

**ALEXANDER ORON**

**Academic Degrees:**

- 1986: D. Sc., Technion- Israel Institute of Technology, Haifa, Israel.
- 1974: M. Sc., Mathematics, Moscow State University, Moscow, USSR.

**Academic Appointments:**

- October 2020 - present: Professor Emeritus, Department of Mechanical Engineering, Technion, Haifa, Israel.
- 2009- September 2020: Professor, Department of Mechanical Engineering, Technion, Haifa, Israel.
- 2001-2009: Associate Professor, Department of Mechanical Engineering, Technion, Haifa, Israel.
- 2005-2006: Visiting Professor, Department of Mathematics, Duke University, Durham, North Carolina, USA.
- 1995-2000: Senior Lecturer with tenure, Department of Mechanical Engineering, Technion, Haifa, Israel.
- 1995-1996: Visiting Scholar, Department of Applied Mathematics and Engineering Science, Northwestern University, Evanston, Illinois, USA.
- 1990-1995: Senior Lecturer, Department of Mechanical Engineering, Technion, Haifa, Israel.
- 1988-1990: Staff (postdoctoral appointment), Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, New Mexico, USA.
- 1987-1988: Deutsch Research Fellow, Department of Chemical Engineering, California Institute of Technology, Pasadena, California, USA.
- 1979-1982, 1984-1986: Teaching Instructor, Department of Mechanical Engineering, Technion, Haifa, Israel.

**Short Academic Appointments:**

- 2018: Arcot Ramachandran Chair Professor, Department of Mathematics, Indian Institute of Technology at Madras, Chennai, India.
- 2008: Royal Society Academic Visitor, Department of Chemical Engineering, Loughborough University, Loughborough, United Kingdom.
- 2006: Royal Society Academic Visitor, Department of Chemical Engineering, Loughborough University, Loughborough, United Kingdom.
- 2006: Visiting Professor, Department of Chemical Engineering, University of Florida, Gainesville, Florida, USA.
- 2005: Academic Visitor, Weierstrass Institute for Applied Analysis and Stochastics (WIAS), Berlin, Germany.
- 1996: Summer Faculty, Ohio Aerospace Institute, Cleveland, Ohio, USA.
- 1993: Summer Faculty, Ohio Aerospace Institute, Cleveland, Ohio, USA.
- 1992: Summer Faculty, ICOMP, NASA Lewis Center, Cleveland, Ohio, USA.
- 1991: Summer Faculty, ICOMP, NASA Lewis Center, Cleveland, Ohio, USA.
- 1991: Academic Visitor, Center for Nonlinear Studies, Los Alamos National Laboratory, Los Alamos, New Mexico, USA.

**Research Interests:**

- Free boundary problems in hydrodynamics.
- Hydrodynamic instabilities.
- Instabilities of thin liquid films.
- Nonlinear evolution equations.

Fluid mechanics in low-gravity and microgravity environment.  
Numerical simulations of nonlinear phenomena in hydrodynamics.

### **Teaching Experience:**

Department of Mechanical Engineering, Technion-Israel Institute of Technology, Haifa, Israel:  
1979-1982, 1984-1987, 1990-present.

Introduction to Computers – undergraduate level  
Fluid Mechanics – undergraduate level  
Numerical Analysis – undergraduate level  
Advanced Engineering Mathematics 1 and 2 – graduate level  
Interfacial Transport Phenomena – graduate level  
Heat Transfer – undergraduate level

Department of Mathematics, Duke University, Durham, North Carolina, USA: 2005-2006.

Ordinary and Partial Differential Equations – undergraduate level  
Mathematical Fluid Dynamics – graduate level

### **Technion Activities:**

1992-1995, 1996-1998: Faculty Committee for New Immigrants.

1993-1994: Faculty Seminar Coordinator.

1997-1998: Coordinator of Undergraduate Studies, Faculty of Mechanical Engineering.

1999: Deputy Dean for Undergraduate Studies, Faculty of Mechanical Engineering.

1998-2005, 2008-present: Member of the Interdepartmental Committee on Applied Mathematics.

2004-2005, 2007-present: Head of Laboratory in Aerosol Research, Faculty of Mechanical Engineering.

2010-2014: Department representative to the Technion International School of Engineering.

2012-2017: Member of the Department Committee for Graduate Studies.

2014-2015: Member of the Senate Committee for Postdoctoral and Academic Visitors' Fellowships.

2015- 2018: Member of the Senate Preparatory Committee.

### **Public Professional Activities:**

#### **Editorship:**

2009: Co-Editor, Proceedings of the 3rd International Symposium on Instabilities and Bifurcations in Fluid Mechanics, J. of Physics: Conference Series, Institute of Physics Publishing House.

2012-2013: Editor, Special Volume, European Journal of Physics- Special Topics **219**, 1-165 (2013).

2012-2014: Guest Co-Editor, Special Volume of the 5th International Symposium on Instabilities and Bifurcations in Fluid Mechanics, Fluid Dynamics Research Journal **46**, 1-433 (2014).

2015-2016: Guest Co-Editor, Special Volume of the 6th International Symposium on Instabilities and Bifurcations in Fluid Mechanics, Fluid Dynamics Research Journal **48**, 28 papers (2016).

2017-2018: Guest Co-Editor, Special Volume of the 7th International Symposium on Instabilities and Bifurcations in Fluid Mechanics, Fluid Dynamics Research Journal, **50** (5) 2018.

#### **Editorial Boards:**

2008-present: Member of the Editorial Board, International Reviews of Chemical Engineering (IRECHE), Praise Worthy Prize Inc.

2009- present: Member of the Editorial Advisory Board, Acta Mechanica, Springer, Wien New York, Impact Factor 2.102.

2010-present: Editorial Board, Journal of Advanced Mathematics and Applications, American Scientific Publishers, Valencia, California.

**Other Activities:**

2014, 2015, 2020, 2021: Topical Panel Member, Israel Science Foundation.

2013-present: Member of the International Advisory Board, Bifurcations and Instabilities in Fluid Dynamics.

2005: Member of the Editorial Committee of the 30th Israel Conference on Mechanical Engineering.

2003: Chair of the Program Committee of the 29th Israel Conference on Mechanical Engineering.

1992-1994: Secretary of the Israeli Association for Aerosol Research.

**Membership in Scientific Organizations:**

American Physical Society- Division of Fluid Dynamics, Member

EUROMECH- European Mechanics Society, Member

**Awards and Honors:**

1987: Deutsch Foundation Fellowship

1987: Wolf Foundation Fellowship

1987: Leo Wyler Foundation Grant

2006: British Royal Society Award

2014-2021: David T. Siegel Chair in Fluid Mechanics

2018: Arcot Ramachandran Chair Award, Indian Institute of Technology at Madras, India.

**Reviewer for Journals, Book Publishers and Funding Organizations:**

Physics of Fluids, Journal of Fluid Mechanics, Physical Review Fluids, Journal of Colloid and Interface Science, Physical Review Letters, Physical Review E, Europhysics Letters, Journal of Adhesion, European Journal of Physics B, IE&C Research, Acta Mechanica, Journal of Non-equilibrium Thermodynamics, Physica D, Journal of Engineering Mathematics, European Journal of Mechanics B/Fluids, Journal of Physics A, Nonlinearity, International Journal of Multiphase Flow, Physics Letters A, SIAM Journal of Applied Mathematics, European Journal of Applied Mathematics, Journal of Physics: Condensed Matter, Physica Scripta, Soft Matter, Langmuir, Canadian Journal of Chemical Engineering, Optics Letters, Chemical Engineering Science, ZAMP, Mathematical Modeling of Natural Phenomena, Microgravity Science and Technology, Archives of Mechanics, International Reviews of Chemical Engineering, International Journal of Heat and Fluid Flow, Quarterly Journal of Mechanics and Applied Mathematics, International Journal of Heat and Mass Transfer, Journal of Chemical Physics, Proceedings of the Royal Society A, Journal of Advanced Mathematics and Applications, Chemical Engineering Communications, Journal of Thermal Science, Journal of Engineering, Journal of Non-Newtonian Fluid Mechanics, Advances in Colloid and Interface Science, Applied Surface Science, Experiments in Fluids, Applied Mathematical Modeling, Acta Astronautica, Fluid Dynamics Research, Nanoletters, Physics of Plasmas, Colloids and Surfaces A- Physicochemical and Engineering Aspects, ASME Journal of Heat Transfer, International Journal of Nonlinear Mechanics, Theoretical and Computational Fluid Dynamics, Communications in Nonlinear Science and Numerical Simulations, Entropy, Current Opinion in Colloid and Interface Science, International Journal for Numerical Methods in Fluids, Interfacial Phenomena and Heat Transfer, Mathematics and Computers in Simulation.

Israel Science Foundation – panel member, Guggenheim Foundation, American Society for Petroleum Engineering, Kluwer Publisher House, Elsevier Publisher House, SIAM Publisher House, National Science Foundation (NSF) of the US, Fund for Scientific Research – FNRS (Belgium), Alexander von Humboldt Foundation, GIF (Germany-Israel Foundation), Pazy Foundation.

**Main research grants:**

- 1997-2000: The BSF Binational US-Israel Science Foundation, 3 years, \$91,500, Principal Investigator, with S. G. Bankoff (Northwestern University, USA), "*Micromechanics of the rupture of thin liquid films*".
- 1999-2002: The ISF founded by the Israel Academy of Sciences and Humanities, 3 years, \$105,000, Principal Investigator, with O. Gottlieb (Technion), "*Nonlinear dynamics of temporally modulated thin liquid films*".
- 2000-2004: European Commission-Research Network, 4 years, 150,000 Euro, Principal Investigator, with A. A. Nepomnyashchy (Technion), a part of the network of 8 nodes from Europe with the total grant of 1,300,000 Euro, "*ICOPAC: Interfacial convection and phase change*".
- 2003-2006: The ISF founded by the Israel Academy of Sciences and Humanities, 3 years, \$113,000, Cooperating Investigator, with A. A. Nepomnyashchy (Technion), "*Nonlinear aspects of interfacial convection in binary liquids*".
- 2009-2012: European Commission, Principal Investigator in charge, with A. A. Nepomnyashchy (Technion), 4 years, 560,000 Euro, a part of the Marie Curie network of 10 nodes from Europe with the total grant of 6,200,000 Euro, "*MULTIFLOW: Multi-scale complex fluid flows and interfacial phenomena*".
- 2009-2012: The BSF Binational US-Israel Science Foundation, Principal Investigator, 3 years, \$72,000, with A. Alexeev (Georgia Tech., USA), "*Thermocapillary pumping of liquid films on asymmetrically structured substrates*".
- 2011-2015: European Commission, Principal Investigator in charge, 4 years, 38,000 Euro, a part of the IRSES Marie Curie network of 6 nodes from Europe, "*PaS: Patterns and surfaces*".
- 2013-2017: The ISF founded by the Israel Academy of Sciences and Humanities, 4 years, \$66000/year, Principal Investigator, with Y. Agnon (Technion), "*Coupled phase change and capillary instabilities of a fluid film, under periodic forcing – beyond lubrication theory*".
- 2015-2017: GIF- German-Israeli Foundation for Scientific Research and Development, 3 years, 180,000 Euro, Principal Investigator, with M. Bestehorn (Brandenburg University of Technology, Germany), "*Nonlinear dynamics of thin liquid films subjected to external forcing*".
- 2018-2022: The ISF founded by the Israel Academy of Sciences and Humanities, 4 years, \$75000/year, Principal Investigator, with Y. Agnon (Technion), "*Saturation of thermocapillary instabilities in soft-matter-film patterning*".
- 2021-2024: European Commission, Principal Investigator in charge, with A. A. Nepomnyashchy (Technion), 4 years, 264000 Euro, a part of the Marie Curie Excellent Science Horizon 2020 network of 13 nodes from Europe with the total of 3,800,000 Euro, "*nanoPaInt- Dynamics of dense nanosuspensions: a pathway to novel functional materials*".

**Graduate students:**

**(a) Master's degree [5]**

*Completed Theses* [4]

1. Yoseph Sabag, M. Sc., "*Study of Stagnation Flows in Clean Rooms*", Department of Mechanical Engineering, graduated 1993. Primary advisor; co- advisor: Prof. C. Gutfinger.

2. Victoria Kats-Demyanets, M.Sc., "*Marangoni Convection in Multilayer Systems*", Department of Mathematics- Technion, graduated 1996. Joint supervision with Prof. A. A. Nepomnyashchy. [Papers 28, 29, C16]
3. Elena Novbari, M. Sc., "*Nonlinear Dynamics of Parametrically Excited Thin Liquid Films*", Department of Mechanical Engineering, graduated 2006, awarded with the Ovidia and Aharon Barazani Prize. Primary advisor, co- advisor: Prof. O. Gottlieb. [Papers 56, 57, RC3, C45].
4. Ory Haimovich, M. Sc., "*Instability of Thin Liquid Films on Horizontal Fibers Subjected to Axial Excitation*". Department of Mechanical Engineering, graduated in March 2010 with D. and O. Pnueli award. Single advisor. [Papers 61, 68, 70, 83, C75, C85, C86, C93, C106, C112]. Graduated with a PhD at the department.

*Current Students* [1]

1. Juan Li, M. Sc., Co-advisor, Dr. Youhua Jiang, GTIIT, started in June 2022.

**(b) PhD degree [8]**

*Completed Theses* [7]

1. Benoit Scheid, Ph. D., "*Study of the Marangoni Effect in Falling Locally Heated Liquid Films*". Partial supervision (in the framework of the EU research training network); Primary advisors: Dr. P. Colinet and Prof. J.C. Legros, Universite Libre de Bruxelles, Belgium, graduated 2004. Currently: Faculty at Universite Libre de Bruxelles, Belgium. [Papers 40, C27].
2. Alla Podolny, Ph. D., "*Nonlinear Aspects of Interfacial Convection in Binary Liquids*", graduated June 2008. Primary advisor, co-advisor: Prof. A. A. Nepomnyashchy. Awarded with the Miriam and Aharon Guthwirth Prize, and the Moshe Israeli Memorial Award. Graduated with the Excellence Prize from the Mathematics Department at the Technion. Currently a lecturer at Lake Forrest College, IL, USA. [Papers 45, 46, 50, 52, RC4, RC5, C34, C38, C41, C42, C44, C46, C47, C49, C55, C57, C59, C61, C64, C66].
3. Elena Novbari, Ph. D., "*Instability of Thin Liquid Films on Vertical Fibres*", Department of Mechanical Engineering. Single advisor. [Papers 60, 66, 92, C70, C124]. Awarded with the Department Excellence Scholarship (2009), (2010). Completed with D. and O. Pnueli Award, February 2011. Currently, adjunct lecturer at the Technion.
4. Matvey Morozov, Ph. D., "*Interfacial Convection in Surfactant Solutions*", Interdepartmental Program in Applied Mathematics, joint advisor with Prof. A. A. Nepomnyashchy, [Papers 73, 82, 85, C98, C107, C110, C113, C120]. Graduated in July 2015. Currently, Siemens Digital Industries Software, UK.
5. Selin Duruk, Ph. D., "*Nonlinear Dynamics of Thin Liquid Films on Vibrating Surfaces*", Department of Mechanical Engineering. Single advisor. [Papers 80, 88, C83, C89, C95, C99, C101, C108, C122, C127, C128], Graduated in November 2016 with Arthur Shavit Memorial Award, currently a postdoc fellow in University of Canterbury, New Zealand.
6. Valeri Frumkin, Ph. D., "*Nonlinear Dynamics of Bilayer Fluid Systems Subjected to Thermocapillarity*", Interdepartmental Program in Applied Mathematics, Single advisor, [Papers 81, 87, 91, C111, C114, C121, C126, C132], Graduated in April 2017 with the Award of Excellence Promotion in Mathematics. Currently a postdoctoral fellow at the Faculty of Mathematics, MIT.
7. Elad Serman-Cohen, Ph. D., Department of Mechanical Engineering, *external* graduate student. Single advisor. [Papers 90, 93, 94, 98, C131, C133, C134]. Jacobs Award of Excellence-2020, Graduated in June 2021, Currently, Rafael R&D Defense System.

*Current Students* [1]

1. Raj Gandhi, Ph. D., started in July 2022. Co-advisor: Prof. A. A. Nepomnyashchy, Interdepartmental Program in Applied Mathematics.

### **Supervision of postgraduate fellows [8]:**

1. Leonid Braverman, 1992-1994. Single supervisor. [Papers 21, 23, 32, C15]. Currently, Adjunct Assistant Professor, Department of Physics & Astronomy, St Mary's University, Calgary, Alberta, Canada.
2. Igor Keller, 1995-1997, with Prof. P. Z. Bar-Yoseph as a co-supervisor. [Papers 30, C18, C22]. Currently, software architect in Cadence Inc., San Jose, CA, USA.
3. Kentaro Kanatani, 2009-2010, with Prof. A. A. Nepomnyashchy as a co-supervisor. [Papers 65, 86, C73, C78, C79, C81, C82, C84, C85, C122]. Currently, Research Associate, Department of Industrial Technology, Tsukuba University of Technology, Tsukuba, Japan.
4. William R. Batson, 2014-2016, with Prof. Y. Agnon as a co-supervisor. [Papers 84, 89, C118, C119, C125, C129, C130].
5. Mariano Galvagno, March 2017-September 2017, with Prof. Y. Agnon as a co-supervisor. December 2017-December 2019, with Prof. G. Ramon (Civil Eng., Technion) as a co-supervisor. Currently, visiting researcher, University of Plymouth, UK.
6. Ramkarn Patne, June 2019- February 2021, with Profs. Y. Agnon and G. Ramon (Civil Eng., Technion) as co-supervisors. [Papers 97, 99, 100, 101, 103, 104]. Currently, Assistant Professor at Indian Institute of Technology Hyderabad, India.
7. Raphael Schwarz, November 2020- October 2021. Currently, Lecturer at the Department of Civil Engineering, Ariel University.
8. Abhishek Banerjee, May 2021- April 2023, with Prof. Y. Agnon (Civil Eng., Technion) as a co-supervisor. Currently, Assistant Professor at the Mathematics Department, SRM University, Chennai, India.

### **LIST OF PUBLICATIONS:**

#### **Theses**

1. M. Sc. Thesis: "*Pure Envelope of a Module*", 1974.
2. D. Sc. Thesis: "*Turbulent Deposition of Solid Particles with and without Electric Effects*", 1986.

#### **Refereed papers in professional journals<sup>1</sup>**

1. D. Naot and A. Oron, "*Hydrodynamic Response of Fuel Rod with Longitudinal Fins to Upstream Generated Vortices*", Nuclear Engineering and Design **83**, 123-129 (1984).
2. A. Oron and C. Gutfinger, "*On Turbulent Deposition of Particles to Rough Surfaces*", Journal of Aerosol Science **17**, 903-920 (1986).
3. A. Oron and P. Rosenau, "*Some Symmetries of the Nonlinear Heat and Wave Equations*", Physics Letters A **118**, 172-176 (1986).
4. S. Hassid, A. Oron and C. Gutfinger, "*An Asymptotic Description of Electrostatic Precipitation of Charged Particles in Turbulent Flow*", Journal of Aerosol Science **18**, 357-367 (1987).
5. A. Oron, C. Gutfinger and S. Hassid, "*Turbulent Deposition of Charged Particles under the Influence of an External Electric Field*", Journal of Colloid and Interface Science **121**, 531-542 (1988).
6. M. Shapiro, A. Oron and C. Gutfinger, "*A Dispersion Model of Electrostatic Precipitation of Particles from Turbulent Flows*", Physicochemical Hydrodynamics **10**, 471-491 (1988).
7. M. Shapiro, A. Oron and C. Gutfinger, "*Electrostatic Precipitation of Charged Particles from a Turbulent Flow between Coaxial Cylinders*", Journal of Colloid and Interface Science **127**, 401-416 (1989).

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<sup>1</sup> Graduate students and postdocs underlined

8. A. Oron and P. Rosenau, "*Evolution of the Coupled Benard-Marangoni Convection*", Physical Review A **39**, 2063-2069 (1989).
9. A. Oron and P. Rosenau, "*Nonlinear Evolution and Breaking of Interfacial, Rayleigh-Taylor Waves*", Physics of Fluids A-Fluid Dynamics, **1**, 1155-1165 (1989).
10. A. Oron, J. H. Seinfeld and K. Okuyama, "*The Dynamic Behavior of Charged Aerosols. I. Particle Charging in the Low Particle Concentration Limit*", Journal of Colloid and Interface Science **133**, 57-65 (1989).
11. A. Oron and J. H. Seinfeld, "*The Dynamic Behavior of Charged Aerosols. II. Numerical Solution by the Sectional Method*", Journal of Colloid and Interface Science **133**, 66-79 (1989).
12. A. Oron and J. H. Seinfeld, "*The Dynamic Behavior of Charged Aerosols. III. Simultaneous Charging and Coagulation*", Journal of Colloid and Interface Science **133**, 80-90 (1989).
13. P. Rosenau and A. Oron, "*Evolution and Breaking of Liquid Film Flowing on a Vertical Cylinder*", Physics of Fluids A-Fluid Dynamics **1**, 1763-1766 (1989).
14. R. J. Deissler, A. Oron and Y. C. Lee, "*Evolution of Two-Dimensional Waves in Externally Perturbed Flow on a Vertical Cylinder*", Physical Review A **43**, 4558-4561 (1991).
15. A. Oron and P. Rosenau, "*Formation of Patterns Induced by Thermocapillarity and Gravity*", Journal de Physique II France **2**, 131-146 (1992).
16. H. S. Brown, I. G. Kevrekidis, A. Oron and P. Rosenau, "*Bifurcations and Pattern Formation in the Regularized Kuramoto-Sivashinsky Equation*", Physics Letters A **163**, 299-308 (1992).
17. P. Rosenau, A. Oron and J. M. Hyman, "*Bounded and Unbounded Patterns of the Benney Equation*", Physics of Fluids A-Fluid Dynamics **4**, 1102-1104 (1992).
18. R. J. Deissler and A. Oron, "*Stable Localized Patterns in Thin Liquid Films*", Physical Review Letters **68**, 2948-2951 (1992).
19. A. L. Yarin, A. Oron and P. Rosenau, "*Capillary Instability of Thin Liquid Film on a Cylinder*", Physics of Fluids A-Fluid Dynamics **5**, 91-98 (1993).
20. A. Oron and D. A. Edwards, "*Stability of a Falling Liquid Film in the Presence of Interfacial Viscous Stress*", Physics of Fluids A-Fluid Dynamics **5**, 506-508 (1993).
21. L. Braverman and A. Oron, "*On the Oscillatory Instability of a Fluid Layer in a High-frequency Vibrational Field in the Weightlessness*", European Journal of Mechanics B/Fluids **13**, 115-128 (1994).
22. A. Oron and P. Rosenau, "*On a Nonlinear Thermocapillary Effect in Thin Liquid Layers*", Journal of Fluid Mechanics **273**, 361-374 (1994).
23. L. Braverman and A. Oron, "*Weakly Nonlinear Analysis of the Vibrational Convective Instability in a Fluid Layer*", European Journal of Mechanics B/Fluids **13**, 557-572 (1994).
24. A. Oron, R. J. Deissler and J. C. Duh, "*Marangoni Instability in a Liquid Sheet*", Advances in Space Research **16**, (7) 83-(7) 86 (1995).
25. D. A. Edwards and A. Oron, "*Instability of a Nonwetting Film with Interfacial Viscous Stress*", Journal of Fluid Mechanics **298**, 287-309 (1995).
26. A. Oron, R. J. Deissler and J. C. Duh, "*Marangoni Instability in a Layer with two Free Surfaces*", European Journal of Mechanics B/Fluids **14**, 737-760 (1995).
27. A. Oron, S. G. Bankoff and S. H. Davis, "*Thermal Singularities in Film Rupture*", Physics of Fluids **8**, 3433-3435 (1996).
28. V. Kats-Demyanets, A. Oron and A. A. Nepomnyashchy, "*Linear Stability of a Tri-layer Fluid System Driven by the Thermocapillary Effect*", Acta Astronautica **40**, 655-661 (1997).
29. V. Kats-Demyanets, A. Oron and A. A. Nepomnyashchy, "*Marangoni Instability in Tri-layer Liquid Systems*", European Journal of Mechanics B/Fluids **16**, 49-74 (1997).
30. I. Keller, A. Oron and P. Z. Bar-Yoseph, "*Regular and Irregular Regimes of Binary Fluid Convection Excited by Parametric Resonance*", Physical Review E **55**, 3743-3746 (1997).

31. A. Oron and P. Rosenau, "*Evolution and Formation of Dispersive-dissipative Patterns*", *Physical Review E* **55**, 1267-1270 (1997).
32. L. Braverman and A. Oron, "*Coupled Double-Diffusive Thermocapillary Instability: Linear and Nonlinear Analysis*", *Journal of Engineering Mathematics* **32**, 343-364 (1997).
33. A. Oron and Y. Peles, "*Stabilization of Thin Liquid Films by Internal Heat Generation*", *Physics of Fluids* **10**, 537-539 (1998).
34. A. Oron and S. G. Bankoff, "*Dewetting of a Heated Surface by an Evaporating Liquid Film under Conjoining/Disjoining Pressures*", *Journal of Colloid and Interface Science* **218**, 152-166 (1999).
35. A. Oron, "*Nonlinear Dynamics of Irradiated Thin Volatile Liquid Films*", *Physics of Fluids* **12**, 29-41 (2000).
36. A. Oron, "*Nonlinear Dynamics of Three-dimensional Long-wave Marangoni Instability in Thin Liquid Films*", *Physics of Fluids* **12**, 1633-1645 (2000).
37. A. Oron, "*Three-dimensional Nonlinear Dynamics of Thin Liquid Films*", *Physical Review Letters* **85**, 2108-2111 (2000).
38. A. Oron and S. G. Bankoff, "*Dynamics of a Condensing Liquid Film Under Conjoining/Disjoining Pressures*", *Physics of Fluids* **13**, 1107-1117 (2001).
39. A. Oron and O. Gottlieb, "*Nonlinear Dynamics of Temporally Excited Falling Liquid Films*", *Physics of Fluids* **14**, 2622-2636 (2002).
40. B. Scheid, A. Oron, P. Colinet, U. Thiele and J. C. Legros, "*Nonlinear Evolution of Non-uniformly Heated Falling Liquid Films*", *Physics of Fluids* **14**, 4130-4151 (2002); Erratum, *Physics of Fluids* **15**, 583 (2003).
41. A. Oron, "*Theory of Thin Liquid Films: Some Questions and Challenges*", *European Physical Journal E- Soft Matter* **12**, 455-458 (2003).
42. A. Oron and A. A. Nepomnyashchy, "*Long-wavelength Thermocapillary Instability with the Soret Effect*", *Physical Review E* **69**, 016313-1— 016313-17 (2004).
43. A. Oron and O. Gottlieb, "*Subcritical and Supercritical Bifurcations of the First- and Second Order Benney Equations*", *Journal of Engineering Mathematics* **50**, 121-140 (2004).
44. O. Gottlieb and A. Oron, "*Stability and Bifurcations of Parametrically Excited Thin Liquid Films*", *International Journal of Bifurcation and Chaos* **14**, 4117-4141 (2004).
45. A. Podolny, A. Oron and A. A. Nepomnyashchy, "*Longwave Marangoni Instability in a Binary-liquid Layer with Deformable Interface in the Presence of Soret Effect: Linear Theory*", *Physics of Fluids* **17**, 104104-1— 104104-25 (2005).
46. A. Podolny, A. Oron and A. A. Nepomnyashchy, "*Linear and Nonlinear Theory of Long-wave Marangoni Instability with the Soret Effect at Finite Biot Numbers*", *Physics of Fluids* **18**, 054104-1— 054104-20 (2006).
47. S. Shklyaev, A. A. Nepomnyashchy and A. Oron, "*Three - dimensional Oscillatory Long-wave Marangoni Convection in a Binary Liquid Layer with the Soret Effect: Bifurcation Analysis*", *Physics of Fluids* **19**, 072105-1— 072105-14 (2007).
48. J. Zhang, R. P. Behringer and A. Oron, "*Marangoni Convection in Binary Mixtures*", *Physical Review E* **76**, 016306-1— 016306-7 (2007).
49. A. Alexeev and A. Oron, "*Suppression of the Rayleigh-Taylor Instability of Thin Liquid Films by the Marangoni Effect*", *Physics of Fluids* **19**, 082101-1— 082101-9 (2007).
50. A. Podolny, A. A. Nepomnyashchy and A. Oron, "*Long- wave Marangoni Instability in a Binary Liquid Layer on a Thick Solid Substrate*", *Physical Review E* **76**, 026309-1— 026309-17 (2007).
51. L. Moldavsky, M. Fichman and A. Oron, "*Dynamics of Thin Liquid Films Falling on Vertical Cylindrical Surfaces Subjected to Ultrasound Forcing*", *Physical Review E* **76**, 045301-1— 045301-4 (2007).



52. A. Podolny, A. A. Nepomnyashchy and A. Oron, "*Long-wave Coupled Marangoni - Rayleigh Instability in a Binary Liquid Layer in the Presence of the Soret Effect*", *Mathematical Modelling of Natural Processes* **3** (1), 1-26 (2008).
53. A. Oron and C. Heining, "*Weighted- residual Integral Boundary- layer Model for the Nonlinear Dynamics of Thin Liquid Films Falling on an Undulating Vertical Wall*", *Physics of Fluids* **20**, 082102-1 — 082102-16 (2008).
54. G. Ramon and A. Oron, "*Capillary Rise of a Meniscus with Phase Change*", *Journal of Colloid and Interface Science* **327**, 145-151 (2008).
55. O. A. Frolovskaya, A. A. Nepomnyashchy, A. Oron and A. A. Golovin, "*Stability of a Two-layer Binary-fluid System With a Diffuse Interface*", *Physics of Fluids* **20**, 112105-1— 112105-16 (2008).
56. A. Oron, O. Gottlieb and E. Novbari, "*Numerical Analysis of a Weighted- residual Integral Boundary- layer Model for Nonlinear Dynamics of Falling Liquid Films*", *European Journal of Mechanics B/Fluids* **28**, 1-36 (2009).
57. A. Oron, O. Gottlieb and E. Novbari, "*Weighted- residual Integral Boundary- layer Model of Temporally Excited Falling Liquid Films*", *European Journal of Mechanics B/Fluids* **28**, 37-60 (2009).
58. S. Shklyaev, A. A. Nepomnyashchy and A. Oron, "*Long- wave Oscillatory Convection in a Binary Liquid: Hexagonal Patterns*", *Europhysics Letters* **86**, 14005-p.1— 14005-p.6 (2009).
59. S. Shklyaev, A. A. Nepomnyashchy and A. Oron, "*Marangoni Convection in a Binary Liquid Layer with Soret Effect at Small Lewis Number: Linear Stability Analysis*", *Physics of Fluids* **21**, 054101-1— 054101-18 (2009).
60. E. Novbari and A. Oron, "*Energy Integral Method Model for the Nonlinear Dynamics of an Axisymmetric Thin Liquid Film Falling on a Vertical Cylinder*", *Physics of Fluids* **21**, 062107-1— 062107-17 (2009).
61. P. Kalitzova-Kurteva, S. Slavtchev and A. Oron, "*Long-Wavelength Monotonic Marangoni Instability in a Binary Mixture Layer with Nonlinear Soret Effect*", *Journal of Theoretical and Applied Mechanics* **39**, 31-54 (2009).
62. S. Slavtchev, P. Kalitzova-Kurteva, and A. Oron, "*Long-Wavelength Oscillatory Marangoni Instability in a Binary Mixture Layer with Nonlinear Soret Effect*", *Journal of Theoretical and Applied Mechanics* **39**, 63-78 (2009).
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- S2. K. Chen, J. Li, C. Wei, A. Oron, Y. Shan, and Y. Jiang, "*Soft Wetting: Substrate Softness- and Time-Dependent Droplet/Bubble Adhesion*", submitted, *Journal of Colloid and Interface Science*, 2023.

**Review papers:**

- RP1. A. Oron, S. H. Davis, and S. G. Bankoff, "*Long-scale Evolution of Thin Liquid Films*", *Reviews of Modern Physics*, **69**, 931-980 (1997).
- RP2. A. Oron, "*Physics of Thin Liquid Films*", Invited review paper in the *MEMS Handbook*, edited by M. Gad-el-Hak, Chapter 10, 10-1 – 10-49, CRC Press (2001). Revised and extended 2<sup>nd</sup> edition- Chapter 12, 12-1 – 12-49, Taylor and Francis (2006).

**Papers and chapters in books:**

- CB1. A. Oron, and S. G. Bankoff, "*Regularization of Singularities in the Theory of Thin Liquid Films*", in "Non-Linear singularities in deformation and flow" (edited by J. R. A. Pearson and D. Durban), Kluwer, 339-348 (1999).
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### Refereed papers in Conference Proceedings<sup>2</sup>:

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- RC2. A. Oron and O. Gottlieb, "*Subcritical and supercritical bifurcations of the Benney equation*", Proceedings of the International Conference on Computational and Experimental Engineering and Sciences, Symposium on Instabilities and Bifurcations in Fluid Mechanics, Madeira, Portugal, July 2004, Ed. by A. Tadeu and S. N. Atluri, ISBN 0-9657001-6-X.
- RC3. A. Oron, O. Gottlieb and E. Novbari, "*Bifurcations of a weighted residual integral boundary layer model for nonlinear dynamics of modulated falling liquid films*", Journal of Physics, Conference Series **64**, 012007-1--012007-10 (2007).
- RC4. A. Podolny, A. Oron and A. A. Nepomnyashchy, "*Weakly nonlinear dynamics of the longwave Marangoni instability in binary-liquid films with the Soret effect*", Proceedings of the International Conference on Applications of Fluid Mechanics in Industry and Environment, Ed. B. S. Mazumder and B. S. Dandapat, p. 35-42, 2006, Research Publishing (Chennai-Singapore).
- RC5. A. Podolny, A. Oron and A. A. Nepomnyashchy, "*Long-wave Marangoni instability in a binary-liquid layer with a deformable interface in the presence of the Soret effect: the case of finite Biot numbers*", Journal of Nonequilibrium Thermodynamics **32**, 203-210 (2007).
- RC6. V. Frumkin and A. Oron, "*Nonlinear dynamics of a sustained thermocapillary flow of a thin liquid film in a confined two-layer system under a hydrophobic surface*", Proceedings of the 16<sup>th</sup> International Heat Transfer Conference IHTC16, IHTC16-22105, Begell House (2018).

### Invited and keynote lectures at International Conferences:

- I1. The 13th US National Congress of Applied Mechanics, the C-S Yih Memorial Symposium on "Interfacial Fluid Dynamics and Stability", Gainesville, Florida, Invited lecture, "*Nonlinear dynamics and stability of thin liquid films*", June 1998.
- I2. International Workshop and Seminar on "Small Scale Dynamics of Physico-Chemical Processes at Interfaces", Max-Planck-Institute for the Physics of Complex Systems, Dresden, Germany, Invited lecture, "*Nonlinear dynamics of thin liquid films subjected to Marangoni effects*", June 1998.
- I3. Workshop on Patterns, Waves and Defects, Universidad Complutense de Madrid, Instituto Pluridisciplinar, Madrid, Spain, Invited lecture, "*Nonlinear dynamics of irradiated thin liquid films*", November 1998.
- I4. Workshop on Dynamics of Thin Fluid Films, The International Centre for Mathematical Sciences (ICMS), Edinburgh, Scotland, **Keynote lecture**, "*Dewetting of solid surfaces by evaporating liquid films*", July 1999.
- I5. The 38th Annual Technical Meeting of Society of Engineering Science, Joint with ASME, ASCE. "G. I. Taylor Medalist Symposium in honor of S.H. Davis: Solidification, Fluid Dynamics and Interaction", San Diego, California, Invited lecture, "*Dewetting of patterned surfaces by thin liquid films*", June 2001.

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<sup>2</sup> Graduate students and postdocs underlined

- I16. The 5th World Congress on Computational Mechanics, Symposium on Numerical methods in thin film flows, Vienna, Austria, Invited lecture, "*Dewetting of chemically heterogeneous substrates by thin liquid films*", July 2002.
- I17. International Conference on Computational and Experimental Engineering and Sciences, Symposium on Instabilities and Bifurcations in Fluid Mechanics, Madeira, Portugal, **Keynote lecture**, "*Subcritical and supercritical bifurcations of the Benney Equation*", July 2004.
- I18. The NSF sponsored Pan-American Advanced Studies Institute on Interfacial Fluid Dynamics: From Theory to Applications, Mar del Plata, Argentina, Invited Lecturer and Discussion Leader, "*Interfacial problems with phase change*", August 2007.
- I19. International Workshop on Complex Systems in Fluid Flows, Calcutta, India, a series of two invited lectures, "*Marangoni instability in binary-liquid layers and films*", August 2007.
- I110. The 11<sup>th</sup> National Congress of Bulgaria on Theoretical and Applied Mechanics, Borovets, Bulgaria, **Plenary lecture**, "*Stability of temporally forced falling liquid films and drops*", September 2009.
- I111. The 5<sup>th</sup> International Topical Team Workshop on two-phase systems for ground and space applications, Kyoto, Japan, **Keynote lecture**, "*Stabilization of liquid films by temporal forcing*", September 2010.
- I112. Focus Workshop on Multiscale Complex Fluid Flows and Interfacial Phenomena, Dresden, Germany, Invited lecture, "*Stability of a liquid film on a forced fiber*", October 2012.
- I113. Workshop on "Soft Matter and Interfaces 2013", organized by Max Planck Institute for Intelligent Systems, Schloss Ringberg, Germany, Invited lecture. "*Stability of liquid films on a forced cylindrical surface*", March 2013.
- I114. 1st i<sup>2</sup>plus International Symposium on Interfacial Thermo-Fluid Dynamics, Noda, Japan, Invited lecture. "*Thermocapillary pumping of thin liquid films*", April 2013.
- I115. Winter school "Kinetics of wetting/spreading of complex liquids", Loughborough University, England, Invited lecture. "*Instabilities in binary-liquid films*", January 2015.
- I116. 3rd i<sup>2</sup>plus International Symposium on Interfacial Thermo-Fluid Dynamics, Tokyo, Japan, Invited lecture. "*Nonlinear dynamics of a thin liquid film on a laterally vibrating corrugated wall in the high-frequency limit*", April 2015.

**Contributed papers at international conferences:**

- C1. The 3<sup>rd</sup> International Conference on Numerical Methods in Laminar and Turbulent Flows, Seattle, Washington USA, August 1983. Bar-Yoseph, Oron and Israeli, "*Asymptotic finite element method for boundary layer problems*".
- C2. The 2<sup>nd</sup> International Aerosol Conference, West Berlin, Germany, September 1986. Oron, Gutfinger and Hassid, "*A semi-lagrangian model for the electrostatic precipitation of particles in turbulent flow*".
- C3. The 1988 Annual Meeting of the American Association for Aerosol Research, Chapel Hill, North Carolina, USA, October 1988. Oron and Seinfeld, "*Dynamics of the size-charge distribution of aerosols during simultaneous charging and coagulation*".
- C4. The 1989 March Meeting of the American Physical Society, St. Louis, Missouri USA, March 1989. Oron and Rosenau, "*Nonlinear evolution and breaking of interfacial Rayleigh-Taylor waves*".
- C5. The 42<sup>nd</sup> Annual Meeting of Division of Fluid Mechanics of the American Physical Society, Palo Alto, California USA, November 1989. Oron and Rosenau, "*Evolution and breaking of liquid film flowing on a vertical cylinder*".

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- C7. The 43<sup>rd</sup> Annual Meeting of the Division of Fluid Mechanics of the American Physical Society, Ithaca, New York USA, November 1990. Deissler, Oron and Lee, "*Evolution of two-dimensional waves in externally perturbed flow on a vertical cylinder*".
- C8. The 44<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics of the American Physical Society, Scottsdale, Arizona USA, November 1991. Rosenau, Oron and Hyman, "*The surprising Benney equation*".
- C9. The International Symposium on Spatio-Temporal Structure and Chaos in Heat and Mass Transfer Processes, Athens, Greece, May 1992. Deissler and Oron, "*Emergence of stable localized patterns in thin liquid films*".
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- C12. The 46<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics of the American Physical Society, Albuquerque, New Mexico USA, 1993. Deissler, Oron and Duh, "*Marangoni convection in a layer with two free surfaces*". Bull. Amer. Phys. Soc. **38** (1993).
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- C17. The 48<sup>th</sup> Annual Meeting of Division of Fluid Mechanics of the American Physical Society, Irvine, California USA, November 1995. Oron and Rosenau, "*On natural and artificial catastrophies in certain interfacial phenomena*", Bull. Amer. Phys. Soc. **40**, IK (1995).
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- C20. IUTAM Symposium on Nonlinear Singularities in Deformation and Flow, Haifa, Israel, March 1997. Oron and Bankoff, "*Regularization of singularities in the theory of thin liquid films*".
- C21. The 3<sup>rd</sup> EUROMECH Conference on Fluid Mechanics, Goettingen, Germany, September 1997. Oron and Bankoff, "*Dewetting of solid surfaces covered by thin liquid films*".
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- C23. International Conference on Heat and Mass Transfer, Kanpur, India, December 1997. Bankoff and Oron, "*Stability and rupture of thin liquid films*", in Heat and Mass Transfer 97 (edited by V. K. Dhir and R. C. Malhotra), Narosa Publishing House, 1998.

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- C25. The 52<sup>nd</sup> Annual Meeting of Division of Fluid Mechanics of the American Physical Society, New Orleans, Louisiana USA, November 1999, Oron, "*Three-dimensional evolution of Marangoni instability in thin liquid films*", Bull. Amer. Phys. Soc. **44**, FN (1999).
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- C45. Second International Symposium on Instability and Bifurcations in Fluid Dynamics, Copenhagen, Denmark, August 2006, Oron, Gottlieb and Novbari, "*Bifurcations of a weighted residual integral boundary layer model for nonlinear dynamics of modulated falling liquid films*".
- C46. Second International Symposium on Instability and Bifurcations in Fluid Dynamics, Copenhagen, Denmark, August 2006, Oron, Podolny and Nepomnyashchy, "*Pattern formation in the longwave Marangoni instability of a binary liquid with the Soret effect*".
- C47. International Topical Team Workshop 2006, Brussels, Belgium, September 2006, Podolny, Nepomnyashchy and Oron, "*Longwave Marangoni instability with Soret effect at finite Biot numbers*".
- C48. International Aerosol Conference 2006, St Paul, Minnesota USA, September 2006, L. Moldavsky, C. Gutfinger, A. Oron and M. Fichman, "*Effect of sonic waves on wet gas filtration by granular beds*".
- C49. Third International Conference of the International Marangoni Association on Interfacial Fluid Dynamics and Processes in Physico-Chemical and Bio Systems (IMA3), Gainesville, Florida, USA, November 2006, Podolny, Nepomnyashchy and Oron, "*Longwave Marangoni instability with Soret effect at finite Biot numbers*".
- C50. Third International Conference of the International Marangoni Association on Interfacial Fluid Dynamics and Processes in Physico-Chemical and Bio Systems (IMA3), Gainesville, Florida USA, November 2006, Moldavsky and Oron, "*Effect of ultrasound forcing on falling liquid films*".
- C51. The 59<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida USA, November 2006, Oron, Behringer and Zhang, "*Marangoni instability in an evaporating layer of binary-liquid in the presence of Soret effect*", Bull. Amer. Phys. Soc. **51**, 59 (2006).
- C52. The 59<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida USA, November 2006, Mukhopadhyay, Behringer and Oron, "*Thin film flows over structured substrates*", Bull. Amer. Phys. Soc. **51**, 131-132 (2006).
- C53. The 59<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida USA, November 2006, Zhang, Behringer and Oron, "*Marangoni convection experiment in binary mixtures*", Bull. Amer. Phys. Soc. **51**, 234-235 (2006).
- C54. The 59<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida USA, November 2006, Nepomnyashchy, Shklyaev and Oron, "*Three-dimensional oscillatory large-scale Marangoni convection in a binary liquid layer*", Bull. Amer. Phys. Soc. **51**, 111 (2006).

- C55. The 3<sup>rd</sup> International Symposium on Physical Sciences in Space, Nara, Japan, October 2007, Podolny, Oron and Nepomnyashchy, "*Marangoni convection in binary and nano-fluids in the presence of Soret effect*".
- C56. The 60<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Salt Lake City, Utah USA, November 2007, Zhang, Behringer and Oron, "*Marangoni convection in ethanol and water mixture*", Bull. Amer. Phys. Soc. **52** (12) JP (2007).
- C57. The 60<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Salt Lake City, Utah USA, November 2007, Podolny, Nepomnyashchy and Oron, "*Marangoni convection in binary and nano-fluids*", Bull. Amer. Phys. Soc. **52** (12) KG (2007).
- C58. The 60<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Salt Lake City, Utah USA, November 2007, Frolovskaya, Nepomnyashchy, Oron and Golovin, "*Stability of a two-layer binary fluid system with diffuse interface*", Bull. Amer. Phys. Soc. **52** (12) NG (2007).
- C59. The 5<sup>th</sup> European Thermal-Sciences Conference EUROTHERM08, Eindhoven, The Netherlands, May 2008, Podolny, Oron and Nepomnyashchy, "*Marangoni convection in binary and nano-fluids in the presence of the Soret effect*".
- C60. The 5<sup>th</sup> European Thermal-Sciences Conference EUROTHERM08, Eindhoven, The Netherlands, May 2008, Shklyaev, Nepomnyashchy and Oron, "*Oscillatory longwave Marangoni convection in a layer of binary liquid: hexagonal patterns*".
- C61. The 8<sup>th</sup> International Meeting on Thermodiffusion (IMT8), Bonn, Germany, June 2008, Podolny, Nepomnyashchy and Oron, "*Marangoni convection in binary and nano-fluids in the presence of the Soret effect*". Thermal Nonequilibrium- Lecture Notes of the 8<sup>th</sup> International Meeting on Thermodiffusion, Forschungszentrum, Julich, 2008. p. 235-242. ISBN 1866-1807, ISBN 978-3—89336-523-4.
- C62. The 8<sup>th</sup> International Meeting on Thermodiffusion (IMT8), Bonn, Germany, June 2008, Shklyaev, Nepomnyashchy and Oron, "*Marangoni convection in a binary liquid layer at small Lewis numbers*".
- C63. The Seventh European Conference on Fluid Mechanics, Manchester, Great Britain, September 2008, Oron and Alexeev, "*Suppression of the Rayleigh-Taylor instability of thin liquid films by the Marangoni effect*".
- C64. The Seventh European Conference on Fluid Mechanics, Manchester, Great Britain, September 2008, Podolny, Nepomnyashchy and Oron, "*Marangoni convection in nanofluids in the presence of the Soret effect*".
- C65. The Fourth International Conference of the International Marangoni Association on Interfacial and Micro-Fluid Dynamics and Processes (IMA4), Tokyo, Japan, October 2008, Oron and Alexeev, "*Marangoni effect as a suppressor of the Rayleigh-Taylor instability in thin liquid films*".
- C66. The Fourth International Conference of the International Marangoni Association on Interfacial and Micro-Fluid Dynamics and Processes (IMA4), Tokyo, Japan, October 2008, Podolny, Nepomnyashchy and Oron, "*Marangoni instability in binary liquids and nanofluids in the presence of the Soret effect*".
- C67. The 61<sup>st</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, San Antonio, Texas USA, November 2008, Shklyaev, Nepomnyashchy and Oron, "*Hexagonal patterns in longwave oscillatory convection in a binary liquid*", Bull. Amer. Phys. Soc. **53**, (15) HF (2008).
- C68. EUROMECH Colloquium 497 - Recent Developments and New Directions in Thin-Film Flow, Edinburgh, Scotland, United Kingdom, July 2009, Oron, "*Stability of temporally forced liquid films*".

- C69. The 3<sup>rd</sup> International Symposium on Instabilities and bifurcations in fluid dynamics, Nottingham, Great Britain, August 2009, Shklyaev, Nepomnyashchy and Oron, "*Longwave oscillatory Marangoni convection in a layer of a binary liquid at small Lewis numbers*".
- C70. The 3<sup>rd</sup> International Symposium on Instabilities and bifurcations in fluid dynamics, Nottingham, Great Britain, August 2009, Novbari and Oron, "*Energy integral method model for the nonlinear dynamics of an axisymmetric thin liquid film falling on a vertical cylinder*".
- C71. The 11<sup>th</sup> National Congress of Bulgaria on Theoretical and Applied Mechanics, Borovets, Bulgaria, September 2009, Shklyaev, Nepomnyashchy and Oron, "*Longwave oscillatory Marangoni convection in a layer of a binary liquid at small Lewis numbers*".
- C72. The 11<sup>th</sup> National Congress of Bulgaria on Theoretical and Applied Mechanics, Borovets, Bulgaria, September 2009, Slavtchev, Kalitzova-Kurteva and Oron, "*Long-wavelength oscillatory Marangoni instability in a binary liquid layer with nonlinear Soret effect*".
- C73. The 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Firenze, Italy, June 2010, Kanatani and Oron, "*Nonlinear dynamics in bounded thin liquid-vapor layers*".
- C74. The 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Firenze, Italy, June 2010, Alexeev, Mao and Oron, "*Thermocapillary ratchet flows along walls with asymmetric topography*".
- C75. The 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Firenze, Italy, June 2010, Haimovich and Oron, "*Nonlinear dynamics of a liquid coating on an axially oscillating cylinder*".
- C76. The 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Firenze, Italy, June 2010, Moldavsky, Fichman and Oron, "*Effect of ultrasound on liquid-solid interface*".
- C77. The Eighth European Conference on Fluid Mechanics, Munich, Germany, September 2010, Benilov and Oron, "*The maximum height of a static liquid column pulled out of an infinite pool*".
- C78. The 5<sup>th</sup> International Topical Team Workshop on two-phase systems for ground and space applications, Kyoto, Japan, September 2010, Kanatani and Oron, "*Nonlinear dynamics in bounded thin liquid-vapor layers*".
- C79. The 5<sup>th</sup> International Topical Team Workshop on two-phase systems for ground and space applications, Kyoto, Japan, September 2010, Kanatani, Oron and Nepomnyashchy, "*Energy integral model for heated falling films*".
- C80. The 63<sup>rd</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Long Beach, California USA, November 2010, Oron, Mao and Alexeev, "*Thermocapillary fluid pumping using traveling thermal waves*".
- C81. International Conference on Multiscale Complex Fluid Flows and Interfacial Phenomena, Brussels, Belgium, November 2010, Kanatani and Oron, "*Nonlinear dynamics of confined thin bilayer liquid-vapor systems with phase change*".
- C82. International Conference on Multiscale Complex Fluid Flows and Interfacial Phenomena, Brussels, Belgium, November 2010, Kanatani, Oron and Nepomnyashchy, "*Energy-integral model for heated falling films*".
- C83. The 82<sup>nd</sup> Annual Meeting, Society for Applied Mathematics and Mechanics - Gesellschaft fuer Angewandte Mathematik und Mechanik (GAMM), Graz, Austria, April 2011, Duruk and Oron, "*Nonlinear dynamics of a liquid film on an axially oscillating cylindrical surface in the high frequency limit*".
- C84. The 60<sup>th</sup> National Congress of Theoretical and Applied Mechanics, Tokyo, Japan, March 2011, Kanatani, Oron and Nepomnyashchy, "*Energy-integral model for heated falling films*".

- C85. The 6<sup>th</sup> European Coating Symposium, Turku, Finland, June 2011, Haimovich and Oron, "*Nonlinear dynamics of a thin liquid film on a horizontal cylinder subjected to axial vibration and thermocapillarity*".
- C86. The 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Barcelona, Spain, July 2011, Haimovich and Oron, "*Nonlinear dynamics of a nonisothermal thin liquid film on a horizontal cylinder subjected to axial vibration*".
- C87. The 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Barcelona, Spain, July 2011, Kanatani, Oron and Nepomnyashchy, "*Energy- integral model for heated falling films*".
- C88. The 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Barcelona, Spain, July 2011, Cao, Vlachogiannis, Bontozoglou and Oron, "*Experimental and theoretical evidence for a new instability in film flow along periodic corrugations*".
- C89. Week of Science, Madrid, Spain, September 2011, Oron and Duruk, "*Stability of thin liquid films on agitated surfaces*".
- C90. The 64<sup>th</sup> Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Baltimore, Maryland, November 2011, Nepomnyashchy, Shklyaev and Oron, "*Modulation instability of space-periodic oscillatory patterns*".
- C91. The ASME 2012 3rd Micro/Nanoscale Heat & Mass Transfer International Conference, Atlanta, Georgia, March 2012, Alexeev, Mao and Oron, "*Fluid Pumping Using Thermocapillary Wave*".
- C92. The 10th International Meeting of Thermodiffusion, Brussels, Belgium, June 2012, Slavtchev, Kalitzova-Kurteva and Oron, "*Long-wavelength Marangoni instability in a binary-liquid layer with the nonlinear Soret effect: Nonlinear analysis for monotonic instability*".
- C93. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Haimovich and Oron, "*Nonlinear dynamics of a thin liquid film on an axially oscillating cylindrical surface subjected to double-frequency forcing*".
- C94. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Bestehorn and Oron, "*Thin film behavior under external vibrations*".
- C95. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Duruk and Oron, "*Nonlinear dynamics of a liquid film on an axially oscillating cylindrical surface in the high-frequency limit*".
- C96. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Alexeev, Mao and Oron, "*Thermocapillary pumping by periodical heating*".
- C97. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Shklyaev, Nepomnyashchy and Oron, "*Modulation instability for a longwave oscillatory Marangoni convection*".
- C98. IMA6 - The 6<sup>th</sup> Conference of the International Marangoni Association, Haifa, Israel, June 2012, Morozov, Nepomnyashchy and Oron, "*Marangoni convection in binary fluids with soluble surfactant*".
- C99. NNM4 - The 4<sup>th</sup> International Conference on Localization, Energy Transfer and Nonlinear Normal Modes in Mechanics Association, Haifa, Israel, July 2012, Oron and Duruk, "*Stability of a thin liquid film on an axially oscillating cylindrical surface in the high-frequency limit*".
- C100. Summer School on Wave Patterns and Interactions in Advection- Dominated Flows, Volos, Greece, July 2012. Oron, "*Stability of thin liquid films on agitated surfaces*".

- C101. ICTAM 2012, Beijing, China, August 2012, Oron and Duruk, "*Stability analysis of a thin liquid film on an axially oscillating cylindrical surface in the high-frequency limit*", Abstract Book, ISBN 978-988-16022-3-7, p. 285.
- C102. The 65<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, San Diego, California USA, November 2012, Alexeev, Mao and Oron, "*Fluid pumping in thin films using traveling thermal waves*".
- C103. IUTAM Symposium on Nonlinear interfacial wave phenomena from the micro to the macro-scale, Limassol, Cyprus, April 2013, Shklyaev, Nepomnyashchy and Oron, "*Marangoni convection in a binary liquid: Modulational instability of perfectly periodic wavy patterns*",
- C104. The 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Haifa, Israel, July 2013. Mao, Alexeev, Oron, "*Fluid transport in thin liquid films using traveling thermal waves*".
- C105. The 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Haifa, Israel, July 2013. Bestehorn, Oron, "*Thin film behavior under external vibrations*".
- C106. The 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Haifa, Israel, July 2013. Haimovich, Oron, "*Nonlinear dynamics of large-amplitude drops on an axially oscillating cylindrical surface*".
- C107. The 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Haifa, Israel, July 2013. Morozov, Oron, Nepomnyashchy, "*Nonlinear dynamics of long-wave Marangoni convection in a 2D layer of binary liquid*".
- C108. The 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Haifa, Israel, July 2013. Duruk and Oron, "*Rayleigh-Taylor instability of a liquid film on a solid corrugated surface subjected to tangential oscillation*".
- C109. The 16<sup>th</sup> International Symposium on Thermal Science and Engineering, SIMTERM 2013, Sokobanja, Serbia, October 2013. Slavtchev, Kalitzova-Kurteva and Oron, "*Long-wavelength Marangoni instability in a binary mixture layer with nonlinear Soret effect*".
- C110. The 66<sup>th</sup> Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Pittsburgh, Pennsylvania USA, November 2013, Morozov, Nepomnyashchy and Oron, "*Long-wave Marangoni convection in a heated layer of binary liquid with surfactant adsorption/desorption*".
- C111. IMA7 - The 7<sup>th</sup> Conference of the International Marangoni Association, Vienna, Austria, June 2014, Frumkin, Mao, Alexeev and Oron, "*Creating localized droplet-train by traveling thermal waves*".
- C112. IMA7 - The 7<sup>th</sup> Conference of the International Marangoni Association, Vienna, Austria, June 2014, Haimovich and Oron, "*Healing of an axisymmetric thin liquid film on harmonically oscillating horizontal cylindrical surface*".
- C113. IMA7 - The 7<sup>th</sup> Conference of the International Marangoni Association, Vienna, Austria, June 2014, Morozov, Nepomnyashchy and Oron, "*Long-wave Marangoni convection in a binary- liquid layer with Soret effect and surfactant adsorption/desorption*".
- C114. The 10th American Institute of Mathematical Sciences (AIMS) Conference on Dynamical Systems, Differential Equations and Applications, Madrid, Spain, July 2014, Frumkin, Mao, Alexeev and Oron, "*Creation of localized drop train in a liquid film by traveling thermal waves*".
- C115. SIAM Conference on Nonlinear Waves and Coherent Structures, Cambridge, United Kingdom, August 2014, Oron and Rosenau, "*Compactons induced by non-convex advection*".
- C116. IUTAM Symposium on Complexity of Nonlinear Waves, Tallinn, Estonia, September 2014, Oron and Rosenau, "*Compactons induced by non-convex advection*".

- C117. The 10<sup>th</sup> European Fluid Mechanics Conference, Copenhagen, Denmark, September 2014, Frumkin, Mao, Alexeev and Oron, “*Creating localized drop train in a liquid film by traveling thermal waves*”.
- C118. The 8<sup>th</sup> GRACM International Congress on Computational Mechanics, Volos, Greece, July 2015, Batson, Agnon and Oron, “*Mass variation of a thin liquid film driven by an acoustic wave*”.
- C119. The 6<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Paris, France, July 2015, Batson, Agnon and Oron, “*Mass variation of a thin liquid film driven by an acoustic wave*”.
- C120. The 6<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Paris, France, July 2015, Morozov, Nepomnyashchy and Oron, “*Bifurcation analysis of the long-wave Marangoni instability emerging in a heated layer of surfactant solution in the presence of the Soret effect*”.
- C121. The 6<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Paris, France, July 2015, Frumkin and Oron, “*Nonlinear dynamics of a heated thin liquid film over asymmetric topography in a bi-layer system*”.
- C122. ICLASS 2015- The 13<sup>rd</sup> Triennial International Conference on Liquid Atomization and Sprays, Tainan, Taiwan, August 2015, Duruk and Oron, “*Control of droplet size and atomization rate of a liquid-film coating of a cylindrical substrate by high-frequency axial forcing*”.
- C123. The 10<sup>th</sup> International Conference on Two-phase Systems for Ground and Space Applications, Kyoto, Japan, September 2015, Kanatani, Oron and Kikura, “*Nonlinear effect on heat transfer and its modeling in Marangoni dropwise condensation of a binary vapor mixture*”.
- C124. IMA8 - The 8<sup>th</sup> Conference of the International Marangoni Association, Bad Honnef, Germany, June 2016, Novbari and Oron, “*Parametric excitation of the axisymmetric flow down a vertical cylinder*”.
- C125. IMA8 - The 8<sup>th</sup> Conference of the International Marangoni Association, Bad Honnef, Germany, June 2016, Batson, Agnon and Oron, “*Convective formation of traveling waves on thin liquid films*”.
- C126. IMA8 - The 8<sup>th</sup> Conference of the International Marangoni Association, Bad Honnef, Germany, June 2016, Frumkin and Oron, “*Ratchet flow on a substrate with an asymmetric topography sustained by the thermocapillary effect*”.
- C127. IMA8 - The 8<sup>th</sup> Conference of the International Marangoni Association, Bad Honnef, Germany, June 2016, Oron and Duruk, “*Nonlinear dynamics of thin liquid films on a corrugated substrate subjected to high-frequency forcing*”.
- C128. The 11<sup>th</sup> European Fluid Mechanics Conference, Sevilla, Spain, September 2016, Duruk and Oron, “*Patterning of a fast-oscillating corrugated surface via nonlinear dynamics of a coating liquid film*”.
- C129. 69<sup>th</sup> Annual Meeting of the APS Division of Fluid Dynamics, Portland, Oregon, USA, November 2016, Batson, Agnon and Oron, “*Oscillatory instability of a self-wetting film driven by thermal modulation*”.
- C130. BIFD2017-The 7<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, The Woodlands, Texas, USA, July 2017, Batson, Agnon and Oron, “*Thermocapillary modulation of self-wetting films*”.
- C131. BIFD2017- The 7<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, The Woodlands, Texas, USA, July 2017, Sterman-Cohen, Bestehorn, and Oron, “*Rayleigh-Taylor instability in thin liquid films subjected to harmonic vibration*”.
- C132. IHTC16- 16<sup>th</sup> International Heat Transfer Conference, Beijing, China, August 2018,

- Frumkin and Oron, “*Nonlinear dynamics of a sustained thermocapillary flow of a thin liquid film in a confined two-layer system under a hydrophobic surface*”.
- C133. IMA9- The 9<sup>th</sup> Conference of the International Marangoni Association, Guilin, China, August-September 2018, Sterman-Cohen, Bestehorn and Oron, “*Ratchet flows in thin films under two-frequency asymmetric tangential forcing*”.
- C134. BIFD2019- The 8<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Limerick, Ireland, July 2019, Sterman-Cohen, Bestehorn, and Oron, “*Ratchet flows in thin liquid films driven by two-frequency vibration*”.
- C135. BIFD2019- The 8<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Limerick, Ireland, July 2019, Frumkin and Oron, “*Amplification of Marangoni induced ratchet flow by Rayleigh-Taylor instability*”.
- C136. 4<sup>th</sup> Polish Congress of Mechanics, PCM-CMM-2019, Krakow, Poland, September 2019, Frumkin and Oron, “*Harnessing Rayleigh-Taylor instability for enhancement of thermocapillary ratchet flow*”.
- C137. IMA10- The 10<sup>th</sup> Conference of the International Marangoni Association, Iasi, Romania, June 2022, Patne, Agnon and Oron, “*Marangoni instability in a liquid layer subjected to an oblique temperature gradient*”.
- C138. IMA10- The 10<sup>th</sup> Conference of the International Marangoni Association, Iasi, Romania, June 2022, Bestehorn and Oron, “*Hopf instability of a Rayleigh-Taylor unstable thin film heated from the gas side in a liquid layer*”.
- C139. BIFD2022- The 9<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Groningen, The Netherlands, August 2022, Patne and Oron, “*Buoyancy instabilities in a liquid layer subjected to an oblique temperature gradient*”.
- C140. BIFD2022- The 9<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics, Groningen, The Netherlands, August 2022, Bestehorn and Oron, “*Hopf instability of a Rayleigh-Taylor unstable thin film heated from the gas side in a liquid layer*”.
- C141. IMA11- The 11<sup>th</sup> Conference of the International Marangoni Association, Bordeaux, France, June 2023, Gandhi, Oron and Nepomnyashchy, “*Marangoni convection in a nanoliquid layer*”.

### **Special Organizational Activities in Conferences:**

- 2023-2024: Co-organizer and Co-chair: Thematic Session on Thin Film Flows, International Congress on Theoretical and Applied Mechanics (ICTAM2024), Daegu, Korea, August 2024.
- 2022-2023: Member of the Advisory and Scientific Committees of the 11<sup>th</sup> International Marangoni Association Conference (IMA11) on Interfacial Fluid Dynamics and Processes, Bordeaux, France, June 2023.
- 2023: Chairman, Session, the 11<sup>th</sup> International Marangoni Association Conference (IMA11) on Interfacial Fluid Dynamics and Processes, Bordeaux, France, June 2023.
- 2021-2022: Member of the Advisory Committee of the 9<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2022), Groningen, The Netherlands, August 2022.
- 2019-2022: Member of the Advisory and Scientific Committees of the 10<sup>th</sup> International Marangoni Association Conference (IMA10) on Interfacial Fluid Dynamics and Processes, Iasi, Romania, June 2022.
- 2019: Co-organizer and Co-chairman (with M. Bestehorn) of the Mini-symposium on Thin Liquid Films (MS22), 4<sup>th</sup> Polish Congress of Mechanics, PCM-CMM-2019, Krakow, Poland, September 2019.

- 2019: Chairman, Sessions, the 8<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2019), Limerick, Ireland, July 2019.
- 2019: Organizer of the Special Session on Bifurcations and Instabilities of Thin Liquid Films and Drops (6 sessions with a total of 29 regular talks), the 8<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2019), Limerick, Ireland, July 2019.
- 2018-19: Member of the Organizing and Advisory Committees of the 8<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2019), Limerick, Ireland, July 2019.
- 2018: Member of the Organizing, Advisory and Scientific Committees of the 9<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Guilin, China, September 2018.
- 2018: Chairman, Session, the 9<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Guilin, China, September 2018.
- 2018: Chairman, Session, 16<sup>th</sup> International Heat Transfer Conference IHTC16, Beijing, China, August 2018.
- 2018: Member of the Scientific Committee of the IUTAM Symposium on Dynamics and Stability of Fluid Interfaces: April 2018, University of Florida, Gainesville, Florida, USA
- 2016-2017: Member of the Organizing and Advisory Committees of the 7<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2017), The Woodlands, Texas, USA, July 2017.
- 2017: Chairman, Sessions, the 7<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2017), The Woodlands, Texas, USA, July 2017.
- 2017: Chairman, Binational Israel-Germany GIF workshop on Liquid Films, Drops and Waves, Haifa, Israel, March 2017.
- 2016: Chairman, Session, the 8<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Bad Honnef, Germany, June 2016.
- 2015-2016: Member of the Organizing, Advisory and Scientific Committees of the 8<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Bad Honnef, Germany, June 2016.
- 2015: Chairman, Session, the 6<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2015), Paris, France, July 2015.
- 2015: Chairman, Session, the 8<sup>th</sup> GRACM International Congress on Computational Mechanics, Volos, Greece, July 2015.
- 2015: Organizer of the Special Session on Bifurcations and Instabilities of Thin Liquid Films and Drops (6 sessions with a total of 38 regular talks and 2 posters), the 6<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2015), Paris, France, July 2015.
- 2014: Chairman, Session, the 7<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Vienna, Austria, June 2014.
- 2013-2014: Member of the Organizing, Advisory and Scientific Committees of the 7<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Vienna, Austria, June 2014.
- 2011-2013 Co-organizer, the 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2013), Haifa, Israel, July 2013.
- 2013: Organizer of the Special Session on Bifurcations and Instabilities of Thin Liquid Films and Drops (4 sessions with a total of 22 regular talks), the 5<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2013), Haifa, Israel, July 2013.
- 2012: Chairman, Focus Workshop on Multiscale Complex Fluid Flows and Interfacial Phenomena, Dresden, Germany, October 2012.
- 2012: Co-chairman, Session, ICTAM, Beijing, China, August 2012.



- 2012: Scientific Committee, Summer School on Wave Patterns and Interactions in Advection-Dominated Flows, Volos, Greece, July 2012.
- 2010-2012: Chairman of the Organizing and Scientific Committees of the 6<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes, Haifa, Israel, June 2012.
- 2011: Chairman, Session, Week of Science, Madrid, Spain, September 2011.
- 2011: Chairman, Session, the 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2011), Barcelona, Spain, July 2011.
- 2011- Organizer of the Spring School on Complex Fluid Flows with Interfacial Phase Change, EU-funded RTN network MULTIFLOW, Haifa, Israel, April 2011.
- 2010-2011: Co-organizer, the 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2011), Barcelona, Spain, July 2011.
- 2010-2011: Organizer of the Special Session on Bifurcations and Instabilities of Thin Liquid Films and Drops (7 sessions with a total of 32 regular talks), the 4<sup>th</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2011), Barcelona, Spain, July 2011.
- 2010: Chairman, Session, International Conference on Multiscale Complex Fluid Flows and Interfacial Phenomena (MULTIFLOW 2010), Brussels, Belgium, November 2010.
- 2010: Chairman, Session, the 5<sup>th</sup> International Topical Team Workshop on two-phase systems for ground and space applications, Kyoto, Japan, September 2010
- 2010: Scientific Committee, International Conference on Multiscale Complex Fluid Flows and Interfacial Phenomena (MULTIFLOW 2010), Brussels, Belgium, November 2010.
- 2010: Chairman, Special Session in Memory of Prof. Abdel Zebib, the 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes (IMA5), Firenze, Italy, June 2010.
- 2010: Steering Committee, the 2<sup>nd</sup> International Conference on Chemical Engineering and Advanced Materials, VIRTUAL FORUM CEAM-VF, Naples, Italy, November 2010.
- 2009-2010: Scientific Committee, the 5<sup>th</sup> International Marangoni Association Conference on Interfacial Fluid Dynamics and Processes (IMA5), Firenze, Italy, June 2010.
- 2009: Steering Committee, the 1<sup>st</sup> International Conference on Chemical Engineering and Advanced Materials, VIRTUAL FORUM CEAM-VF, Naples, Italy, November 23<sup>rd</sup> - December 8<sup>th</sup>, 2009.
- 2009: Chairman, Session, the 11<sup>th</sup> National Congress of Bulgaria on Theoretical and Applied Mechanics, Borovets, Bulgaria, September 2009.
- 2009: Chairman, Session, Symposium on Instabilities and Bifurcations in Fluid Dynamics, Nottingham, Great Britain, August 2009.
- 2009: Organizer of the Special Session on Bifurcations and Instabilities of Thin Liquid Films and Drops (7 sessions with a total of 21 regular talks and 2 keynote lectures), the 3<sup>rd</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2009), Nottingham, Great Britain, August 2009.
- 2009: Co-organizer, the 3<sup>rd</sup> International Symposium on Instabilities and Bifurcations in Fluid Dynamics (BIFD2009), Nottingham, Great Britain, August 2009.
- 2009: Chairman, Session, EUROMECH Colloquium 497 - Recent Developments and New Directions in Thin-Film Flow, Edinburgh, Scotland, United Kingdom, July 2009.
- 2008: Scientific Committee, the 4<sup>th</sup> International Marangoni Association Conference on Interfacial and Micro-Fluid Dynamics and Processes (IMA4), Tokyo, Japan, October 2008.
- 2008: Chairman, Session, the Fourth International Conference of the International Marangoni Association on Interfacial and Micro-Fluid Dynamics and Processes (IMA4), Tokyo, Japan, October 2008.

- 2007: Scientific Committee, International Workshop on Complex Systems in Fluid Flows and Sedimentation Processes, Calcutta, India, August 2007.
- 2007: Chairman, Session, International Workshop on Complex Systems in Fluid Flows and Sedimentation Processes, Calcutta, India, August 2007.
- 2007: Chairman, Session, The NSF sponsored Pan-American Advanced Studies Institute on Interfacial Fluid Dynamics: From Theory to Applications, Mar del Plata, Argentina, August 2007.
- 2006: Scientific Committee, International Conference on Application of Fluid Mechanics in Industry and Environment, Calcutta, India, August 2006.
- 2006: Member of Award Committee, Gallery of Fluid Motion-video competition, The 59th Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida, November 2006.
- 2006: Chairman, Session FD Interfacial and Thin Film Instabilities III, The 59th Annual Meeting of the Division of Fluid Mechanics, American Physical Society, Tampa, Florida, November 2006.
- 2006: Chairman, Session, the Third International Conference of the International Marangoni Association on Interfacial Fluid Dynamics and Processes in Physico-Chemical and Bio Systems (IMA3), Gainesville, Florida, November 2006.
- 2006: Scientific Committee, International Workshop on Wave Dynamics and Stability of Thin Film Flow Systems, Chennai, India, September 2006.
- 2006: Chairman, Session, Symposium on Instabilities and Bifurcations in Fluid Mechanics, International Conference on Computational and Experimental Engineering and Sciences, Copenhagen, Denmark, August 2006.
- 2005: Editorial Committee, the 30th Israel Conference on Mechanical Engineering, Tel Aviv, May 2005.
- 2004: Chairman, Session, International Workshop on Pattern Formation Through Instabilities in Thin Liquid Films: From Fundamental Aspects to Applications. Dresden, Germany, September 2004.
- 2004: Chairman, Session, Symposium on Instabilities and Bifurcations in Fluid Mechanics, International Conference on Computational and Experimental Engineering and Sciences, Madeira, Portugal, July 2004.
- 2004: Chairman, Session on flow in thin films, the 21st International Congress of Theoretical and Applied Mechanics (IUTAM), Warsaw, Poland.
- 2003-2004: Invited Organizer (with Prof. Dr. G. Gruen, University of Bonn), Symposium on Thin Viscous Films/ Duenne viskose Filme, the 75th Annual Meeting, Society for Applied Mathematics and Mechanics - Gesellschaft fuer Angewandte Mathematik und Mechanik (GAMM), Dresden, Germany March 2004.
- 2002-2003: Chairman of Program Committee, the 29th Israel Conference on Mechanical Engineering, Technion, Haifa May 2003.
- 1998: Chairman, Session, International Workshop and Seminar on "Small Scale Dynamics of Physico-Chemical Processes at Interfaces", Max-Planck-Institute for the Physics of Complex Systems, Dresden, Germany, June 1998.
- 1997: Chairman, the 2nd James H. Belfer Memorial Symposium on Nonlinear Mechanics, Technion, Haifa June 1997.
- 1993: Chairman, the 7th Annual Meeting of the Israeli Association for Aerosol Research, Technion, Haifa June 1993.

**Seminars Presented:**

1. Institute for Computations in Propulsion (ICOMP), NASA Lewis Research Center, Cleveland, Ohio, August 1991.
2. "*Evolution and formation of dispersive - dissipative patterns*", Northwestern University, Evanston, Illinois, USA, October 1995.
3. "*Some aspects of theory of thin liquid films: rupture or not*", Northwestern University, Evanston, Illinois, USA, November 1995.
4. "*Instabilities of thin liquid films: Dewetting of solid surfaces covered by thin liquid films*", University of Florida, Gainesville, Florida, USA, February 1996.
5. "*On a generalized Kuramoto - Sivashinsky equation*", Notre-Dame University, South Bend, Indiana, USA, March 1996.
6. "*Three-dimensional evolution of volatile and nonvolatile liquid films*", Louisiana State University, Baton Rouge, Louisiana, November 1999.
7. "*Numerical solution of nonlinear evolution equations describing instabilities of thin liquid films*", Universite Libre de Bruxelles, Brussels, Belgium, December 2000.
8. "*Dewetting of homogeneous and heterogeneous solid surfaces by thin liquid films*", Instituto Pluridisciplinar, Universidad Complutense de Madrid, Madrid, Spain, July 2001.
9. "*Thermocapillary instability in a liquid layer with the Soret effect*", International Center for Mechanical Sciences (CISM), Udine, Italy, May 2002.
10. "*The Benney Equation: much known and (too) much unknown*", Universite Libre de Bruxelles, Brussels, Belgium, February 2003.
11. "*Nonlinear Dynamics of temporally excited falling liquid films*", University of Duisburg, Duisburg, Germany, May 2003.
12. "*Nonlinear dynamics of temporally excited falling liquid films - a dynamical-system approach*", Technical University of Denmark, Lyngby, Denmark, May 2003.
13. "*Longwave Marangoni instability in binary liquids with the Soret effect - the case of nondeformable interface*", Weierstrass Institute (WIAS), Berlin, Germany, July 2005.
14. "*Longwave Marangoni instability in binary liquids with the Soret effect - the case of nondeformable interface*", FRG Seminar, Duke University, Durham, North Carolina, USA, September 2005.
15. "*Longwave Marangoni instability in binary liquids with the Soret effect*", CNCS and Applied Mathematics Seminar, Duke University, Durham, North Carolina, USA, November 2005.
16. "*Nonlinear Dynamics of thin liquid films on a vertical (oscillating and non-oscillating) plane*", FRG Seminar, Duke University, Durham, North Carolina, USA, May 2006.
17. "*Pattern formation in longwave Marangoni instability in binary-liquid films with the Soret effect*", North Carolina State University, Raleigh, North Carolina, USA, April 2006.
18. "*Pattern formation in longwave Marangoni instability in binary-liquid films with the Soret effect*", University of Delaware, Newark, Delaware, USA, May 2006.
19. "*Longwave Marangoni instability in binary liquids with the Soret effect*", University of Bayreuth, Bayreuth, Germany, August 2006.
20. "*Longwave Marangoni instability in binary liquids with the Soret effect*", Bulgarian Academy of Sciences, Sofia, Bulgaria, October 2007.
21. "*Nonlinear dynamics of externally forced falling liquid films*", Loughborough University, Loughborough, England, September 2008.
22. "*Nonlinear dynamics of externally forced falling liquid films*", Kyoto University, Kyoto, Japan, October 2008.
23. "*Nonlinear dynamics of externally forced falling liquid films*", Imperial College, London, England, January 2009.
24. "*Stability of forced liquid films*", Yokohama National University, Yokohama, Japan, September 2010.
25. "*Stability of forced liquid films and drops*", Yeungnam University, Daegu, Korea, October 2010.
26. "*Stability analysis of a thin liquid film on an axially oscillating cylindrical surface*", RWTH, Aachen, Germany, January 2012.

27. "*Stability analysis of a thin liquid film on an axially oscillating cylindrical surface*", Colloquium on Solid and Liquid Interface Dynamics, Institute of Mechanics, Chinese Academy of Science, Beijing, China, August 2012.
28. "*Stability analysis of a thin liquid film on an axially oscillating cylindrical surface*", Brandenburg Technological University, Cottbus, Germany, November 2012.
29. "*Fluid transport in thin liquid films using traveling thermal waves*", Shanghai Jiao Tong University, Shanghai, China, April 2013.
30. "*Dynamics of forced liquid films*", Perm State University, Perm, Russia, May 2013, a series of 3 lectures.
31. "*Fluid transport in thin liquid films using traveling thermal waves*", Perm State University, Perm, Russia, May 2013.
32. "*Thermocapillary manipulation of thin liquid films using travelling thermal waves*", Kyushu University, Fukuoka, Japan, March 2015.
33. "*Thermocapillary manipulation of thin liquid films*", National Taiwan University, Taipei, Taiwan, August 2015.
34. "*Liquid film flow along a substrate with an asymmetric topography sustained by the thermocapillary effect*", University of Bayreuth, Bayreuth, Germany, July 2016.
35. "*Liquid film flow along a substrate with an asymmetric topography sustained by the thermocapillary effect*", Polytechnical University of Madrid (UPM), Madrid, Spain, September 2016.
36. "*Nonlinear dynamics of thin liquid films*", Indian Institute of Technology Madras (IITM), Chennai, India, February-March 2018, a series of 9 lectures.
37. "*Thermocapillary ratchet flow in thin liquid films in the presence of an asymmetric wall*", Brandenburg University of Technology, Cottbus, June 2018.
38. "*Nonlinear dynamics of thin liquid film driven by acoustic wave*", Workshop on Rapid Phase Transition, Hazardous Materials Dispersion and Thin Film Dynamics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, March 2019.
39. "*Ratchet flows in forced liquid films*", Workshop on Rapid Phase Transition, Hazardous Materials Dispersion and Thin Film Dynamics, Norwegian University of Science and Technology (NTNU), Trondheim, Norway, March 2019.
40. "*Ratchet flows in forced liquid films*", Department of Solar Energy and Environmental Physics, Ben Gurion University, Sede Boker Campus, May 2019.
41. "*Buoyancy instability in a liquid layer subjected to an oblique temperature gradient*", FAST, University of Paris Sud, France, January 2022.
42. "*Buoyancy instability in a liquid layer subjected to an oblique temperature gradient*", University of Lille, Lille, France, March 2022.