

ASSAF YA'AKOBOVITZ
CURRICULUM VITAE

PERSONAL INFORMATION

- Nationality: Israeli
- Born: June 1st, 1980, Israel
- Cell phone: 050-2125934
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CURRENT POSITION

2014 - Today Senior lecturer, The NEMS/MEMS and Nano-Materials Laboratory,
Department of Mechanical Engineering, Ben-Gurion University of the
Negev, Beer-Sheva, Israel.

EDUCATION

- 2013-2014 **Faculty of Chemistry, Department of Materials and Interfaces,
Weizmann Institute of Science**
- Post-doctoral fellow.
 - Research topic: "*Characterization of nano-tubes under torsion*".
Advisors: Prof. Ernesto Joselevich.
- 2012-2013 **Faculty of Engineering, University of Michigan in Ann Arbor**
- Post-doctoral fellow.
 - Research topic: "*Electromechanical characterization of
vertically aligned carbon nanotubes*". Advisors: Prof. John Hart.
- 2008-2012 **Faculty of Engineering, Tel Aviv University**
- Ph.D.
 - Courses grade: 95.0
 - Topic: "Sensitivity enhancement of micromechanical sensors
using carbon nanotubes". Advisors: Prof. S. Krylov and Prof. Y.
Hanein.
- 2006-2007 **Faculty of Engineering, Tel Aviv University**
- M.Sc., Magna Cum Laude, Mechanical Engineering.
 - Student of the direct program for outstanding students.
 - Final grade: 94.6.
 - Topic: "Tilting micro devices with integrated linear to angular
motion transformer and amplifier". Advisor: Prof. S. Krylov.
- 2003-2006 **Faculty of Engineering, Tel Aviv University**
- B.Sc., Magna Cum Laude, Mechanical Engineering.
 - Final grade: 91.4.

RECEIVED RESEARCH GRANTS

2016-2019 Ministry of Science, Technology and Space program for applied
research (no. 53253)

HONORS AND AWARDS

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| 2014 | Dean of Faculty fellowship, Faculty of Chemistry, Weizmann Institute of Science. |
| 2011 | Intel awards for outstanding Ph.D. research students. |
| 2010 | Wolf prize for outstanding Ph.D. students. |
| 2009 | Trotzky excellence scholarship. |
| 2007 | Dean scholarship for excellence in M.Sc. degree accomplishments, Faculty of Engineering, Tel Aviv University. |
| 2005 | Excellence scholarship in memory of Faculty of Engineering's victims of war, Faculty of Engineering, Tel Aviv University. |
| 2003-2006 | Dean's List of Excellence, Faculty of Engineering, Tel Aviv University. |

JOURNAL PUBLICATION

- A. Ya'akovovitz, M. Bedewy, A. Rao and A.J. Hart, "Strain relaxation and resonance of carbon nanotube forests under electrostatic loading", *Carbon*, vol. 96, pp. 250, 2016.
- A. Ya'akovovitz, L. Bar-Dea, Y. Hanein and S. Krylov, "Three-dimensional dynamic behavior of suspended single wall carbon nanotubes", *International Journal of Mechanical Sciences*, vol. 105, pp. 369, 2016.
- A. Ya'akovovitz, M. Bedewy and A.J. Hart, "Electrostatic capacitance and Faraday cage behavior of carbon nanotube forests", *Applied Physics Letters*, vol. 106, article number 053106, 2015.
- A. Ya'akovovitz and A.J. Hart, "Enhanced surface capacitance of cylindrical micropillar arrays", *Sensors and Actuators A*, vol. 219, pp. 32-37, 2014.
- A. Rabinovich, A. Ya'akovovitz and S. Krylov, "Fringing electrostatic field actuation of micro-plates for open air environment sensing", *Journal of Vibrations and Acoustics*, vol. 136, article number 041013-1, 2014.
- A. Ya'akovovitz, D. Copic, J. Beroz and A.J. Hart, "Nanoscale resolution interpolation based edge tracking algorithm for optically imaged micro-devices", *Journal of Micromechanics and Microengineering*, vol. 23, article ID 045004, 2013.
- A. Ya'akovovitz and S. Krylov, "The influence of perforation on electrostatic and damping forces in thick SOI MEMS structures", *Journal of Micromechanics and Microengineering*, vol. 22, article number 115006, 2012.

- A. Ya'akovovitz, S. Krylov and Y. Hanein, "A MEMS nano-extensometer with integrated mechanical de-amplifier for testing nanostructures under tension", *Microsystem Technologies*, vol. 17, Issue 3, pp. 337-345, 2011.
- A. Ya'akovovitz, S. Krylov and Y. Hanein, "Large deflection mechanical analysis of a suspended single wall carbon nanotube under thermo-electrical loading", *Journal of Nanomaterials*, vol. 2011, article ID 190360, 2011.
- A. Ya'akovovitz and S. Krylov, "Electrostatically actuated large angle silicon-on-insulator tilting actuator with kinematic excitation", *Japanese Journal of Applied Physics*, vol. 50, no. 11, article number 117201, 2011.
- S. Krylov, K. Lurie and A. Ya'akovovitz, "Compliant structures with time varying moment of inertia and non-zero averaged momentum and their application in angular rate microsensors", *Journal of Sound and Vibration*, vol. 330, no. 20, 2011.
- A. Ya'akovovitz, S. Krylov and Y. Hanein, "Nanoscale displacement measurement of electrostatically actuated micro devices using optical microscopy and digital image correlation", *Sensors and Actuators A*, vol. 162, pp. 1-7, 2010.
- A. Ya'akovovitz and S. Krylov, "Towards sensitivity enhancement of MEMS accelerometers using mechanical amplification mechanism", *IEEE Sensors Journal*, vol. 10, no. 8, pp. 1311-1319, 2010.
- G.A. Karp, A. Ya'akovovitz, M. David-Pur, Z. Ioffe, O. Cheshnovsky, S. Krylov and Y. Hanein, "Integration of suspended carbon nanotubes into micro-fabricated devices", *Journal of Micromechanics and Microengineering*, vol. 19, article number 085021, 2009.
- A. Ya'akovovitz, S. Krylov and Y. Shacham-Daimand, "Large angles SOI tilting actuator with integrated motion transformer and amplifier", *Sensors and Actuators A*, vol. 148, pp. 422-436, 2008.
- A. Ya'akovovitz, "Multiple thermal transitions and anisotropic thermal expansions of vertically aligned carbon nanotubes", under review.
- A. Ya'akovovitz, "Carbon nanotube forests with negative Poisson's ratio", under review.
- Y. Divon, R. Levi, J. Garel, D. Goldberg, R. Tenne, A. Ya'akovovitz and E. Joselevich, "Torsional resonators based on inorganic nanotubes", under review.

CONFERENCES

- A. Ya'akovovitz, "Thermal expansion coefficient of vertically aligned carbon nanotubes", Proceedings of the First Pacific Rim Thermal Engineering Conference, Hawaii, USA, 2016.

- D. Copic, A. Ya'akobovitz and A.J. Hart, "Replica molding of liquid crystal polymer microstructures for active surfaces", *International Conference on Composite Materials*, Montreal, Canada, 2013.
- A. Ya'akobovitz, S. Krylov and Y. Hanein, "A MEMS device with sub-nanometer displacement sensing using carbon nanotubes", *IEEE Sensors Conference*, Hawaii, USA, 2010.
- A. Ya'akobovitz and S.Krylov, "Kinematically excited large angle tilting actuator", *Proceeding of the ASME 2010 International Design Engineering Technical Conferences – Micro and Nano Systems Conference*, Montreal, Quebec, Canada, 2010.
- A. Ya'akobovitz, S. Krylov and Y. Hanein, "Towards integration of single wall carbon nanotube in MEMS sensors", *The Sixth International Conference on Mathematical Modeling and Computer Simulations of Materials Technology*, Ariel, Israel, 2010.
- A. Ya'akobovitz, G. Karp, M. Daviv-Pur, S. Krylov and Y. Hanein, "Carbon nanotube self-assembled high frequency resonator", *IEEE International Conference of MEMS*, Hong-Kong, China, 2010.
- A. Ya'akobovitz, G. Karp, Y. Hanein and S. Krylov, "Electromechanical behavior of suspended taut single-walled carbon nanotube", *The International IEEE Conference of Microwaves, Communications, Antennas and Electronic Systems*, Tel Aviv, Israel, 2009.
- A. Ya'akobovitz and S.Krylov, MEMS accelerometer with mechanical amplification mechanism for enhanced sensitivity, *Proceeding of International conference on Solid-State Sensors, Actuators and Microsystems*, Colorado, USA, 2009.
- G. Karp, A. Ya'akobovitz, M. David-Pur, S. Krylov and Y. Hanein, "Carbon nanotube integration procedure into NEMS devices". *Proceeding of Euro-sensor conference*, Dresden, Germany 2008.
- A.Ya'akobovitz, S. Krylov and Y. Shacham-Daimand, "Large angles SOI tilting actuator with integrated motion transformer and amplifier", *Proceeding of IEEE international conference of MEMS*, Arizona, USA 2008.
- A.Ya'akobovitz and S. Krylov, "Large angle parametrically excited tilting micro actuator", *Proceeding of 9th ASME Biennial Conference on Engineering Systems, Design and Analysis*, Haifa, Israel, 2008.
- Ya'akobovitz, S. Krylov and Y. Shacham-Daimand, "Single layer large angle tilting actuator", *ISRAMEMS, Israeli MOEMS Society Conference*, Tel Aviv, Israel, 2006.