

Tali Bar-Kohany

Mechanical Engineering Department
Nuclear Research Centre Negev
POB 9001, Beer-Sheva, 84190 Israel

Education

- 2000-2004 Ph.D., Mechanical Engineering Department, Ben-Gurion University.
A Study of the Mechanism of Sprays Formation by Bi-Component Liquid Flashing.
- 1998-2000 M.Sc., Mechanical Engineering Department, Ben-Gurion University.
Strategic Analysis of Variable Valve Timing in SI Engines.
- 1994-1998 B. Sc., Mechanical Engineering Department, Ben-Gurion University, (Cum Laude).
- 7/2020 International advanced course on Liquid Interfaces, Drops and Sprays (LIDESP-VIII).
- 1/2006 Introduction to CFD, Von-Karman Institute for Fluid Dynamics, (VKI) Belgium
- 7/2000 Waves and Convective Flows, International Center for Mechanical Science (CISM) Italy

Employment

- 2004 - present Nuclear Research Center of the Negev, Senior researcher
2007-present: Fluid Mechanics, Mechanical engineering Department
2004-2007: Physics Department.
- 2015 - present Tel-Aviv University, School of Mechanical Engineering
Adjunct faculty
- 8/2017-8/2018 University of Maryland, College Park, USA
Department of Mechanical Engineering
Visiting faculty & Lecturer
- 8/2013-8/2014 University of California, Irvine, USA
School of Mechanical and Aerospace Engineering
Visiting faculty
- 2008 - 2017 Ben-Gurion University, Mechanical Engineering Department
2019 Lecturer, External
- 1998 - 2004 Ben-Gurion University, Mechanical Engineering Department
Teaching Assistant

Professional and Administrative Activities

- 2020-2021 *Guest Editor*, Atomization and Sprays Journal.
- 2014 Consulting for Therm-Sphera, Thermodynamic process optimization.

- **Organization of conferences, Scientific Committees**

- 2022 Co-Chair of the upcoming 2022 ILASS-Europe, 3-day international conference.
- 2022 Scientific Committee, Practical Aspects In Chemical Engineering, PAIC, international conference, 7-8, June, 2022,
- 2021 Scientific Committee of the upcoming 2021 ICLASS, 5-day international conference.
- 2020 Co-Chair of 2020 ILASS-Europe international conference.

- **Thesis Committees for Graduate students**

- 2020, Ph.D. Thesis committee of Mr. Yedidyah Haim, BGU, Mechanical engineering.
- 2016, M.Sc. Thesis committee of Ms. Maayan Friman-Peretz, BGU, Mechanical engineering.
- 2016, M.Sc. Thesis committee of Ms. Nerdit Aslanov, BGU, Mechanical engineering.
- 2012, M.Sc. Thesis committee of Ms. Liran Fanny Haim, BGU, Mechanical engineering.

Awards and Honors

- 2021 2nd prize for presented poster at the 35th Annual Symposium of the Israeli Section of the Combustion Institute
- 2016 1st prize for presented poster at the 30th Annual Symposium of the Israeli Section of the Combustion Institute
- 2010 Honorary Fellow, Australian Institute of High Energetic Materials (AIHEM)
- 2004-2010 Katzir Scholarships Program – Ministry of Defense
- 2002 1st prize for presented poster at the 18th Annual Symposium of the Israeli Section of the Combustion Institute
- 2001 Major Ehud Ben-Amitai Scholarships Fund for Aeronautic research
- 2000 WOLF award for Outstanding Master achievements
- 1998 Head of Department award for excellence

Academic Activities

- **Grants**

- 2016-2020, Bar-KohanyPI, T.HausteinPI, H. and EliasPI, E., Council of higher education (VATAT), Title: "Non-equilibrium aspects of boiling related to safety scenarios in nuclear reactors", annual: 100k\$, total: 400k\$.
- 2012-2016, Bar-KohanyPI, T. and LevyPI, A., Council of higher education (VATAT), Title: "Co-current gas-solid reactive flow in a downer flame reactor", annual: 57 k\$, total: 230 k\$.

- **Review of scientific publications**

Ad-hoc reviewer for the following journals (by alphabetic order):

1. AAS - Atomization and Sprays, Begell House Inc.
2. ChES - Chemical Review Engineering
3. CF- Combustion and Flame
4. CRE – Chemical Review Engineering
5. Energies
6. FE - Fluids Engineering
7. Fuel
8. IJHE - International Journal of Hydrogen Energy
9. IJHMT - International Journal of Heat and Mass Transfer
10. IJMF - International Journal of Multiphase Flow
11. Inventions
12. Journal of Aerosol Science
13. JHT - Journal of Heat Transfer
14. Scientific Reports – Nature group

Educational Activities

Courses taught

1. 2021 **Lecturer**
School of Mechanical Engineering, TAU
Second course of Fluid Mechanics
2. 2020 **Developer of Course for Graduate students & Lecturer**
School of Mechanical Engineering, Graduate Students (M.Sc., Ph.D.), TAU
Advance Thermodynamics (of Phase-Change Processes)
3. 2020 **Lecturer**
Department of BioMedical Engineering, TAU
First course of Thermodynamics
4. 2019,
2008 – 2010 **Lecturer**
Department of Mechanical Engineering, BGU
First course of Thermodynamics
5. 2017 **Lecturer**
Department of Mechanical Engineering, UMD, USA
Fluid Mechanics

6. 2015 – 2017 **Lecturer**
Energy Engineering Unit, BGU
Introduction to energy engineering – Thermodynamics
7. 2014 **Lecturer**
Department of Biotechnology Engineering, BGU
First course of Thermodynamics
8. 2012–2017 **Lecturer**
Management and Safety Engineering Unit for Graduate studies, BGU, Principles of Combustion processes
9. 2012 **Lecturer**
Department of Mechanical Engineering, SCE
First course of Heat transfer
10. 2012 **Developed syllabus and overall course structure**
Australian Institute of High Energetic Materials,
Two-Phase & Choked Flows and Their Application in Spray Systems
11. 2004 – 2008 **Guest Lecturer**
Department of Materials Engineering, BGU
Fundamentals of Leak Testing, for the course of Non-Destructive Evaluation
12. 2002 –2004 **Lecturer, Developed syllabus and overall course structure**
BGU School of Continued Education
Physical Fundamentals of Mechanical Engineering

Research students

- 2021 – present **Yogev Elfasi**, M.Sc. in Mechanical Engineering TAU,
Short range wall effects on homogeneous nucleation during an isobaric rapid nucleation.
- 2018 – 2021 **Amiav Lankri**, M.Sc. in Mechanical Engineering BGU,
Nucleation inception temperature in boiling due to rapid heating under various thermodynamic conditions.
- 2016 – 2020 **Amir Shalel**, M.Sc. in Safety and Management Engineering BGU,
Optimization of extinguishing powder dispersal.
supervision with Prof. David Katoshevski
- 2016 – 2019 **Lior Nahon**, M.Sc. in Energy Engineering BGU
Countercurrent limited critical heat flux with heat transfer to the wall.
supervision with Dr. Yosef Aharon

- 2016 – 2019 **Yarden Amsalem**, M.Sc. in Mechanical Engineering TAU
Cubic Equations of State and nucleation inception in boiling due to rapid heating.
- 2016 – 2018 **Yaniv Levin**, M.Sc. project in Mechanical Engineering TAU
Modelling and simulating Ozonation of Lignocellulosic Biomass.
Supervision with Prof. Hadas Mamane.
- 2014 – 2016 **Tal Eluk**, M.Sc. in Mechanical Engineering BGU
Modeling two-phase reactive flow for combustion in entrained flow.
supervision with Prof. Avi Levy
- 2011 – 2015 **Naor Hayun**, M.Sc. in Mechanical Engineering BGU
Development of prediction model for flow and temperature fields in gas-particle downer reactor.
supervision with Prof. Avi Levy
- 2013 – 2014 **Idan Cohen**, M.Sc. in Mechanical Engineering, BGU
Study of the thermal behavior of a thermo-luminescence detector (TLD) due to gas heating.
supervision with Prof. Gennady Ziskind
- 2010 – 2012 **Kobi Dahan**, M.Sc. in Mechanical Engineering, BGU
Gas leakage and flammability into enclosures.
- 2009 – 2011 **Ravit Rozenfeld**, M.Sc. in Mechanical Engineering, BGU
Study of the thermal behavior of a thermo-luminescence detector (TLD) due to gas jet heating.
supervision with Prof. Gennady Ziskind

Invited Lectures

- 2021 Bar-Kohany, T., "Surface effects on slow and rapid Onset of Nucleate Boiling (ONB)", Surface Wettability Effects on Phase Change Phenomena (SWEP Workshop), Brighton, UK, 6-8, October 2021.
- 2018 Bar-Kohany, T., "Combustion of three-phase methane-hydrate spheres", Joint aerospace and fluid dynamics reviews seminars, University of Maryland, College Park, April 2018.
- 2016 Bar-Kohany, T., "Two-Phase Choked Flow in Service of Flash Boiling Sprays", The 30th Annual Symposium of the Israeli Section of the Combustion Institute, December 2016.