July 2024

CURRICULUM VITAE
Zvi Pinhas BAR-YOSEPH
Professor Emeritus

PERSONAL:

E-mail:	baryoseph@me.technion.ac.il
Web:	http://meeng.technion.ac.il/members/zvi-pinhas-bar-yoseph/
Fax:	972-4-829-5711

ACADEMIC DEGREES:

1978:   D.Sc. Technion – Israel Institute of Technology, Haifa, Israel.

1975:   M.Sc. with distinction, Mechanical Engineering,
Technion – Israel Institute of Technology, Haifa, Israel

1972:   B.Sc. *Summa cum Laude*, Mechanical Engineering,
Technion – Israel Institute of Technology, Haifa, Israel.

ACADEMIC APPOINTMENTS:

Since Oct. 2023:   Head, Mechanical Engineering (Robotics) Department, Guangdong Technion-IIT (MER-GTIIT).

2019-2024   Technion Academic Co-Head, GTIIT Research Center for Sciences & Engineering in Health and Medicine [GTIIT-SEHM]

Sept. 2014-
Aug. 2016   Visiting Professor, Department of Mechanical Engineering, State University of New York (SUNY) at Stony Brook, USA.

Since Oct. 2014:   Professor Emeritus, Mechanical Engineering,
Technion – Israel Institute of Technology, Haifa, Israel.

Jan. 1, 2009 -
Sept. 30, 2014   Dean, Faculty of Mechanical Engineering,
Technion – Israel Institute of Technology, Haifa, Israel.
(Three terms: Jan. 1, 2009 – Dec. 21, 2010; Jan. 2, 2011 – Dec. 31, 2012; Jan. 1, 2013 – Sept. 30, 2014).

Aug.-Sept. 2009: Visiting Professor, Department of Mathematics, Technical University of Denmark, Lyngby, Denmark.

Jan.-Aug. 2008:   Visiting Professor, Dept. of Mechanical and Aerospace Engineering, University of California, San Diego (UCSD), USA

Aug-Dec. 2007:   Visiting Scholar, Dept. of Mechanical and Aerospace Engineering, University of California, San Diego (UCSD), USA

Aug. 1998 -   Visiting Scholar, Department of Mechanical Engineering,
Aug. 1999:   Northwestern University, Evanston, USA.

Since 1997:   Professor, Mechanical Engineering,
                   Technion – Israel Institute of Technology, Haifa, Israel.

Jan.-Feb. 1992:   Visiting Research Professor (C4), Institut für Mechanik,
                   Technische Hochschule, Darmstadt, Germany.

July-Dec. 1991:   Exchange Associate Professor, Department of Mechanical
                   Engineering, University of Sydney, Australia.

Jan.-Feb. 1989;   Visiting Professor (C4), Institut für Mechanik, Technische
Feb. 1990, 1991:   Hochschule, Darmstadt, Germany.

Summer 1988:   Visiting Associate Professor, Department of Mechanical
                   Engineering, MIT, Cambridge, Massachusetts, USA.

1988-1997:   Associate Professor, Mechanical Engineering, Technion - Israel
                   Institute of Technology, Haifa, Israel.

1985-1986:   Visiting Scientist, Applied Mechanics, Stanford University,
                   Stanford, California, USA.

1984:   Senior Lecturer with tenure, Mechanical Engineering, Technion.

1982:   Senior Lecturer, Mechanical Engineering, Technion – Israel
                   Institute of Technology, Haifa, Israel.

1981:   Lecturer, Mechanical Engineering, Technion –
                   Israel Institute of Technology, Haifa, Israel.

1979-1981:   Post-Doctoral Fellow, Department of Aeronautics and Astronautics,
                   MIT, Cambridge, Massachusetts, USA.

1975-1978:   Graduate Instructor, Mechanical Engineering, Technion –
                   Israel Institute of Technology, Haifa, Israel.

1972-1975:   Graduate Assistant, Mechanical Engineering, Technion –
                   Israel Institute of Technology, Haifa, Israel.

MILITARY SERVICE:

1964-1995:   Active military service and reserve duty, IDF.

RESEARCH INTERESTS:

Computational (Fluid & Solid) Mechanics

Higher Performance Computing in Mechanics

Variational and Asymptotic Methods

Finite Element and Spectral Element Methods

Fluid-Structure Interaction

Dynamic and Hydrodynamic Stabilities

Rotating Flows; Non-Newtonian Fluids

Dynamic Finite Element Modelling and Control of Flexible Structures, Unicycles and Bicycles

Composite Materials

Crystal Growth and Bio-separation processes

Developing computational methods for (a) simulating multi-scale bio-physical phenomena related to cardiovascular and metabolic diseases: Hemodynamics, Blood Coagulation, Atherosclerotic and Vulnerable Plaques, AAA; Bone modeling and remodeling. (b) non-linear sloshing dynamics

Robust computational methods (multi-scale finite element and variational multi-scale methods) for simulating the behavior of biological organisms at micro- and nano-scales.

TEACHING EXPERIENCE:

At Technion:

1. Numerical Analysis and Programming (Undergraduate)
2. Elasticity (Undergraduate)
3. Variational Methods (Undergraduate)
4. Numerical Analysis (Undergraduate)
5. Finite Elements for Engineering Analysis (Undergraduate)
6. Numerical Methods in Mech. Eng. (Graduate)
7. Finite Element Methods in Mech. Eng. 1, 2 (2-semester course, Graduate)
8. Finite Element Nonlinear Analysis in Fluid and Solid Mechanics (Graduate)

At the International School of Engineering, Technion:

1. Finite Elements for Engineering Analysis
2. Numerical Analysis
3. Introduction to Scientific and Engineering Calculations

At the Dept. of Mechanical Engineering, University of Sydney:

1. Conduction and Radiation

2. Gas Dynamics

At the Dept. of Mechanical and Aerospace Engineering, University of California, San Diego (UCSD):

1. MAE113 Fundamentals of Propulsion
2. MAE101B Advanced Fluid Mechanics

At the Dept. of Mechanical Engineering, State University of New-York at Stony Brook:

1. MEC 364 Introduction to Fluid Mechanics
2. MEC 320 Numerical Methods in Engineering Design and Analysis
3. MEC 524 Computational Methods for Fluid Mechanics and Heat Transfer (Graduate)

TECHNION ACTIVITIES:

General:

2018-to date	Judge, Technion Academic court of Law
2012-2013:	Member, Steering Committee, Technion-Cornell Innovation Institute
2007	Member, Harvey Prize Professional Evaluation Committee (Technion's most prestigious award)
2006-2008:	Founding Member of the Center for Computation in Nanotechnology with the RBNI.
1.1.06-31.12.07:	Elected Member, the Senate Standing Committee for Honorary Rewards and Prizes.
Dec. 2005- Aug, 2007	Elected Member, the New Senate of the Technion.
Since Feb. 2005:	Member, Asher Space Research Institute
1.1.05-31.12.06:	Elected Member, Senate Academic Development Committee
2004 to date:	Member, Product Lifecycle Management Competency Center.
2003-2004:	Member, Chairmen Panel of the Senate Professional Committee.
2001-2003:	Elected Member, Senate Committee on Senior and Tenure Appointments and Promotions (A&P)
2001-2003:	Member, Senate Postdoctoral and Academic Visitors Fellowships Committee
2001-2003:	Member, Senate Faculty Research Awards Committee
2001-2005:	Chairman, Technion Computational Mechanics Committee

2000-2001:	Member, Technion Computational Mechanics Committee
1998:	Member, Graduate School Loans Committee
1991, 1995:	Member, Parallel Computer Committee
1975-1977:	Judge, Technion Academic Court of Law
1991:	Computational Activity Assistant to the Vice President for Development

Departmental:

2009 - 2019:	Founder and Head, *Biomechanics Center of Excellence*, Faculty of Mechanical Engineering, Technion
	http://me-biomechanics.net.technion.ac.il/people/
2000-2003:	Chairman, Computer Committee
1993, 1995-6:	Member, Department Graduate Committee
1989-1990:	Deputy Dean of Undergraduate Studies, Faculty of Mechanical Engineering, Technion.
1988-1989:	Coordinator of Undergraduate Studies, Faculty of Mechanical Engineering, Technion.
1987-1989:	Faculty Representative on Supercomputer Committee
1987-1988:	Faculty Representative on Computer Committee
1984-1985:	Responsible for microcomputer services in the Faculty of Mechanical Engineering, Technion.
1984 to date:	Head, Computational Mechanics and Biomechanics Laboratory, Faculty of Mechanical Engineering, Technion.
1977-1978:	Responsible for computer services in the Faculty of Mechanical Engineering, Technion

PUBLIC PROFESSIONAL ACTIVITIES:

Editorship:

2017–2018	Proceedings of the *7th Int. Symposium on Bifurcations and Instabilities in Fluid Mechanics*, *Fluid Dynamics Research Journal, Vol. 50, No.5, Oct.2018*
2015–2016	Proceedings of the *6th Int. Symposium on Bifurcations and Instabilities in Fluid Mechanics*, *Fluid Dynamics Research Journal*, vol. 48, No. 6, 2016
2014–2016	Corresponding Editor, *Computer Modeling in Engineering & Science Journal*

2013–2014   Proceedings of the *5th Int. Symposium on Bifurcations and Instabilities in Fluid Mechanics*, *Fluid Dynamics Research Journal*, vol. 46, No. 4, 041001-041425, 2014

2008 – 2009   Proceedings of the *3rd Int. Symposium on Bifurcations and Instabilities in Fluid Mechanics*, *J. of Physics: Conference Series*, vol. 216, Institute of Physics Publishing. http://iopscience.iop.org/1742-6596/216/1

2006 – 2007   Proceedings of the *2nd Int. Symposium on Bifurcations and Instabilities in Fluid Mechanics*, *J. of Physics: Conference Series*, vol. 64, Institute of Physics Publishing. http://www.iop.org/EJ/toc/1742-6596/64/1

1998 – 2005: *Computational Fluid Dynamics Journal*

Editorial Boards:

1999 -2004:   *Computer Modeling in Engineering & Science (CMES)*

1997 - 2002: *Hybrid Methods in Engineering Journal*

1992 - 1998: *Computational Fluid Dynamics Journal*

Other Activities:

2005-2006   Member, ISF (Israel Science Foundation) Fluid Mechanics and Heat Transfer Committee

2004-2009,
2013-2021:   Member, *International Association for Computational Mechanics (IACM) General Council*

2004:   Founder of the International Symposium series on *Bifurcations and Instabilities in Fluid Mechanics (BIFD).*

2003-2004:   Member, Inter-Senate Committee (ISC) of the Universities for the protection of Academic Independence

2002-2003,
2014:   Referee for *ECCOMAS*, selecting an Israeli candidate, for the Award for the best annual Ph.D. Thesis on Computational Methods in Applied Sciences and Engineering

2001-2006:   Member, *ECCOMAS Committee in CFD*

2001-2006:   Scientific Director, *High Performance Computing Center (HPCU)*, National Inter University Computation Center (IUCC)

1999:   Founding Member of the *International Society for Computational Engineering & Sciences*.

1997-2001:   Member, Steering Committee, National Inter-University Supercomputer Center

1995-2001:   President, *Israel Association for Computational Methods in Mechanics (IACMM)*

1993:   Founder of the *Israel Association for Computational Methods in Mechanics*

Reviewer for Journals:

Israel J. of Technology; ASME Trans., J. of Fluids Engineering; Computers & Fluids; J. of Sound and Vibrations; Int. J. Solids and Structures; Int. J. Numer. Methods Fluids; ASME Trans., J. of Tribology; Computational Mechanics: An International Journal; Finite Element in Analysis and Design, The International Journal of Applied Finite Elements and Computer Aided Engineering; Int. J. Numer. Methods Eng.; Comm. Appl. Numer. Methods; Computational Fluid Dynamics Journal; J. of Composite Research and Technology; Mechanical Systems and Signal Processing; Int. J. Turbo & Jet-Engines; Composite Engineering: An International Journal; Journal of Fluid Mechanics; AIAA J. Guidance, Control and Dynamics; ASCE J. Engineering Mechanics; Physics of Fluids; Int. J. for Computational Civil and Structural Engineering; J. Crystal Growth; Int. J. Multiphase Flow; Int. J. Thermal Sciences; Canadian Journal of Physics; J. Computational Physics; CAD J.; Comm. Nonlinear Science and Numerical Science Simulation J., J. Biomechanics; Ocean Engineering J.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

ASME   - *Fellow*, American Society of Mechanical Engineering (ASME)
ISTAM   - Israel Society for Theoretical and Applied Mechanics
IACM   - International Association for Computational Mechanics
IACMM   - Israel Association for Computational Methods in Mechanics
EUROMECH - European Mechanics Society
CFDCC   - CFD Community Club
USACM   - United States Association of Computational Mechanics

HONORS:

2013:   *Best Paper Award – Second Prize*. CIRP Conference on Bio-Manufacturing (CIRP-BioM 2013), March 3-5, 2013, Tokyo, Japan. (See conference paper No. 70).

January 2011:   *Fellow, ASME*

Aug.-Sept. 2009: Visiting Professorship awarded by the Danish National Science Foundation through their "Fundamental Problems in Fluid Dynamics" project.

2006: *2006 AIAA Best Paper in Fluid Dynamics*. Awarded by the AIAA Fluid Dynamics Technical Committee for our paper AIAA 2006-3226.
36th AIAA Fluid Dynamics Conference, June 5-8, San Francisco, CA
(See conference paper No. 55).

Jan. 2005-

Oct. 2014: *Samuel and Anne Tolkovsky Chair*

1998: *Best poster presentation award*, 11th Heat Transfer Conference (IATC), August 23-28, 1998, Kyonju, Korea

1979-1981: Lady Davis Post-Doctoral Fellowship

1979: Gutwirth Scholarship

1977: *Landau Prize* (Mif'al Hapayis, Tel Aviv) for distinction in research

1972: Gutwirth Scholarship

GRADUATE STUDENTS:

M.Sc. Students:
Completed Theses [38]:

1. Jacob Avrashi, "Assumed Stress Approach for Analysis of Free Edge Stress Field in Composites", September 1983, [J11, J14].

2. Givon Siton, "The Effect of Material Nonlinearity on the Interlaminar Stress Field in Composite Laminates", February 1984, [J12].

3. Ishaiahu Herschkovitz, "Approximate Analysis Method for Stiffened Folded Plates Structures", September 1986, [J20].

4. Ofer Pillar, "Failure and Micromechanics Analyses of Composite Laminated Plates", May 1987. Currently: Chairman of the Board at Vicut Ltd.

5. Joel Draib, "Failure of Composites subjected to Biaxial Loadings", May 1987 (with Prof. E. Altus as a co-supervisor).

6. Anne Weil, "Analysis of Temperature Field Around Multiple Cryoprobes" September 1988 (with Prof. A. Shitzer as a co-supervisor), [J38]. Currently: Software Engineer, Biomedical Engineering, Technion.

7. David Elata, "Discontinuous Finite Elements in Time and Space for Solving Nonlinear Hyperbolic Systems", January 1989, [J24, J36]. Currently: Associate Professor, ME, Technion.

8. Abraham Shtark, "Hybrid Finite Element Method for Composite Cylindrical Shell with a Hole", February 1989.

9. Uzi Zrahia, "Space-Time Finite Element Method for Thermal Analysis of Ceramic Coatings in Diesel Engines", March 1989, [J39].

10. Yoseph Lavy, "Mixed-Hybrid Finite Strip Method for the Analysis of Folded Plate Structures", October 1989 (with Prof. G. Rosenhouse as a co-supervisor), [J30].

11. Daniel Ben-David, "Edge Layer Stress Analysis for Unsymmetrical Laminated Plates" March 1990, [J28].

12. Mark Berelowitz, "The Finite Element Analysis of Stirring Induced by Alternating Magnetic Fields", July 1990, [J32]. Currently: Product Development Engineer at Finisar, Sydney, Australia.

13. Shimon Weichendler, "Asymptotic Spectral Element Method for Boundary Layer Problems", February 1991. Currently: Senior Engineer, Rafael.

14. Dan Aharoni, "Mixed Finite Element Formulation in the Time Domain for Solution of Dynamic Problems", May 1991, [J32]. Currently: Director, EMC.

15. Gideon Even-Sturelsi, "Finite Element Solution of Compressible Navier-Stokes Equations in Rotating Flow", June 1991 (with Prof. A. Solan as a co-supervisor). Currently: CEO, Bioscan Technologies.

16. Matityahu Zaidman-Dvir, "Variational-Asymptotic Formulation for 3-D Analysis of a Through-Width Delamination in Composite Plates", June 1991.

17. Alona Ben-Tal, "Optimal Maneuver of a Flexible Arm by Space-Time Finite Elements", December 1993 (with Prof. H. Flashner as a co-supervisor), [J49, J51]. Currently: Senior Lecturer, Mathematics, Massey University, New Zealand.

18. Yuri Kryzhanovski, "Finite Element Analysis of Rotating Non-Newtonian Fluid Flows", March 1995, [J55]. Currently: Software Developer at Jonas Software, Toronto, Canada.

19. Yoav Nave, "Spectral Element Modelling and Control of a Unicycle", April 1996 (with Dr. Y. Halevi as a co-supervisor), [J64]. Currently: Senior Engineer- Energy Technology, Rio Tinto, Perth, Australia.

20. Daniel Fisher, "Spectral Element Methods for Nonlinear Dynamical Systems", April 1996 (with Dr. O. Gottlieb as a co-supervisor), [J53, J57]. Currently: Senior System Engineer, Rafael.

21. Ilan Ohayon, "Expert System for Dynamic Analysis of Printed Circuit Boards", February 1998.

22. Harel Plat, "Space-Time Spectral Element Analysis and Control of a Nonlinear Beam", February 1998 (with Prof. H. Flashner as a co-supervisor). Currently: Ph.D., Senior System Engineer, Rafael.

23. Isaac Afriat, "Toward an Optimal Design of Composite Frames for Bicycles", March 1998.

24. Noga Mousaiy, "Impact Loading of Filament Wound Vessels", May 1998 (with Prof. J. Lifshitz as a co-supervisor).

25. Yishai Rinat, "Spectral Finite Elements Model for the Investigation of the Nonlinear Dynamics of Composite Laminated Plate with Piezoelectric Layers", December 1998.

26. Eli Eshkoli, "Study of Round Turbulent Jet in a Crossflow", March 2001 (with Prof. D. Adler as a co-supervisor).

27. Neomi Amir, "Analysis of Thermal Damage to the Eye Lens in Organ Culture Systems and Applications to Environmental Damage of High Temperature in the Workplace", January 2004 (with Dr. A. Dovrat as a co-supervisor), [J96]. Currently: Physician.

28. Ilya Beletsky, "Drug Distribution Analysis for Drug Eluting Stent Applications", July 2005.

29. Gaddiel Ouaknin, "Multiscale Computational Models for Simulating Stochastic Collective Cells Migration", February 2009. *Summa Cum Laude*, RBNI Scholarship and Pnueli Prize for academic excellence, [J99]. Currently: Ph.D. Student in Computational Sciences and Engineering, UC Santa Barbara.

30. Ido Yaakobovitz, "Non-Uniform Rational B-Spline (NURBS) Finite Element Method – A Natural Unified Approach to Geometrical Design and Mechanical Analysis". (Brakim Student – a special B.Sc. & M.Sc. program for distinguished students), May 2010, *Summa Cum Laude*. Currently: Officer, IDF.

31. Matar Movshovitz, "Interrupted Thread Optimal Design", (Brakim Student – a special B.Sc. & M.Sc. program for distinguished students), March 2014. Currently: Officer, IDF.

32. Lev Donevich, "Investigation of Sound generated by a Perforated Elastic Plate" (Brakim Student – a special B.Sc. & M.Sc. program for distinguished students), December 2014. Currently: Officer, IDF.

33. Liron Reuveny, "Design of Scaffold with Porous Structure" (Prof. Anath Fischer, Co-Adviser), November 2015.

34. Alex Boroda, "Finite Element Analysis of Optimal Design of Tire Section in Agricultural Radial Tires". December 2015. Currently: R&D Tire Engineer at ALLIANCE Tire Group (ATG), Israel

35. Michal Markovits, "Modeling and Computational Simulation of Atherosclerotic", Nov. 2016.

 Asphalt Concrete under Creep Loading", (Dr. Arieh Sides, co-advisor), August 2020.

37. Adva Hazan, "Experimental Analysis on Liquid Sloshing in Rectangular Containers", May. 2021

38. Moshe Ankri, "Topology Optimization with Length Scale as a Design Variable", (Assoc. Prof. Oded Amir, co-advisor), May 2023.

Theses in Progress [2]:

39. Shuwan Chen, "Close-loop Motion Control Combining Magnetic Actuation and Visual Feedback", Oct. 2023 (Technion co-advisor with Assoc. Prof. Damiano Padovani as the GTIIT co-advisor).

40. Biaosheng Luo, "On-line Particle Characterization by Digital Inline Holography using Dual Network Integration", Oct. 2023 (Technion co-advisor with Assoc. Prof. Cheng Li as the GTIIT co-advisor).

M.E. Students:

Completed Theses [3]:

1. David Rubin, "Analyzing Lens Deformation as a Response to External Forces", March 1998.

2. Shaltiel Cohen, "Space-Time Finite Volume Methods for Unsteady Heat Transfer Problems", December 1998.

3. Sapir Ariel, "Developing an Approach to Reconstruct 3-D Bodies from their Cross Sections", July 2002.

PhD Students:
Completed Theses [14]:

1. Gershon Yaniv, "Hygrothermal Effects on the Time-Dependent Mechanical Behavior of Multi-Material Multi-Layered Bonded System", May 1984 (with Prof. O. Ishai as a co-supervisor), [J16]. Currently: CEO and Co-founder, DisperSol Technologies, USA.

2. Jacob Avrashi, "Variational-Asymptotic formulations for 3-D Stress Analyses of Free Edge Problems in Laminated Composite Shells", March 1988, [J18, J19, J27, J34].

3. Batia Perry, "Hybrid Stress Elements for Static Response of a System of Inclined Plates", March 1991 (with Prof. G. Rosenhouse as a co-supervisor), [J25, J29, J35]. Currently: Software Engineer, Computer Center, Technion.

4. Uzi Zrahia, "Space-Time Spectral Elements for Dynamic Analysis of Composite Laminates", October 1993, [J40, J47, J48].

5. Eduard Moses, "Analysis of Combustion of Gasoline-Methanol Mixtures", June 1994 (with Prof. A. Yarin as a co-supervisor), [J41, J46, J48, J58]. Currently: CEO, JROM-CFD.

6. Daniel Ben-David, "Finite Strip Analysis of Composite Cylindrical Pressure Vessels Subjected to Lateral Impact", March 1995. Currently: Group Leader FEM Applications at PTC, San Francisco.

7. Igor Ravve, "Analysis of Elastic Deformations in the Traveling Joints of Machine Tools", June 1997 (with Prof. Y. Yarnitsky as a co-supervisor).

8. Erich Wilson, "Thrust-Vectoring Nozzle Performance Modeling", April 2002 (with Prof. D. Adler as a co-supervisor), [J71, J78-J82]. Currently: Owner of IPro-Tek L.L.C., USA.

9. Pavel Kagan, "New B-Spline Finite Element Approach for Integrated Mechanically Based Design and Analysis", June 2002 (with Dr. A. Fischer as co-supervisor), [60,85]. Currently: Technical university of Eindhoven, The Netherland.

10. Victoria Suponitsky, "The Generation of Streaks and Hairpin Vortices from a Localized Vortex Disturbance Embedded in Unbounded Uniform Shear Flow", December 2003 (with Prof. Y. Cohen as co-supervisor). Gutwirth Award, [J89, J93]. Currently: Computational Fluid Dynamics Research Engineer at General Fusion Inc., Canada.

11. Yaron Rosenstein, "Three-Dimensional Stability Analysis of the Czochralski Crystal Growth Process" (Inter-departmental Committee for Applied Mathematics), July 2005, [J95].

12. Lev Podshivalov, "3D Hierarchical Geometric Modeling and Multiscale Finite Element Analysis as a Base for Individualized Medical Diagnosis of Bone Structure", (with Prof. A. Fischer as co-supervisor), November 2011, Jacobs Scholarship for academic excellence, 2008 and 2010; Gutwirth Fellowship, [J97, J98, J101-J103, J107]. Currently: Software Engineer, Hutchinson, France.

13. Gilead Moiseyev, "Numerical Simulation of Hemodynamically Induced Blood Coagulation Formation and Growth". Direct doctoral degree track, March 2014 [J100, J104, J105, J106]. David Pnueli and Olga Pnueli Prize for Excellence in the PhD Thesis. Currently: R&D Manager, Medinol.

14. Nina Liora Breitman, "Nonlinear Finite Element analysis of Liquid Sloshing in Upright Cylindrical and Square-base Cylindrical Containers", August 2021[J107]. Currently: Algorithm Developer, KLA, Israel.

Post-doctoral and Repatriated Scientists*:

Completed [7]:

1. Dr. Jacob Avrashi, "Variational Asymptotic Study of a Cylindrical Embedded Delamination in Composites", 1988-1989. Currently: Adjunct Senior Lecturer, ME Technion.

2. Dr. Alexander Arkadyev, "Computational Fluid Dynamics in Turbomachinery", 1991-1994 (with Prof. D. Adler as a co-supervisor), [J37, J43, J44].

3. Dr. Igor Keller, "Convective Stability of Binary Mixture due to Gravity Modulation and Soret Effect", 1995-1997 (with Dr. A Oron as a co-supervisor), [J59].

4. Dr. Alexander Gelfgat, "Hydrodynamic Stability of Confined Swirling Flows" 1994-2002 (with Prof. A. Solan as a co-supervisor), [J50, J52, J61-J63, J65-J66, J70, J73-J77, J83-J84, J86, J87, J90-J92]. Currently: Full Professor, School of Mechanical Engineering, TAU

5. Dr. Alexander Potapov, "Numerical Modeling of Crystallization Processes Affected by Melt Flow and Heat/Mass Transfer" 2001-2002 (with Dr. A. Gelfgat as a co-advisor).

6. Dr. Alexander Rubinov, "Krylov Subspace Iteration Based Methods for Direct Solution of Stability Problems in Fluid Dynamics (2000-2003; with Prof. A. Solan and Dr. A. Gelfgat as a co-advisor), [J90, J92, J94].

7. Dr. Vladimir Erenburg, "Transport Phenomena in Microgravity", 2004-2005, [J86, J90].

Referee of Ph.D. Theses (Abroad):

1. M. Viehl, "*Analytical Investigation of the Compressible Navier-Stokes Equations for Low Mach and Reynolds Numbers*", Dr. rer. nat. Dissertation, THD, Darmstadt, 1989.

2. S. Uellner, "*Entwicklung und Einsatz der Laser Speckle Velocimetry zur Messung von Geschwindigkeitsfeldern in rotierenden Systemen*", Dr.-Ing. Dissertation, THD, Darmstadt, 1992.

3. Thesis Topic: "*A Finite Element Method for Nonlinear Spherical Dynamics*", Acting as Judge for the Young Scholars Dissertation Awards 2004, Chinese University Press, Hong Kong).

4 S. Conley, "*Overcoming Element Quality Dependence of Finite Element Methods*", (Acting as a memeber of her PhD dissertaion committee), Applied Mathematics and Statistics Department, Stony Brook University, 2016.

External Referee for several univesrities in Israel and abroad

RESEARCH GRANTS:

2017-2021: Pazi Foundation (Grant # 298/18), NIS 209,000, co-PI Prof. O. Gendelman, Co-PI Dr. E. Shimshoni, Co-I Prof. P. Bar-Yoseph.

2011-2012: Technion-Hutchinson R&D center cooperation project, €67,200, P.I.s: A. Fischer, P.Z. Bar-Yoseph, ME Technion, D. Benoualid, I. Wander, Hutchinson R&D Center, France, 1.5 year project.

2010-2011: Germany-Israel Umbrella cooperation. A project with RWTH Aachen University, 1 year project, $13,500, Co-P.I.s Fischer, P. Bar-Yoseph, ME Technion, D. Weichert, RWTH Aachen University.

2009: The Phyllis and Joseph Gurwin Fund for Scientific Advancement, $49,500, with Assoc. Prof. A. Fischer.

2007-2008: Technion Fund for Medical-Engineering collaboration, $10,000, with: Prof. Fischer-ME Technion; Prof. Ish-Shalom-Faculty of Medicine, Technion and Rambam Medical Center.

2002-2004: Asher Space Research Institute, $10,000 per annum, with Prof. A. Solan.

1999-2002: *Binational Science Foundation* (BSF), US$50,000 per annum, with Prof. A. Yarin; Profs. M. Graham and E. Lightfoot of University of Wisconsin-Madison.

1998-2001: *Ministry of Science* (Applied Mathematics), NIS 222,000 per annum, with Prof. A. Solan and Prof. E. Kit of Tel Aviv University.

1997-2000: *The Israel Academy of Sciences and Humanities* (ISF), $69,000 per annum, with Prof. A. Solan.

1997: Consortium for Quarter Micron Technologies (Neaman Institute), $78,000, with Prof. A. Solan.

1996-1999: Japan Ministry of Education, Science, Sports and Culture (Monbusho) for International Scientific Research Program (with Dr. A. Gelfgat; joint research with Profs. Tanasawa and Nishio of Tokyo University and Prof. T. Maekawa of Tokyo University and Prof. Yu. Gelfgat, Institute of Physics, Latvian Academy of Sciences).

1995-1997: *German Israeli Foundation for Scientific Research and Development* (G.I.F.), DM 273,500, with Prof. A. Yarin; Drs. G. Gerbeth and J. Priede of Forschungzentrum Rossendorf, Dresden.

1990-1993: Ministry of Science and Technology, State of Israel, $42,540, with Prof. D. Adler.

1987-1990: *The Israel Academy of Sciences and Humanities* (ISF), $37,500 per annum, with Prof. A. Solan.

1992: Col. Asher Peled Memorial Fund, $5,000.

1987-1990: Research and Development Branch, Israel Defense Ministry, with Prof. O. Ishai.

SIGNIFICANT PROFESSIONAL PROJECTS:
Consulting Activities:

1998-2000:	Fluent, USA (Fluid-Structure-Interaction)
1996:	Bnei-Zion Hospital (3-D FE Analysis of Artificial Knee)
1996:	Elbit Advanced Technology Center (Dynamic Analysis of Electronic Equipment)
1994-1996:	Israel Electric Corporation (Computational Fluid Dynamics)
1990, 1994, 1995, 1996:	KLA Instruments (Israel) Corporation (Static and Dynamic Analysis of High Precision Instruments)
1990-1992:	Israel Military Industries (Static and Dynamic Response of Bridge Structures; with Prof. E. Altus)
1990:	Israel Defense Force - Ordnance Corps (Static and Dynamic Response of Vehicles)
1981-1995:	The Israel Navy (Finite Element Analysis of Ship Structures)

PUBLICATIONS

Theses:

M.Sc. - Thesis Topic:
"The Stability of a Flexible Rotor Supported by Circumferentially Fed Journal Bearings", January 1975, supervisor: Prof. J.J. Blech.

D.Sc. - Thesis Topic:
"Finite Element Solution of Navier-Stokes Equations in Rotating Flow", December 1978, Supervisors: Profs. J.J. Blech and A. Solan.

Refereed papers in professional journals:

1. Bar-Yoseph, P. and Blech, J.J., "The Stability of a Flexible Rotor Supported by Circumferentially Fed Journal Bearings", ASME Trans., *J. Lub. Tech.*, Vol. 99, 469-477, 1977.

2. Bar-Yoseph, P., Solan, A. and Blech, J.J., "The Effect of Inertia on Flow Between Misaligned Rotating Disks", ASME Trans., *J. Fluids Eng.*, Vol. 103, 82-87, 1981.

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72. Podshivalov, L.*, Gomes, C., Zocca, A., Guenster, A., Bar-Yoseph, P.Z. and Fischer, A. "Design, Analysis and Additive Manufacturing of Porous Structures for Biocompatible Microscale Scaffolds." *CIRP Conference on BioManufacturing (CIRP-BioM 2013)*, March 3-5, 2013, Tokyo, Japan. **Best Paper Award – Second Prize.**

73. C. M. Gomes*, A. Zocca, J. Guenster, L. Podshivalov*, P. Bar-Yoseph, A. Fischer, "Designing apatite/wollastonite (A/W) porous scaffolds by powder-based 3D printing", *Int. Conference on Advanced Research in Virtual and Rapid Prototyping (VRAP)* , Leiria, Portugal, October 2013.

Abstracts of Lectures:

1. Bar-Yoseph, P. and Blech, J.J., "The Stability of a High Speed Rotor Supported by Circumferentially Fed Journal Bearings", *8th Israel Conf. on Mechanical Engineering*, Technion, 1974.

2. Bar-Yoseph, P., Solan, A. and Blech, J.J., "The Effect of Inertia on Flow between Misaligned Rotating Disks", *ASME 1980 Winter Annual Meeting*, Chicago, Illinois.

3. Bar-Yoseph, P., "Standard and Asymptotic Finite Element Methods for Incompressible Viscous Flows", *ASME 1982 Winter Annual Meeting*, Phoenix, Arizona.

4. Bar-Yoseph, P., Roesner, K.G. and Solan, A., "Polar Vortex Motion Between Rotating Spherical Shells: Vortex Breakdown, Steady and Time-Periodic", *IUTAM Symposium on Nonlinear Hydrodynamic Stability and Transition*, Nice, September 3-7, 1990. Abstract published in *European J. of Mechanics B, Fluids*, **10**(2), Suppl., 325 (1991).

5. Zrahia, U. and Bar-Yoseph, P., "Space-Time Spectral Element Method for Solution of Second Order Hyperbolic Equations", *2nd Int. Conf. on Spectral and High Order Methods*, Montpellier, June 22-26, 1992.

6. Bar-Yoseph, P., Israeli, M. and Weichhendler, S., "The Asymptotic Spectral Element Method", Abstracts of Lectures, *2nd Int. Conf. on Spectral and High Order Methods*, Montpellier, June 22-26, 1992.

7. Bar-Yoseph, P., "Computational Modelling of Rotating Flows", *9th Technion/ Aachen/Jülich Umbrella Symposium on Scientific Computing - Concepts and Applications*, Haifa, September 30 - October 2, 1992.

8. Moses, E., Bar-Yoseph, P. and Yarin, I.L., "On Simplified Modelling Processes in Spark Ignition Engines", *8th Israeli Combustion Meeting*, Acre, November 26, 1992.

9. Yarin, A.L., Arkadyev, A. and Bar-Yoseph, P., "Coating Growth on Turbine Blade in Polydisperse Particles - Hot Gas Flow", *7th Annual Meeting, Israeli Association for Aerosol Research*, Haifa, May 27, 1993.

10. Bar-Yoseph, P., Moses, E. and Zrahia, U., "Spectral Elements for Solving the Burgers Equation", *The James H. Belfer Symposium on Computational Fluid Dynamics*, Technion, June 9, 1993.

11. Ben-Tal., Bar-Yoseph, P. and Flashner, H., "Optimal Slewing of a Flexible Beam by Space-Time Spectral Elements", *2nd European Solid Mechanics Conference*, Genova, September 12-16, 1994, O5.

12. Zrahia, U. and Bar-Yoseph, P., "Spectral Element Methods for Static and Dynamic Response of Composite Laminates", *2nd European Solid Mechanics Conference*, Genova, September 12-16, 1994, C5.

13. Bar-Yoseph, P. and Kryzhanovski, Yu., "Non-Newtonian Effects on Axisymmetric Vortex Breakdown in Confined Swirling Flows", *2nd European Fluid Mechanics Conference*, Warsaw, September 20-24, 1994.

14. Gelfgat, A., Bar-Yoseph, P. and Solan, A., "Stability of a Confined Swirling Flow", *2nd European Fluid Mechanics Conference*, Warsaw, September 20-24, 1994.

15. Bar-Yoseph, P., "Novel Spectral Element Methods for Integration of Dynamic Systems", *The James H. Belfer Symposium on Modelling of Structures and Mechanical Systems*, Technion, May 8-10, 1995.

16. Gelfgat, A., Bar-Yoseph, P. and Solan, A., "Steady-State and Oscillatory Instability of a Confined Swirling Flow in a Cylinder with Rotating Top and Bottom", Euromech Colloquium No. 336 on *Flow Dominated by Centrifugal and Coriolis Forces*, Trondheim, Norway, June 21-23, 1995.

17. Bar-Yoseph, P.Z., "Steady and Unsteady Structures of Axisymmetric Vortex Breakdown in Confined Swirling Flows", *48th Annual Meeting, APS Division of Fluid Dynamics*, Irvine, California, November 19-21, 1995.

18. Bar-Yoseph, P.Z., "Novel Spectral Element Methods for Time Dependent Problems", *1st Workshop of the Israel Association for Computational Methods in Mechanics*, Technion, Haifa, December 19, 1995.

19. Gelfgat, A., Bar-Yoseph, P.Z. and Solan, A, "Numerical Investigation of Vortex *Hydrodynamic Stability*, *19th Int. Congress of Theoretical and Applied Mechanics*, Kyoto, Japan, August 25-31, 1996.

20. Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Solan, A., "Numerical Investigation of Stability and Slightly Supercritical States of a Confined Swirling Flow", *Abstracts of James H. Belfer Memorial Symposium on Nonlinear Mechanics*, Haifa, Technion, 1996, 8-9.

21. Keller, I., Oron, A. and Bar-Yoseph, P.Z., "Regular and Irregular Regimes in Binary Fluid Convection Excited by Parametric Resonance", *49th Annual Meeting, APS Division of Fluid Dynamics*, Syracuse, NY, November 24-26, 1996.

22. Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Yarin, A., "Multiple Steady States and Stability of Convective Flows in Long Horizontal Cavities", *Abstracts of James H. Belfer Memorial Symposium on Nonlinear Mechanics*, Haifa, Technion, June 17, 1997, 4-5.

23. Fischer, A., Bar-Yoseph, P.Z. and Hod, Y., "Visualization of Space-Time Finite Elements Based on Multiresolution Quadtree", *ISPRS Theoretical and Practical Aspects of Surface Reconstruction and 3-D Object Extraction*, Haifa, September 9-11, 1997.

24. Gelfgat, A.Yu., Bar-Yoseph, P.Z., Solan, A., "Axisymmetry-Breaking Instabilities of Axially Symmetric Convective Flows", *Tenth Int. Symposium on Transport Phenomena (ISTP-10) in Thermal Science and Process Engineering*, Kyoto, Japan, November 30 - December 3, 1997.

25. Fischer, A., Bar-Yoseph, P.Z. and Hod, Y., "Real-Time Mesh Generation Based on Multiresolution Quadrature", *Israel-Korea Bi-National Conference on New Themes in Computerized Geometrical Modeling*, Tel Aviv University, February 18-19, 1998.

26. Afriat, I. and Bar-Yoseph, P.Z., "Optimal Design of Composite Frames for Bicycles", 2nd Workshop on Composite Materials, Haifa, 7 April 1998; *27th Israel Conference on Mechanical Engineering*, Haifa, 19-20 May, 1998.

27. Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Solan, A., "Numerical Study of Stability, Bifurcation and Slightly Supercritical States of Confined Flows Using a Global Galerkin Method", *4th Int. Conference on Spectral and High Order Methods (ICOSAHOM)*, Herzliya, Israel, 22-26 June, 1998.

28. Bar-Yoseph, P.Z., "Novel Spectral and Finite Element Methods for Transient Problems", *4th Int. Conference on Spectral and High Order Methods (ICOSAHOM)*, Herzliya, Israel, 22-26 June, 1998.

29. Naveh, Y., Bar-Yoseph, P.Z. and Halevi, Y., "Time Spectral Element Modeling and Control of Unicycle", IACM - *Fourth World Congress on Computational Mechanics (WCCM)*, Buenos Aires, 29 June - 2nd July, 1998.

30. Gelfgat A.Yu., Bar-Yoseph P. and Solan A. 1998. "Numerical Study of Stability, Bifurcations and Slightly Supercritical States of Confined Flows Using a Global Galerkin Method". *Int. Conference on Spectral and High Order Methods*, Herzliya, Israel, June 22-26, 1998.

31. Kagan, P., Fischer, A. and Bar-Yoseph, P.Z., "Novel B-Spline Finite Element Approach Towards Unification of Geometrical Design and Mechanical Analysis", *IACM - Fourth World Congress on Computational Mechanics (WCCM)*, Buenos Aires, 29 June-2nd July, 1998.

32. Gelfgat A.Yu., Bar-Yoseph P. and Solan A. 1998. "Study of Stability, Bifurcations and Slightly Supercritical States of Confined Flows Using Global Galerkin and Finite Volume Methods". *ERCOFTAC/EUROMECH Colloquium 383, Continuation Methods in Fluid Dynamics*, Aussois, France, September 6-9, 1998, 7.

33. Gelfgat, A. Yu., Bar-Yoseph, P.Z. and Solan, A., "Study of Stability, Bifurcations and Slightly Supercritical States of Confined Flows Using Global Galerkin and Finite Volume Methods", *ERCOFTAC and EUROMECH Colloquium 383, Continuation Methods in Fluid Dynamics*, Aussois, France, 6-9 September, 1998.

34. Gelfgat A.Yu., Bar-Yoseph P., Solan A. and Kowalewski T.A. 1999. "High-Azimuthal Number Axisymmetry-Breaking Convective Instabilities in Axisymmetric Freezing of Ice". *ESF-AMIF Phase Change with Convection Worksho*p, Warsaw, Poland, June 24-26, 1999, 77-80.

35.   Bar-Yoseph, P.Z., Mereu, S., Chippada, S. and Kalro, V., "Novel Computational Mesh Movement Algorithms for Fluid-Structure Interaction Problems", *5th US National Congress on Computational Mechanics*, University of Boulder, Colorado, August 4-6, 1999.

36.   Bar-Yoseph, P.Z. "Finite Elements for Nonlinear Modeling and Control in Structural Dynamics", *5th US National Congress on Computational Mechanics, University of Boulder*, Colorado, August 4-6, 1999.

37.   Bar-Yoseph, P.Z. and Yishai Rinat, "Spectral Element for Nonlinear Dynamic Modeling of Piezoelectric Composite Laminated Plates", *European Conference on Computational Mechanics (ECCM '99)*, München, Germany, August 31 - September 3, 1999.

38.   Bar-Yoseph, P.Z., Mereu, Kalro, V., "Novel Computational Mesh Movement Algorithms for Problems with Moving Boundaries", *ISCFD'99*, Bremen, Germany, Sept. 5-10, 1999.

39.   Gelfgat, A.Yu., Bar-Yoseph, P.Z. Solan, A. and Kit, E., "Axisymmetric Breaking Instabilities of Natural Convection in a Vertical Bridgmen Growth Configuration", *The 1999 Annual Conference of the Israeli Association for Crystal Growth*, Weizmann Institute of Science, Rehovot, November, 14, 1999.

40.   Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Solan, A., "Numerical Studies on Axisymmetric – Three Dimensional Transitions in Rotating and Convective Flows", *Abstracts of James H. Belfer Memorial Symposium on Nonlinear Mechanics*, Haifa, Technion, 2000, 14-15.

41.   Solan, A., Gelfgat, A.Yu. and Bar-Yoseph, P.Z., "Three-Dimensional Instabilities of Flow in a Rotating Lid-Cylinder Enclosure, *ICTAM 2000*, Chicago, August 27 – September 2, 2000, 84.

42.   Gelfgat, A.Yu., Bar-Yoseph, P.Z., Solan, A. and Kit, E., "Axisymmetry-Breaking Instabilities of Axisymmetric Natural Convection in a Vertical Cylinder with a Parabolic Side Wall Temperature", *ICTAM 2000*, Chicago, August 27 – September 2, 2000, 81.

43.   Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Solan, A., "Axisymmetry-Breaking Instabilities in a Vertical Bridgman Crystal Growth Model", *3rd Int. Workshop on Modeling in Crystal Growth*, Stony Brook, NY, October 18-20, 2000, 105.

44.   Bar-Yoseph, P.Z., Gelfgat, A.Yu. and Solan, A., "Novel Results in Axisymmetry-Breaking Instabilities of Swirling Flow in a Cylinder with Rotating Lid", *12th Int. Couette-Taylor Workshop*, Evanston, IL, September 6-8, 2001.

45.   Gelfgat, A.Yu., Yarin A.L. and Bar-Yoseph, P.Z., "Stability of a Two-Layer Dean Flow with a Capillary Liquid-Liquid Interface", *12th Int. Couette-Taylor Workshop*, Evanston, IL, September 6-8, 2001.

46.   Amir, N., Bar-Yoseph, P.Z. and Dovrat, A., "Simulation of Heat Exposure and Damage to the Eye Lens in a Neighborhood Bakery", Annual Meeting, *Israel Society for Vision & Eye Research*, March 14-15, 2002.

47. Sharon, N., Bar-Yoseph, P.Z. and Dovrat, A., "Simulation of Heat Exposure and Damage to the Eye Lens in Neighborhood Bakery", *XV Int. Congress of Eye Research*, Geneva, Switzerland, October 6-10, 2002.

48. Bar-Yoseph, P.Z., Participation in Workshop on "Medical Problems with Technological Solutions", Bruce Rappaport Faculty of Medicine, Technion, Haifa, 15 January, 2003.

49. Rosenstein, Y. and Bar-Yoseph, P.Z., "On the Hydrodynamic Instabilities in Czochralski (Cz) Process", *29th Israel Conference of Mechanical Engineering*, Technion, Haifa, 12-13 May, 2003.

50. Eshkoli, E., Bar-Yoseph, P.Z. and Adler, D., "Numerical Study of Jet in a Cross Flow", *29th Israel Conference of Mechanical Engineering*, Technion, Haifa, 12-13 May, 2003.

51. Potapov, A., Gelfgat, A.Yu. and Bar-Yoseph, P.Z., "Computational Modeling of Melting/Solidification Affected by Convection", *29th Israel Conference of Mechanical Engineering*, Technion, Haifa, 12-13 May, 2003.

52. Suponitsky, V., Cohen, J. and Bar-Yoseph, P.Z., The Development of a Localized Vortex Disturbance in Uniform Shear Flow – The Effect of the Initial Orientation", *29th Israel Conference of Mechanical Engineering*, Technion, Haifa, 12-13 May, 2003.

53. Rubinov, A., Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Solan, A., "Parametric Instability on Cylindrical Thermocapillary Liquid Bridges", *29th Israel Conference of Mechanical Engineering*, Technion, Haifa, 12-13 May, 2003.

54. Suponitsky, V., Cohen, J., Bar-Yoseph, P.Z. and Shukhman, I., "Numerical and Theoretical Investigation of the Evolution of a Localized Vortex Disturbance in Uniform Shear Flow", *33rd AIAA Fluid Dynamics Conference*, Orlando, Florida, June 23-26, 2003.

55. Rubinov, A., Bar-Yoseph, P.Z., Solan, A., Erenburg, V., Gelfgat, A.Yu. and Kit, E., "Two- and Three-Dimensional Instabilities of Natural Convection in a Vertical Cavity or Cylinder with Partially Heated Sidewalls", *5th European Fluid Mechanics Conference*, Toulouse, France, August, 24-28, 2003, 111.

56. Rubinov, A., Bar-Yoseph, P.Z., Solan, A. and Gelfgat, A.Yu., "Three-Dimensional Instability of Thermocapillary Convection in Liquid Bridges in Zero Gravity under Different Heating Conditions", *5th European Fluid Mechanics Conference*, Toulouse, France, August, 24-28, 2003, 497.

57. Gelfgat, A.Y., Rubinov. A., Bar-Yoseph, P.Z. and Solan, A., "Direct Numerical Study of Three-Dimensional Instabilities in a Hydrodynamic Model of Crystal Czochralski Growth Process", *14th Int. Crystal Growth Conf.*, Grenoble, August 9-13, 2004, 26.

58. Cohen, J., Suponitsky, V. and Bar-Yoseph, P.Z., "The Instability of a Localized Vortex Disturbance in Uniform Shear Flow", *21st International Congress of Theoretical and Applied Mechanics (ICTAM04)*, Warsaw, Poland, August 15-21, 2004

59. Gelfgat, A.Yu., Bar-Yoseph, P.Z. and Cohen, S., "Magnetic Field Effects of Stability of Convective Flows", *Second International Symposium on Instability and Bifurcations in Fluid Dynamics (BIFD2006)*, Copenhagen, August 15-18, 2006.

60. Fischer, A., Holdstein, Y., Podshivalov, L., and Bar-Yoseph, P.Z., "A Neural Network Technique for Mesh Reconstruction of Bone Micro-Structure", *2007 Israel-Italy Bi-National Conference on Shape Modeling and Reasoning for Industrial and Biomedical.*

61. Podshivalov, L., Fischer, A. and Bar-Yoseph, P.Z., "3D Visualization and Analysis for Diagnosis of Bone Micro-Structures: an Overview and New Directions", *VisionTrain - An EU Marie Curie Research Training Network in the Field of Computational Vision*, Haifa, Israel, November 26-27, 2007.

62. Tang, R., Bar-Yoseph, P.Z., and Lasheras, J.C., "Fluid Characteristic in Abdominal Aortic Aneurysms (AAAs) and Its Correlations to Thrombus Formation", *61st Annual Meeting of the APS Division of Fluid Dynamics*, San Antonio, TX, November 23-25, 2008. 2008 APS DFD HL002T.

63. Quakanin, Gaddiel, and Bar-Yoseph, P.Z., The Development of Epidermal Wound Healing: A Computational Approach, *ISCM25*, Ben-Gurion University of the Negev, Beer-Sheva, October 23, 2008.

64. Podshivalov, L., Fischer, A., and Bar-Yoseph, P.Z., "Domain Decomposition Techniques as a Base for a Multi-scale Finite Element Analysis of the Bone Tissue", *ISCM25*, Ben-Gurion University of the Negev, Beer-Sheva, October 23, 2008.

65. Podshivalov, L., Holdstein, Y., Fischer, A. and Bar-Yoseph, P.Z., "3D Visualization and Analysis for Diagnosis of Bone Micro-structures: An Overview and New Directions", *Israeli Society for Medical and Biological Engineering (ISMBE) Annual Symposium*, Tel-Aviv, Israel, March 12, 2009.

66. Podshivalov, L., Holdstein, Y., Fischer, A. and Bar-Yoseph, P.Z., "3D Multiscale Finite Element Analysis of Bone Microstructure", *The Israeli Conference on Mechanical Engineering (ICME' 10)*, Tel-Aviv, Israel, June 2, 2010.

67. Podshivalov, L., Fischer, A., and Bar-Yoseph, P.Z., "3D Multi-resolution Geometric Modeling and Multiscale Finite Element Analysis of Bone Micro-structures", *Israeli Symposium on Computer Aided Surgery, Medical Robotics and Medical Imaging (ISRACAS'10)*, Herzlia, Israel, November 11, 2010.

68. Moiseyev, G., Givli, S. and Bar-Yoseph, P.Z., "Building 'Bottom-Up' Blood Coagulation Models using Mechanical Statistics" *ISCM31*, Oct. 27, 2011, Ben-Gurion University, Beer-Sheva, Israel

69. Moiseyev, G., and Bar-Yoseph, P.Z., "Building 'Bottom-Up' Blood Coagulation Models using Mechanical Statistics" *ECI Conference on Computational Fluid Dynamics (CFD) in Medicine and Biology* in conjunction with *the 7th International Biofluid Mechanics Symposium*, Crowne Plaza Dead Sea, Ein Bokek, Dead Sea, Israel, March 25-30, 2012.

Special Organizational Activities in Conferences:

2023-2024   Member, International Advisory Committee, 11th International Symposium of Bifurcations and Instabilities in fluid Dynamics (BIFD 2024), Edinburgh, Scotland, June 24-28, 2024.

2023-2024   Member, International Advisory Committee, the 10th International Biofluid and Mechanobiology Symposium (IBMS 10), Red Sea and Dead Sea, Israel, April 7-12, 2024.

2019-2022   Member, International Advisory Committee, 10th International Symposium of Bifurcations and Instabilities in fluid Dynamics (BIFD 2022), Bernoulli Institute of the University of Groningen, The Netherlands, July 18-21,2022.

2019-2020   Member, International Advisory Committee, 9th International Bio-Fluid Mechanics and Vascular Mechano-Biology Symposium, Tucson, Arizona February 13-16, 2020.

2018-2019   Member, International Advisory Committee, 8th International Symposium of Bifurcations and Instabilities in fluid Dynamics (BIFD 2019), University of Limerick, Ireland, July 16-19,2019.

2018:   Co-organizer, 45th Annual Meeting of the Israel Association for Computational Methods in Mechanics (ISCM-45), Technion, Oct. 18, 2018

2017:   Co-organizer, *42nd Annual Meeting of the Israel Association for Computational Methods in Mechanics (ISCM-42)*, Technion, April 30, 2017.

2016-2017:   Member, International Advisory Committee, *7th International Symposium on Bifurcations and Instabilities in Fluid Dynamics* (BIFD 2017), The Woodlands, Texas, USA, July 11-14, 2017.

2015-2016:   Session Organizer, "Modelling and Simulations of Vascular Diseases, *14th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE 2016),* Tel-Aviv, Sept. 20-22, 2016.

2015-2016:   Member, advisory/scientific board, *The eighth International Bio-Fluid Symposium and Workshop*, Caltech, Pasadena, 12-14 February, 2016.

2014-2015:   Co-organizer, *6th International Symposium on Bifurcations and Instabilities in Fluid Dynamics* (BIFD 2015), Paris, France, July 15-17, 2015.

2014-2015:   Member, Scientific Committees, *21th Congress of the European Society of Biomechanics (ESB)*, Prague, Czech Republic, 5-8 July, 2015.

2014:   Co-organizer, *36th Annual Meeting of the Israel Association for Computational Methods in Mechanics (ISCM-36)*, Technion, April 24, 2014.

2013-2014:   Track Leader, Computational Mechanics, *ASME 2014 12th Biennial*

Conference on Engineering Systems Design and Analysis (ESDA2014), Copenhagen, Denmark, June 25-27, 2014.

2012-2013:   Member, International Advisory Committee, *the 2013 World Congress on Advances in Structural Engineering and Mechanics (ASEM13)*, Organized by KAIST, Korea, September 8-12, 2013.

2012-2013:   Co-organizer, *5th International Symposium on Bifurcations and Instabilities in Fluid Mechanics (BIFD2013)*, Technion, July 8-11, 2013.

2012:   Member, Scientific Committee of the *6th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2012)*.

2011:   Member, International Advisory Committee, *the 2011 World Congress on Advances in Structural Engineering and Mechanics (Asem11+)*, Korea, September 18-23, 2011.

2010-2011:   Co-organizer, *4th International Symposium on Bifurcations and Instabilities in Fluid Mechanics*, Universitat Politecnica de Catalunya, Barcelona, Spain, July 18-21, 2011. http://congress.cimne.com/bifd2011/frontal/default.asp.

2009:   Member, Panel Session, *International LinkSCEEM High Performance Computing Conference*, Pathos, Cyprus, October 6-9, 2009.

2008-2009:   Co-organizer, *3rd International Symposium on Bifurcations and Instabilities in Fluid Mechanics*, University of Nottingham, UK, August 13-16, 2009.

2007-2008:   Track Leader, Computational Mechanics, *9th Biennial Conference on Engineering Systems Design and Analysis (ESDA 2008)*, Haifa, Israel, July 7-9, 2008.

2007-2008:   Member, International Advisory Board, *8th World Congress on Computational Mechanics (WCCM8)* and *5th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008)*, Venice, Italy, June 30 – July 5, 2008.

2007-2008:   Member (IACMM Representative), Organizing Committee, *18th International Conference on Domain Decomposition Methods (DDM18)*, Hebrew University, January 2008.

2007:   Chairman, Plenary and Morning Sessions, Workshop on *Computations in Nanotechnology*, Russell Berrie Nanotechnology Institute, Technion, May 9, 2007.

2007:   Co-organizer, *22nd Annual Meeting of the Israel Association for Computational Methods in Mechanics (ISCM-22)*, Technion, March 15, 2007.

2007:   Member, International Organizing Committee, *14th International Conference on Computational Methods in Engineering and Sciences (ICCES'07)*, Miami, January 3-8, 2007.

2006:   Chairman, Plenary Session, *ECCOMASS CFD*, 2006, Egmond aan Zee, The Netherlands, September 5-8, 2006.

2005-2006:   Member, Organizing Panel, *European Conference on Computational Fluid Dynamics (ECCOMAS CFD 06)*, Egmond aan Zee, The Netherlands, September 5-8, 2006.

2004-2006:   Co-organizer, *2nd International Symposium on Bifurcations and Instabilities in Fluid Mechanics*, University of Denmark, Lyngby, August 15-18, 2006.

2004-2005:   Member, International Organizing Committee, *13th International Conference on Computational & Experimental Engineering and Sciences (ICCES'05)*, Chennai, India, 1-6 December 2005.

2004:   Co-organizer, *High Performance Computing and Visualization Conference*, Technion, 11 October 2004.

2004:   Organizer of the *Special Symposium on Stabilities and Bifurcations in Fluid Mechanics, 12th International Conference on Computational Methods in Engineering and Sciences (ICCES'04)*, Madeira, Portugal, 25-29 July 2004.

2003:   Chairman, Computational Mechanics Session, *29th Israel Conference on Mechanical Engineering*, Technion, 12-13 May 2003.

2002-2003:   Organizer, Annual Meeting of the *Israel Association for Computational Methods in Mechanics (IACMM),* Technion, April 2002, 2003.

2000-2002:   Member of the Scientific Board of the *5th World Congress on Computational Mechanics (WCCM V)*, Vienna, Austria, July 7-12, 2002.

2000-2001:   Member of the Scientific Advisory Committee of the *1st International Conference on Computational Engineering & Sciences, ICES'2001*, Puerto Vallarta, Mexico.

2000-2001:   Member of the Scientific Committee of the *2nd European Conference on Computational Mechanics (ECCM-2001)*, Cracow, Poland, June 26-29, 2001.

1999-2000:   Member of the Organizing Committee, *ECCOMAS 2000 (European Community in Computations Methods in Applied Sciences),* Barcelona, Spain, Sept. 11-14, 2000.

1999:   Chairman, Plenary Session, *ISCFD '99*, Bremen, Germany, Sept. 5-10, 1999.

1998-9:   Organizer of the *Spectral and High Order Methods Session*, European Conference on Computational Mechanics (ECCM '99), München, Germany, August 31 - September 3, 1999.

1998-9:   Member of the Scientific Board of the *European Conference on Computational Mechanics (ECCM '99)*, München, Germany.

1998-9:   Member of the Scientific Committee, *8th Int. Symposium on Computational Fluid Mechanics*, Bremen, Germany.

1997:   Chairman, Session IV, *Belfer Memorial Symposium* on *Nonlinear Mechanics*, Technion.

1997:   Chairman, Mini Symposium on Numerical Treatment of Singularities and Interfacial Phenomena, *IUTAM Symposium on Non-Linear Singularities in Deformation and Flow*, Technion.

1996:   Member of the Scientific Committee and Chairman, CFD Session, *2nd Scientific Visualization Conference*, Technion.

1996:   Chairman, Computational Mechanics Session, *26th Israel Conference on Mechanical Engineering*, Technion.

1995:   Organizer, *1st Workshop of the Israel Association for Computational Methods in Mechanics*, Technion.

1995:   Chairman, Spectral Methods Session, *6th International Symposium on Computational Fluid Dynamics (6ISCFD)*, Lake Tahoe, Nevada.

1994:   Chairman, Suspension I Session, *2nd European Fluid Mechanics Conference*, Warsaw.

1994:   Chairman and Developer, Finite Element Modeling of Local Effects in Composite Laminates Session, *1st International Conference on Composite Engineering (ICCE/1)*, New Orleans, USA.

1994:   Chairman, Computational Mechanics Session, *25th Israel Conference on Mechanical Engineering*, Technion.

1993:   Chairman, Non-Newtonian Flow Session, *5th International Symposium on Computational Fluid Dynamics*, Sendai, Japan

1990:   Chairman, Computational Mechanics Session, *23rd Israel Conference on Mechanical Engineering*, Technion.

1987:   Chairman, Computational Mechanics Session, *21st Israel Conference on Mechanical Engineering*, Technion.

1987:   Chairman, Editorial Board, *21st Israel Conference on Mechanical Engineering*, Technion.

1984:   Chairman, Computational Mechanics Session, *18th Israel Conference on Mechanical Engineering*, Technion.

Reviewer for Conferences:

1998-9:	European Conference on Computational Mechanics (*ECCM '99*)
1998-9:	8th International Symposium on Computational Fluid Dynamics (*ISCFD '99*)
1997:	First Israel-France Binational Workshop on Failure of Materials.
1997:	International Symposium on Advances in Computational Heat Transfer, Cesme, Turkey.
1994:	5th International Symposium on Computational Fluid Dynamics, Sendai, Japan.
1992:	13th International Conference on Numerical Methods in Fluid Dynamics, Rome.
1984, 1987 1990, 1994	18th, 21st, 23rd & 25th Israel Conferences on Mechanical Engineering, Technion.
1984:	26th Israel Annual Conference on Aviation and Astronautics, Technion.

SPECIAL PROFESSIONAL ACTIVITIES:

Reviewer for Research Proposals:

2005:	Referee, Hanin Prize for Excellence in Fluid Dynamic Research.
1996, 1999, 2004:	*German Israel Foundation for Scientific Research and Development* (*G.I.F.*).
1994:	Directorate of Defense Research and Development, Israel Defense Ministry.

Seminars Presented (Abroad):

1. "Asymptotic Finite Element Methods for Boundary Layer Problems", Max-Planck-Institut für Strömungsforschung, Göttingen, Germany (September 1984).

2. "Novel Variational-Asymptotic Formulations for Delamination Modelling in Composite Structures", Applied Mechanics Division Seminar, Stanford University, Stanford, CA. (December 1985).

3. Variational-Asymptotic Formulations for Interlaminar Stress Analysis in Composite Structures", Aerospace & Mechanical Engineering Seminar, University of Southern California, CA. (August 1986).

4. "Asymptotic Finite Element Method for Boundary Value Problems", Mechanical Engineering Seminar, MIT, Cambridge, MA (August 1988).

5. "Spectral Element Methods for Solving Rotating Fluid Flows", Kolloquium Über Strömungsmechanik, Technische Hochschule Darmstadt, Darmstadt, Germany (January 1992).

6. "Multiple Flow Modes and Vortex Breakdown Phenomena in Rotating Systems", Institute of Computational Fluid Dynamics, Tokyo, Japan (September 1993).

7. "Multiple Flow Modes and Vortex Breakdown Phenomena in Rotating Systems", Aerospace & Mechanical Engineering Seminar, University of Southern California, CA. (September 1993).

8. "Space-Time Spectral Element Methods for Convective-Diffusive Equations", Department of Mathematics, Chemistry and Technical Physics, Military University of Technology, Warsaw, Poland (September 1994).

9. "Novel Space-Time Spectral Element Methods for Unsteady Convection-Diffusion Problems", Dept. of Mechanical Engineering, UMIST, Manchester (August 1995).

10. "Novel Space-Time Spectral Element Methods for Nonlinear Differential Equations", R.P.I., Troy (July 1996).

11. "Finite Element Procedures for Analysis, Design and Visualization", Dept. of Mechanical Engineering, Marquette University, Milwaukee, (November 1998).

12. "Stability of Multiple Steady States of Convection in Laterally Heated Cavities", Dept. of Mechanics, Royal Institute of Technology, Stockholm (September 1999).

13. "On Stochastic Movement of Collective Cells and Fingering Morphology" and on "3-D Bone Reconstruction from Micro CT/MRI Medical Images and Multi-Scale Finite Element Analysis for Diagnosis of Osteoporosis", Dept. of Biomedical Engineering and Computational Science, Helsinki University of Technology (August 2009).

14. "Computational Simulation of Hemodynamically Induced Blood Coagulation Formation and Growth", Division of Mechanics, Royal Institute of Technology, Stockholm (August 2009).

15. "On Stochastic Movement of Collective Cells and Fingering Morphology" and on "Computational Simulation of Hemodynamically Induced Blood Coagulation Formation and Growth", Division of Fluid Dynamics, Department of Applied Mechanics, Chalmers University of Technology (August 2009).

16. "On Stochastic Movement of Collective Cells and Fingering Morphology" and on "Computational Simulation of Hemodynamically Induced Blood Coagulation Formation and Growth", Dept. of Mathematics, Technical University of Denmark, Lyngby, Denmark (September 2009).

17. "Novel Computational Methods for Simulation of Arterial and Metabolic Diseases", Department of Mechanical Engineering, Florida International University (September 17, 2011); Department of Mechanical and Aerospace Engineering, The George Washington University (September 20, 2011); Department of Biomedical Engineering, Columbia University (September 23, 2011).