in Molybdenum Disulfide via Li Intercalation," *Intl. Materials Research Congress (MRS-IMRC)*, Cancun, Mexico, Aug. 2017
[7] J.-S. Moon, K. Son, H.-C. Seo, K.-M. Lee, **E. Yalon**, E. Flores, G. Candia, H. Fung, A. Kabakian, J. Crowell, and E. Pop., "Phase-change Reconfigurable Optical Devices with Robust Switching Cycle Endurance", *Annual GOMACTech Conference*, Mar. 2018.
[8] K. Schauble, **E. Yalon**, D. Zakhidov, S. Deshmukh, C.J. McClellan, S. Vaziri, A.K. Sood, A. Salleo, E. Pop, "Interfacial Reactions and Doping Effects at Metal Contacts to Monolayer MoS2," Electronic Materials Conference (EMC), June 2018, late news.

[9] K. Okabe, A. Sood, **E. Yalon,** C. M. Neumann, E. Pop, M. Asheghi, K. E. Goodson, H.-S. P. Wong, "Electrical and Thermal Analysis of Interfacial Phase Change Memory", *European Symposium on Phase Change and Ovonic Sciences (E/PCOS)*, Sep. 2018.

[10] **E. Yalon**, S. Deshmukh, I. M. Datye, S. Bohaichuk, C. M. Neumann1, and E. Pop, "Thermometry, Interfaces, Scaling and Energy Limits of Phase-Change Memory", *European Symposium on Phase Change and Ovonic Sciences (E/PCOS)*, Sep. 2018.

[11] **E. Yalon**, K. Okabe, C. M. Neumann, H.-S. P., Wong, and E. Pop, "Improving PCM Energy-Efficiency by Reducing Pulse Widths", *European Symposium on Phase Change and Ovonic Sciences (E/PCOS)*, Sep. 2018.

[12] S. Deshmukh, R. Islam, C. Saltonstall, **E. Yalon**, T. Beechem, K. Saraswat, and E. Pop, "Tuning Thermal and Electrical Properties of NiOx Films by UV/O3 Treatment for Resistive Memory Applications", *MRS Fall Meeting* 2018.

[13] S. Vaziri, **E. Yalon**, M. Muñoz Rojo, S. V. Suryavanashi, C. J. McClellan, C. S. Bailey, A. J. Gabourie, V. Chen, S. Deshmukh, K. K. H. Smithe, and E. Pop, "Layer-by-layer Temperature Probing Across 2D van der Waals Heterostructures", *MRS Fall Meeting* 2018.

[14] S. Deshmukh, C. Koroglu, M. Muñoz Rojo, S. Vaziri, **E. Yalon**, E. Pop, "Thermal Measurement of Resistive Memory (RRAM) Devices by Calibrated Scanning Thermal Microscopy," *Eurotherm Nanoscale & Microscale Heat Transfer VI (NMHT)*, Dec 2018, Levi, Finland.

[15] M. Muñoz Rojo, Z. Li, C. Sievers, A.C. Bornstein, **E. Yalon**, S. Deshmukh, S. Vaziri, M.-H. Bae, F. Xiong, D. Donadio, E. Pop, "Thermal Transport Across Graphene Step Junctions," *Eurotherm Nanoscale & Microscale Heat Transfer VI (NMHT)*, Dec 2018, Levi, Finland.

[16] J. Moon, H.-C. Seo, K. K. Son, **E. Yalon**, K. Lee, E. Flores, G. Candia, and E. Pop, "Reconfigurable Infrared Spectral Imaging with Robust Phase Change Materials", SPIE, Apr. 2019.

[17] N. Wainstein, G. Ankonina, S. Kvatinsky, **E. Yalon**, "Nanosecond Probing of Phase Transition Properties in Chalcogenides using Embedded Heater-Thermometer", *MRS Spring Meeting* 2020.