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CURRICULUM VITAE

NAME 014992028 YOSIBASH Zohar

FACULTY/SCHOOL Tel-Aviv Univ., Faculty of Engineering, School of Mechanical Eng.

HOME ADDRESS 13 Hasida st. Lehavim 85338, Israel.

DATE AND PLACE OF BIRTH Oct, 2, 1964 Bacau, Romania

DATE OF ARRIVAL IN ISRAEL July 1973

A. EDUCATION

1983-87	Technion, Haifa, Israel,	Aeronautical Engrg.,	B.Sc. *Cum Laude*	May 87.
1988-92	Tel Aviv Univ., Israel,	Applied Mathematics,	M.Sc. *Summa Cum Laude*	May 92.

Thesis title: *Super elements for singular 2-D elliptic boundary value problems.*
Supervisor: Prof. B. Schiff (deceased).

1992-94	Washington Univ. in St. Louis, USA,	Mechanical Engrg.,	D.Sc.	July 94.

Thesis title: *Numerical analysis of singularities and first derivatives for elliptic BVPs in 2-D.*
Supervisor: Prof. B. Szabó.

B. ACADEMIC AND PROFESSIONAL EXPERIENCE

1987 - 1992	Israel Air Force, Israel. Damage Tolerance Group, Structure Branch. Strength & fracture mech. analyst, Rank: Major.
1994 - 1995	Washington University, St. Louis, USA. Mech. Eng. Visiting assistant professor.
Oct. 1995 - Sep. 1997	Ben-Gurion Univ., Israel. Mech. Eng. Lecturer.
Oct. 1997 - Sep. 2002	Ben-Gurion Univ., Israel. Mech. Eng. Senior Lecturer.
Nov. 1999	Tenured at Ben-Gurion Univ., Israel.
Aug. 2002 - Oct. 2007	Brown Univ., Providence, RI, USA. Sabbatical, Div. of Appl. Mathematics, Visiting Associate Prof. of Research
Oct. 2002 - Sep. 2008	Ben-Gurion Univ., Israel. Mech. Eng. Associate Professor.

Aug. 2010 - Feb. 2011	Technical Univ. of Munich, Germany. Sabbatical, Visiting Prof.	Inst. Computation in Eng.,
Oct. 2008 - Sep. 2017	Ben-Gurion Univ., Israel. Mech. Eng. Professor.	
Jan. 2015 - Present	PerSimiO Ltd Start-up company for diagnosis of bone strength based on FEA , Founder, CTO & CEO (part time)	
Oct. 2017 - Present	Tel-Aviv Univ., Israel. School of Mech. Eng. Professor.	
Aug. 2021 - Jan. 2022	Duke Univ., Durham, NC, USA. Sabbatical, Visiting Professor	Mech. Engineering,
Jan. 2023 - Present	Center for Interdisciplinary Innovation in Bone Healthcare Sourasky MC and TAU	Founder and head
Mar. 2023 - Present	Endowed Chair "Computational Mechanics and Experimental Biomechanics"	

C. ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

Acceptance rate of conference papers is close to 100%

C.0) Invited International Advanced Courses

2020 *Advanced International School on Imaging, Modelling and Simulation in Biomechanics and Mechanobiology* - Rome, Italy, 24-28 Feb, 2020.

C.1) Invited Plenary Lectures

1998 *Numerical Analysis of Singularities Associated with Elliptic Problems by P-FEM* - International Conference on Spectral and High Order Methods, Herzliya, Israel, 22-27 June, 1998.

2005 *p-FEM analysis of singularities: Theory and application* - 5^{th} GRACM international congress on computational mechanics, Limassol, Cyprus, 29 June - 1 July, 2005.

2013 *Extracting edge flux/stress intensity functions with the Quasi-Dual Function Method along circular 3-D edges* - Journees Singulieres Augmentees, Rennes, France, 26-30 August, 2013.

2023 *Fracture of Bones* - The 11^{th} Israel Structural Integrity Group (ISIG) Symposium February 16^{th}, 2023.

C.2) Invited Keynote Lectures

2002 *Failure Initiation in Electronic Devices - Analytical/Numerical/Experimental Aspects* - WE-Heraeus Seminar on Contact and Fracture Problems, Bad-Honnef, Germany, 27-29 May, 2002.

2005 *p-FEM for a Class of Finite Deformation Pressure Dependent Plasticity Models Validated by Experimental Observations* - 8th U.S. National Congress on Computational Mechanics, Texas, USA, 24-28, July 2005.

2010 *Circular edge singularities for the Laplace equation and the elasticity system in 3-D domains* - 6^{th} Singular Days on Asymptotic Methods for PDEs, Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany, 29 Apr - 1 May, 2010.

2012 *Reliable high-order finite element simulations of human femurs for clinical orthopedic applications* - WCCM XI: World Congress on Computational Mechanics, Sao Paulo, Brazil, 9-13 July, 2012.

2014 *Computational bone-mechanics on orthopedist's cell phone* - 3rd Workshop on Computational Engineering, Stuttgart, Germany, 6-10 Oct., 2014.

2016 *When 3-D edge singularities in linear elasticity meet the real world* - Eighth Singular Days, Nancy, Lorraine, France, June 27-30, 2016.

2016 *Reliability of $p-FEA$ of human arteries validated by experimental observations* - WCCM XII 2016: World Congress on Computational Mechanics, Seoul, South Korea, 24-29 July, 2016.

2017 *3-D Edge Singularities in Linear Elasticity* - Numerics and mathematical analysis for singularities and eigenvalue problems, Rennes, France, 8-10 February, 2017

2019 *On the asymptotic solution of elliptic problems in the vicinity of curved singular edges in 3D domains* - IX Singular Days, Kassel, Germany, Sep 17-20, 2019.

2021 *Autonomous Finite Elements (AFE) - Are They Precursors of a Paradigm Shift?*, Keynote presentation at M617 minisymposium: USNCCM16, Online presentation, July 26-29, 2021

2022 *Fracture Initiation in Brittle and Quasi-brittle Materials - Analytical Derivation and Experimental Evidence*, Keynote presentation at 17 Asia-Pacific conference on fracture and strength combined with 13 Conference of structural integrity and fracture, Dec 6-9, 2022, Adalaide, Australia.

C.3) Invited lectures at conferences/workshops

1998 *Application of hp-FEM for Boundary Layers and Eigenvalues Realization in Thin Elastic 3-D Domains and 2-D Plate Models* - High Order Finite Element Methods Workshop, Bad-Honnef, Germany, 16-18 March, 1998.

2000 *Extracting edge flux intensity functions using p-FEM*- 3-D Singularities in Elasticity Workshop, Karlsruhe University, Germany, 22-24 November, 2000.

2002 *Failure initiation criteria in linear elasticity*- 3eme Journees Singulieres Workshop, Le Trounchet, France, 29-31 August, 2002.

2002 *Computing Singular Characteristics of the Elliptic 2-D and 3-D Problems Using p-FEM* - Analytical and numerical treatment of singularities in PDE workshop, Oberwolfach, Germany, 3-9 November, 2002.

2003 *Fluid-structure interaction simulations based on p-FEM. Part I: From the solid mechanics perspective* - WE-Heraeus Seminar on Adaptivity in FE Analysis: Models, Meshes and Polynomial Orders, Bad-Honnef, Germany, 7-10 Sep, 2003.

2004 *Extracting edge stress/flux intensity functions by p-FEM*- 4eme Journees Singulieres Workshop, Abbayes des Premontres, Pont-a-Mousson, France, 7-9 June, 2004.

2006 *On edge singular solutions in polyhedra domains and extracting stress/flux intensity functions by p-FEM* - Fourth Israeli Mini-Workshop in Applied and Computational Mathematics, Tel-Aviv University, January, 3, 2006.

2006 *Edge Singular Solutions in Anisotropic Materials and Multi-material Interfaces* - International Workshop Research in Mechanics of Composites 2006, Bad Herrenalb, Germany, 26 - 29 November 2006.

2007 *Edge Singularities in Elastic Anisotropic Materials and Multi-material Interfaces* - 5eme Journees Singulieres Workshop, Luminy, France, 22-27 April, 2007.

2007 *p-FEM for a Class of Finite Deformation Pressure Dependent Plasticity Models Validated by Experimental Observations* - High Order Finite Element Methods Workshop, Herrsching, Germany, 17-19 May, 2007.

2007 *p-FEM for nonlinear static and dynamic problems in solid-mechanics* - International Conference on Spectral and High Order Methods, Beijing, China, 18-22 June, 2007.

2007 *Reliable p-FE analysis of the proximal femur validated by in-vitro experiments* - Workshop on Biomechanics at RICAM - Johann Radon Institute for Computational and Applied Mathematics, Austrian Academy of Sciences, Linz, Austria, 13-14 Dec, 2007.

2008 *Tutorial on Computational Biomechanics* - ISCM 24 Workshop, Tel-Aviv, Israel, Apr. 4, 2008.

2009 *Reliable subject-specific CT-based p-FE analysis of the proximal femur* - Osteosynthesis and Trauma Care foundation workshop named Numerical Modeling and Trauma Care, Boston, USA, 14-16, June, 2009.

2010 *Predicting the fracture onset in the proximal femur using FEA?* - Osteosynthesis and Trauma Care foundation workshop named Numerical Modeling and Trauma Care, Boston, USA, 4-6, Dec, 2010.

2011 *p-FEMs for biomechanical applications: bones and arteries* - Higher Order Finite Element and Isogeometric Methods, Krakow, Poland, 27-29, June, 2011.

2012 *Simulating the mechanical response of arteries by p-FEMs* - High Order Numerical Approximation for Partial Differential Equations, Bonn, Germany, 6-10, February, 2012.

2012 *Feasibility of the clinical use of FE models in fracture prediction* - German Congress for Orthopaedics and Traumatology, Berlin, Germany, 24-26, October, 2012.

2013 *Extracting edge flux/stress intensity functions with the Quasi-Dual Function Method along circular 3-D edges* - Journees Singulieres Augmentees 2013, Rennes, France, 26-30, August, 2013.

2013 *Finite element simulations of patient-specific long bones for clinical orthopedic applications* - International CAE Conference, Pacengo del Garda (Verona), Italy, 21-22, October, 2013.

2014 *p-FEMs for thermo-hyperelasticity at finite strains with uncertainty quantification* - HOFEIM 2014, Frauenchiemsee Island, Germany, 15-18, July, 2014.

2015 *Failure criteria for brittle elastic V-notched structures: from 2-D mixed mode to 3-D* - Workshop honoring the retirement of prof. Dominique Leguillon, Univ. Piere and Marie Currie, Paris, 11-12, June, 2015.

2015 *Biomechanics and Mathematics* - Workshop on the occasion of 10^{th} anniversary of the biomechanics institute, Murnau, Murnau, Germany, 11, Sept, 2015.

2018 *Patient specific CT-based FEA of femurs with metastatic tumors - A leap to clinical practice* - Workshop on Advanced Computational Modeling for Tumor Growth Prediction, IAS - Technical University of Munich, Germany, 24-25 Sept, 2018.

2019 *CT-based Autonomous FEs (AFE) - a leap to clinical practice* - HOFEIM 2019, Univ. of Pavia, Italy, 28-30, May, 2019.

C.4) Invited Seminars at Universities and Institutions

1992 Tel-Aviv university, Mechanical Engineering Dept., May 1992 - "Super elements for singular two-dimensional elliptic boundary value problems".

1994 Technion, Mechanical Engineering Dept., June 1994 - "Numerical analysis of singular points".

1994 Tel-Aviv university, Applied Mathematics Dept., June 1994 - "Numerical analysis of BVPs".

1995 Washington University, Dept. of Mechanical Engineering, Sept. 95 - Invitation to a colloquium on "Numerical analysis of singular points associated with linear elasticity problems in 2-D".

1995 University of Maryland Baltimore County, Dept. of Mathematics and Statistics, Sept. 95 - Invitation to a colloquium on "Numerical analysis of singular points associated with linear elliptic problems problems in 2-D".

1995 IACMM Information day, Dec. 1995 - "On the h-, p-, and hp-version of the FEM and their application in linear elasticity problems".

1997 Stuttgart University, Germany, June 17,18,24, 1997 - Series of three seminars: "Fracture Mechanics-Basics", "Extracting Eigen-Pairs and Generalized Stress Intensity Factors for 2-D Domains Using FEM" and "Thermo-Elastic Extraction of Stress Intensity in 2-D and Edge Singularities in 3-D".

1997 Technical University of Munich, Dept. of Civil Engineering, Germany, June 24, 1997 - "Analysis of Singular Points Associated with Linear Elasticity by the p-FEM".

1997 University of Rennes 1, Dept. of Mathematics, France, October 23, 1997 - "Analysis of Singular Points Associated with Linear Elliptic Problems in Two-Dimensions".

1998 Washington University, Dept. of Mechanical Engineering, Sept. 98 - Invitation to a colloquium on "Boundary Layer Realization in Thin Elastic 3-D Domains and 2-D Hierarchic Plate Models".

1999 Stuttgart University, Mathematic Institute A, Germany, July 15 1999 - Invitation to a colloquium on "Extracting Certain Quantities Associated with Edge Singularities of Elliptic BVPs in 3-D Domains by p-FEM".

1999 Tech. Univ. Munich, Dept. of Civil Engineering, Germany, July 19 1999 - "p-Finite Element Methods as an Efficient Tool for: Automated Strength Analysis of Femur Bones, Boundary Layers in Plate Models and Cracks/Singular Edges in 3-D Analysis".

2001 Tech. Univ. Munich, Dept. of Civil Engineering, Germany, Feb. 21, 2001 - "A unified criterion for failure initiation in electronic devices and structural components".

2001 Math. Institute A, Stuttgart University, Germany, Feb. 22, 2001 - "A unified criterion for failure initiation in electronic devices and structural components".

2002 Tel-Aviv university, Mechanical Engineering Dept., Apr. 8, 2002 - "Mechanical failures and singular solutions in elastic materials".

2002 Division of Applied Mathematics, Brown University, Providence, USA, Apr. 19, 2002 - "Failure mechanisms and singular solutions in elastic materials".

2003 Dept. of Mathematics, University of South Carolina, Columbia, Feb, 18-19, 2003 - Invitation to a seminar on "Application of hp-FEM for Boundary Layers and Eigen-frequency Realization in Thin Elastic 3-D Domains and 2-D Plate Models" and a colloquium on "Applied Math for Real Life Problems: Failure Initiation in Electronic Devices - Analytical/Numerical/Experimental Aspects".

2003 Dept. of Mathematics and Statistics, University of Maryland Baltimore County, Feb, 21, 2003 - Colloquium on "Applied Math for Real Life Problems: Failure Initiation in Electronic Devices - Analytical/Numerical/Experimental Aspects".

2004 Universitaet der Bundeswehr Muenchen, Institut fuer Mathematik und Bauinformatik, Feb, 20, 2004 - "Computing Singular Characteristics of Elliptic 2-D and 3-D Problems Using p-FEM".

2005 Institute for Mechanics, University of Karlsruhe, Germany, Sept. 27, 2005 - "Failure criteria at singular points in elastic materials: Theory and Applications".

2006 Tech. Univ. Munich, Dept. of Civil Engineering, Germany, Feb. 24, 2006 - "p-FE analysis of the human proximal femur compared to in-vitro experiments".

2007 Afeka College of Engineering, Ramat-Aviv, Nov. 18, 2007 - "Simulation of the mechanical response of the human proximal femur by high order finite element methods validated by in-vitro experiments".

2008 Weizmann Institute, Dept. of Structural Biology, Rehovot, Feb. 10, 2008 - "Simulation of the mechanical response of the human proximal femur by high order finite element methods validated by in-vitro experiments".

2008 Institut Jean Le Rond d'Alembert, Univ. Pierre & Marie Curie (Paris 6), Paris, France, May 6, 2008 - " Reliable p-FE analysis of the proximal femur validated by in-vitro experiments".

2008 Technical University of Munich, Germany, Nov, 12, 2008 - "CAPSO - Computer Aided Patient Specific Orthopedics".

2008 Tel-Aviv University, School of Engineering, Dec. 22, 2008 - "Patient-specific simulation of the proximal femur's mechanical response validated by experimental observations".

2009 Clausthal Technical University, Chair of Technical Mechanics, Clausthal-Zedeller, Germany, Apr. 30, 2009 - "Patient-specific simulation of the proximal femur's mechanical response validated by experimental observations".

2009 Tel-Aviv University, Applied Mathematics Dept, June. 2, 2009 - "Edge singularities - Mathematics and Engineering applications".

2009 Technical University of Munich, Institute of Advanced Studies, Germany, Nov, 10, 2009 - "Computational Bone-Mechanics" - A patient-specific combined engineering/clinical treatment approach

2009 Technical University of Hamburg-Harburg, Ship structural design and analysis institute, Harburg, Germany, Nov, 13, 2009 - "Failure criteria at singular points in elastic materials: Theory and Applications".

2010 FerienAkademie, Sarntal, SudTirol, Italy - Sep. 19-23 - "Verification/Validation/Corroboration".

2011 Linz University (RICAM), Austria, Jan, 14, 2011 - "Simulating the mechanical response of artery walls by high order finite elements".

2011 Bavarian Graduate School of Computational Engineering, Munich, Germany, Jan, 20, 2011 - "An afternoon talk on human femurs - biomechanical experiments, modeling and numerical simulations".

2012 Technical University of Vienna, Dept. Mechanical Engrg, Biomechanics, Vienna, Austria, Oct, 30, 2012 - "Verification, validation and uncertainty quantification in bone biomechanics".

2015 Tel-Aviv University, Dept. Biomedical Engineering, April, 19, 2015 - "Towards Personalized Orthopedics".

2016 Tokyo University of Science, Dept. of Mechanical Engineering, Aug, 3, 2016 - "3D Cracks: Computing edge stress intensity functions in isotropic or anisotropic materials and multi-material interfaces".

2018 Technion, Faculty of Aerospace Engineering, March, 28, 2018 - The 5^{th} Annual Professor Singer Memorial Lecture: "An afternoon talk on bones, doctors and high order finite element methods".

2018 Rafael, August, 6, 2018 - "The holy trinity in bone simulations".

2018 Univ. of Pavia, Dept. Civil Engineering, Nov, 6, 2018 - "Patient specific CT-based FEA of femurs - A leap to clinical practice".

2018 Polytechnic University of Torino, Dept. Civil Engineering, Nov, 9, 2018 - "Patient specific CT-based FEA of femurs - A leap to clinical practice".

2021 Oden's Institute, Univ. of Texas at Austin, TX, USA, Online Presentation, Oct, 2021 - "Autonomous Finite Elements (AFE) - Are They Precursors of a Paradigm Shift?"

2022 IMT Lucca, Feb, 2022 - "Advanced numerical modeling of failure processes" and "Effective communications"

2023 Univ. of Pavia, Dept. Civil Engineering, Jan, 23, 2023 - "AFE in Clinical Practice".

C.5) Presentation of papers and Proceedings of conferences/meetings

1992 MSC Information Day, March 16, 92 - "An Improved Element to cover 2-D Singular Points Arising from Sharp Edges and Cracks - Implementation via MSC/NASTRAN", Daniel Hotel, Herzelia, Israel.

1993 ASME Winter Annual Meeting, Nov. 28 - Dec. 5, 1993 - "Numerical Analysis of singular points", New-Orleans, Louisiana, USA.

1994 Sixth Robert J. Melosh Competition for the best paper in finite element analysis symposium, Mar. 25 1994 - "The solution of axisymmetric problems near singular points and computation of stress intensity factors", Duke University, Durham, N. Carolina, USA.

1994 The 25^{th} Israel Conference on Mechanical Engineering, May 25-26 1994 - "Numerical analysis of material interface singularities in 2-D linear elastostatics by the p-version of the finite element method", Technion city, Haifa, Israel. The 25^{th} Israel Conference on Mechanical Engineering, Conference proceedings, 1994, pp. 165-168.

1994 Finite Element Circus Meeting, Nov. 4-5, 1994 - "Numerical analysis of singularities for elliptic BVPs in two-dimensions", Penn State university, State College, Pennsylvania, USA.

1994 USAF Aircraft Structural Integrity Program Conference, Dec. 6-8, 1994 - Poster presentation - "Advanced methods for the computation of stress intensity factors", San Antonio, Texas, USA.

1995 Finite Element Circus Meeting, Mar. 24-25, 1995 - "Numerical thermo-elastic analysis of singularities in two-dimensions", Brookhaven National Laboratory, Long Island, USA.

1995 Symposium on Computational and Applied Mathematics I, Apr. 20-22, 1995 - "Numerical analysis of singularities associated with the mechanical and thermal problems of electronic packaging", Austin, Texas, USA.

1995 Third U.S. National Congress on Computational Mechanics, June 12-14, 1995 - "Super-convergent Extraction of stress intensity factors and stresses from finite element solutions", Dallas, Texas, USA. Third U.S. National Congress on Computational Mechanics, Abstracts, J.N. Reddy ed., Dallas, Texas, USA, p. 71.

1995 ASME 1995 Design Engineering Technical Conference - 11th Biennial Conference on Reliability, Stress Analysis and Failure Prevention, Sept. 17-20, 1995 - "Failure analysis of composite materials and multi material interfaces", Boston, Massachusetts, USA. ASME 1995 Design Engineering Technical Conference, DE-Vol. 83, Vol. 2, 11th Biennial Conference on Reliability, Stress Analysis and Failure Prevention, 1995, Boston, Massachusetts, USA, pp. 133-139.

1996 The 26^{th} Israel Conference on Mechanical Engineering, May 21-22 1996 - "Direct and indirect stress extraction from finite element solutions", Technion city, Haifa, Israel. Conference proceedings, 1996, pp. 48-50.

1996 MAFELAP 96 Conference, June 25-28, 1996 - "Numerical analysis of singularities in 2-D linear Elastostatics by the modified Steklov method in conjunction with p-FEM", and "Pointwise stress extraction by the complementary energy principle from p-version FE solutions", Brunel University, England. Summaries of papers, 1996, pp. 147-148.

1996 NMCM, July 15-19, 1996 - "Thermal generalized stress intensity factors in 2-D domains", Miskolc University, Hungary.

1997 4-th USANCM, August 6-9, 1997 - "Numerical analysisof edge singularities in 3-D elasticity", and "Thermo-elasticityof singular points in 2-D", San-Francisco, USA.Abstracts Proceedings, San-Francisco, August, 1997, USA.

1999 MAFELAP 99, June 22-25, 1999 - "Extracting certain quantities associated with three-dimensional singularities in elliptic BVP by p-FEM", Brunel University, England. Summaries of papers, 1999, p. 135.

1999 MAFELAP 99, June 22-25, 1999 - "Boundary layers in thin elastic 3-D domains vis 2-D hierarchic plate models", Brunel University, England. Summaries of papers, 1999, p. 136.

2000 p-FEM2000, May 31-June 2, 2000 - "p-FEM for formulating an elastic criterion for predicting mechanical failures at 2-D singular points", Washington University, USA. Summaries of papers, 2000, p. 15.

2000 p-FEM2000, May 31-June 2, 2000 - "Extracting edge flux intensity functions for the Laplacian using p-FEM" Washington University, USA. Summaries of papers, 2000, p. 15.

2000 IASS-IACM 2000, June 4-7, 2000 - "Hierachic elastic plate models represent (?) 3-D plates - Visualizing boundary layers and high order responses using p-FEM", Chania, Crete. In electronic proceedings edited by M. Papadrakakis, A. Samaratin and E. Onate, pp. 1-17.

2001 GAMM01, Feb. 12-15, 2001 - "Eigen-frequencies of 3-D thin elastic plates vis the Reissner-Mindlin plate counterparts", ETH Zurich, Switzerland. Invited talk in Mini-symposium and published in the conference proceedings.

2001 ICOSAHOM01, June 11-15, 2001 - "Eigen-frequencies of 3-D thin elastic plates vis the Reissner-Mindlin plate counterparts", Uppsala, Sweeden. Talk in Mini-symposium and published in the conference proceedings.

2001 ISTAM Workshop, Dec. 16, 2001 - "Singularities and failure initiation criterion in elastostatics".

2003 44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics,and Materials Conference, 7-10 April, 2003, Norfolk, VA, USA -"High-order finite elements for fluid-structure interaction problems".

2003 USACM7 conference, Geneva Switzerland, July 28-30, 2003, - "p-FEM for fluid-structure interaction problems", Abstract in electronic proceedings p. 758. Albuquerque, NM, USA.

2004 ICOSAHOM04 conference, June 21-25, 2004 - "Extracting edge stress/flux intensity functions by p-FEM", Abstract in conference proceedings, Providence, RI, USA.

2004 WCCM6 conference, Sep 5-10, 2004 - "On Edge Singular Solutions in Polyhedra Domains and Extracting Stress/Flux Intensity Functions by p-FEM", Abstract in Z.H. Yao, M.W. Yuan and W.X. Zhong, *Computational Mechanics Abstract (Vol 1)*, Springer, 2004, p.382, Beijing, China.

2004 ISTAM Workshop, Dec. 12, 2004 - "High-order FE-simulations of bio-mechanical systems: Blood flow in compliant arteries and the mechanical response of a proximal femur".

2005 8th U.S. National Congress on Computational Mechanics, Texas, USA, 24-28 July, 2005 - "Edge singular solutions and extraction of edge stress intensity functions by p-FEM".

2006 ISTAM Workshop, Jan. 1, 2006 - "Edge singular solutions and extraction of edge stress intensity functions by p-FEM".

2006 53rd Annual Conference of the Israel Heart Society, 26-27 April 2006 - "Influence of Patient's Characteristics on the Physiologic and Histologic Properties of the Internal Thoracic Artery and its Sub-Divisions", Proceedings, Tel Aviv, Israel.

2007 International Conference on Spectral and High Order Methods, 18-22 June, 2007 - "High order FE analysis of the proximal femur validated by in-vitro experiments" - Beijing, China (In conference abstracts book).

2007 Finite Element Modelling in Biomechanics & Mechanobiology - ESB Workshop, 25-28 August, 2007 - "Reliable patient-specific high-order FE analysis of the proximal femur" - Trinity College, Dublin, Ireland (In conference abstracts book).

2008 ICBME 08 (13th Int. Conf. on Biomedical Eng.) Dec. 3-6, 2008 - "Patient-specific simulation of the proximal femur's mechanical response validated by experimental observations", Singapore (Paper in conference's book).

2009 ISMBE 09 (Israel Society of Medical and Biology Eng.) Mar. 12, 2009 - "Patient-specific simulation of the proximal femur's mechanical response validated by experimental observations", Tel-Aviv University.

2009 International Conference on Spectral and High Order Methods, 22-27 June, 2009 - "p-FE simulations of 3-D solid mechanics problems with uncertain loading or material properties" - Trondheim, Norway (In conference abstracts book).

2009 International Conference on Spectral and High Order Methods, 22-27 June, 2009 - "Reliable subject-specific p-FE analysis of the proximal femur" -Trondheim, Norway (In conference abstracts book).

2009 International Conference on Computational Biomechanics, 16-18 Sep, 2009 - "Subject specific p-FE analysis of the proximal femur utilizing micromechanics-based material properties" - Bertinoro, Italy (In conference abstracts book).

2010 International Workshop on bone simulation, experimentation and their applications in clinical practice, 3-4 Nov, 2010 - "Patient-specific simulation of femur's mechanical response validated by experimental observation" - Munich, Germany.

2012 ISCMBBE 2012 - 10^{th} Int. Symposium on Computer Methods in Biomechanics and Biomechanical Engineering, 11-14 April, 2012 - "Validated high-order finite element simulations of human femurs for clinical orthopedic applications" -Berlin, Germany.

2012 ESB2012 - 18^{th} Congress of the European Society of Biomechanics, 1-4 July, 2012 - "Reliable high-order finite element simulations of human femurs for clinical orthopedic applications" - Lisbon, Portugal.

2012 WCCM X - World Congress on Computational Mechanics, 8-13 July, 2012 - "Validated high-order finite element simulations of human femurs for clinical orthopedic applications" - Sao Paulo, Brazil.

2013 Coupled-Problems, 17-19 June, 2013 - "Thermo-Hyperelasticity by p-FEMs with Uncertainty Quantification", - Ibiza, Spain

2014 ISIG, 22, Jan, 2014 - "The elastic solution along a 3-D straight or curved crack front and computation of edge stress intensity functions" - Tel-Aviv University, Israel.

2014 IUTAM Symposium on Mechanics of Soft Active Materials, 12-15 May, 2014 - "Passive and active mechanical response of human arteries" - Technion, Haifa, Israel.

2014 World Congress of Biomechanics, 6-11 July, 2014 - "Predicting the mechanical response and fracture risk in femurs with actual metastatic tumors", and "On the passive and active constitutive models of human arteries" - Boston, USA.

2014 World Congress of Computational Mechanics XI, 19-24, July, 2014 - "p-FEA of pathological human femurs" - Barcelona, Spain.

2015 Coupled-Problems, 18-20 May, 2015 - "On the coupled active and passive mechanical response of the human artery wall", - Venice, Italy

2016 CMBBE - Computer Methods in Biomechanics and biomedical engineering, 20-22 Sept, 2016 - "Personalized FEA may reduce unnecessary prophylactic surgeries in femurs with metastatic tumors - A clinical study ", - Tel-Aviv, Israel

2017 Coupled-Problems, 12-14 June, 2017 - "FEA applications in clinical orthopedic oncology - Patient-specific quantitative fracture risk assessment in patients with metastatic tumors in their femur", - Rhodes Island, Greece

2017 International Conference on Fracture, 19-23 June, 2017 - "Failure initiation at V-notch tips in quasi-brittle materials", "Edge singularities: Extracting edge stress intensity functions and T-stresses from high order FE results"- Rhodes Island, Greece

2017 3^{rd} International Conference on Biomedical Technology, 6-8 November, 2017 - "Pathological fracture risk assessment in patients with femoral metastases using CT-based finite element methods. A retrospective clinical study"- Hannover, Germany

2018 6^{th} European Conference on Computational Mechanics, 11-15 June, 2018 - "Verified and validated FEA of human long bones - From the lab to clinical practice"- Glasgow, UK

2018 13^{th} World Congress on Computational Mechanics (WCCM2018), 22-27 July, 2018 - "Personalized FEA of femurs - A leap to clinical practice"- NYC, NY, USA

2019 Coupled-Problems, 3-5 June, 2019 - "Coupling FEA with Orthopaedic Oncology: A fully automated system for the assessment the risk of fracture in femurs with metastatic tumors", - Sitges, Spain

2019 ESB Conference, 7-10 July, 2019 - "Computational bone-mechanics augmented by machine learning - A leap to clinical practice", Vienna, Austria

2022 NewFrac WS2, 9-12, May, 2022 - "Can the FFMCC predict failure at V-notch tips of a quasi-brittle steel alloy?", IMT, Lucca, Italy

2022 ECF23, 27 June -2 July, 2022 - "Towards a FFM failure criterion for metals undergoing SSY: Experimental observations on metallic V-notched tips", Madeira, Portugal

2023 SIAM SCE, 27 Feb - 3 Mar, 2023 - "Autonomous Finite Elements in Clinical Practice - Coupling FEA with AI", Amsterdam, Holland

D. ACADEMIC AND PROFESSIONAL AWARDS

D.1) Internal grants (BGU)

2006-2007 PI, "Investigating the active and passive mechanical response of coronary arteries and bypass grafts for numerical simulation", $9,000. CI G. Sahar.

D.2) External grants

1995-96, PI, Israel Office of Science Absorption Grant. $12,000.

1997, PI, DAAD Study Visit Grant to Germany (1 month): $2,700.

1997-2000, CI, Israel Ministry of Science Grant on "Intelligent processing of materials using an ultrasonic sensor. Application to Hot Isostatic Pressing of materials". $400,000 (PI O. Yeheskel, CIs. M.P. Dariel, E. Kohavi).

1997-2001, PI, Vatat-VEA Grant on "Numerical simulation of a HIP process" $136,000 (CI E. Kochavi).

1997-2002, PI, Vatat-VEA Grant on "Numerical simulation & metallurgical specification of metal forming process", $148,000 (CI E. Kochavi).

1999-2000, PI, Magnet - 0.25μ Consorzium, Israel Ministry of Commerce, "Development of a simulation tool for the stress evolution in interconnects in VLSI circuits" - $129,000 (CI R. Shneck).

2000, PI, Air Force Office of Scientific Research & US Army Research Office - grants for supporting the conference p-FEM2000 $18,000 (CI M. Suri).

2000-2002, PI, Rotem Industries "Numerical simulation of Magnesium extrusion" $24,600.

2000-2008, PI, Vatat-VEA Grant on "Generalized failure criteria for brittle materials at singular points" $232,333 (CI A. Busiba).

2002-2005, PI, GIF Grant on "p-FEM for a class of pressure dependent plasticity models with application to CIP processes", 487,000 Euro (CIs E. Rank, S. Holzer, S. Hartmann, N. Frage).

2002-2004, PI, Rotem Industries "Numerical simulation of saphire crystals growth" $44,000.

2002-2005, PI, BSF Grant on "Computer-aided analysis of cardiovascular lesions" - $105,000 (CIs G. Karniadakis, A. Yakhot, S. Popel).

2004-2008, PI, Rotem Industries "Numerical simulation of Extrusion" $86,500.

2004-2008, PI, Hadassah Hospital & Hebrew Univ "Reliable mechanical simulation of the proximal femur" $31,700.

2005, PI, Rabin Medical Center "Mechanical response of Internal Mammary Arteries" $4,140.

2005-2008, PI, Vatat-VEA Grant on "Numerical simulation of geometrical distortion following machining ", Two years funding granted 56,571$ (CI M. Szanto).

2007-2009, PI, REFAEL - "Numerical simulation of an angular extrusion process", $37,500.

2007-2010, PI, ISF Grant on "Failures at edges and vertices in three-dimensional brittle elastic structures", $72,000.

2008, PI, Self-Fix "Simulations of self installed bolt", $1,500.

2010-2012, PI, TUM-IAS Grant on "Bone FE analysis", 20,000 Euro.

2010-2014, PI, ISF Grant on "Fracture initiation along curved singular edges and/or vertices in three dimensional brittle elastic structures", $128,000.

2011-2013, CI, DFG Grant on "Electro-thermo-mechanical modeling of Field Assisted Sintering Technology using high-order finite elements validated by experiments", my part $30,000 (PI E. Rank, CIs A. Duster, S. Hartmann, N. Frage).

2011-2013, PI, Ministry of Health, Chief Scientist Grant on "Novel computational methods for predicting bone fractures due to metastatic/benign tumors", $55,000.

2013-2014, CI, DFG Grant on "Electro-thermo-mechanical modeling of Field Assisted Sintering Technology using high-order finite elements validated by experiments", my part $27,000 (PI E. Rank, A. CIs. Duster, S. Hartmann).

2013-2014, PI, MAFAT Grant on "Neck protector against blast and bullets", $ 35,000.

2013-2018, PI, MAFAT Grant on "Failures in Composite Materials", $ 430,000 - (CI Jacob Bortman).

2014-2016, PI, GIF Grant "Vasoreactive response of the skeletonized distal internal thoracic artery and bifurcation branches: Application for CABG ", 180,000 Euro (CIs G. Sahar, E. Rank and S. Hartmann).

2014-2018, PI, ISF Grant on "Failure initiation theories in 3-D domains under a complex stress field: Formulation and validation by experimental observations", $ 210,000.

2015, PI, ISF Grant to hold the HOFEIM conference in May 2016 (CI I. Harari), $ 18,000.

2013-2018, PI, MSF Grant on "An orthopedic system for humerus bones", $ 196,000.

2018-2022, PI, ISF Grant on "Failure initiation criteria at sharp edges in 3-D domains with small scale damage - Formulation and experimental validation", $ 267,000.

2018-2020, PI, MAFAT Grant on "Failures in Composite Materials", $ 97,000.

2020, PI, Stratasys Grant for experiments on printed bones', $ 15,000.

2020-2024, PI, ITN Grant "NewFrac", $ 3.7M, of which my part is $ 275,000.

2020-2021, PI, Sourasky Medical Center, Empowering personalized medical treatment for Multiple Myeloma patients by computational bone-mechanics (CoPI I. Avivi, Y. Cohen, A. Sternheim), $ 11,000.

2021, PI, Ossio, Grant for FEA of falange-metatarsal bones, $ 9000.

2021, PI, Sourasky Medical Center, Radiation influence on bone strength (CoPI A. Sternheim), $ 19,000.

2021-2023, PI, Italy-Israel Minsitry of Science and Technology Fund, From diagnosis to personalized 3D printed implant for patients with metastatic bone disease an AI assisted holistic system, $ 120,000.

2022-2026, PI, Pazy Foundation, Fundamental and applicative aspects of fracture prediction at sharp corners in realistic 3D domains under complex loading (CoPI, B. Mittelman), $ 400,000.

D.2) Fellowships

2002-2003, Sabbatical - Associate professor fellowship, Div. of Applied Mathematics, Brown University, Providence, USA.

17 Apr. - 9 May 2008, French Science Foundation award for a visiting Professorship at Institut Jean Le Rond d'Alembert, Univ. Pierre Marie Curie (Paris 6), Paris, France.

2009-2012, Hans Fischer Senior Fellow - Institute for Advanced Study, Tech Univ of Munich, Germany.

2021, Half Sabbatical - Professor fellowship, Pratt School of Engineering, Duke University, Durham, NC, USA.

D.3) Prizes/Awards

March, 1994, Among 6 best student papers on Finite Elements - Finalist at Robert J. Melosh Medal Competition, Duke Univ, USA.

Spr. 99, Fall 99, Outstanding Lecturer - Academic College Sapir - Engineering Section.

Fall 99, Outstanding Lecturer - Academic College Sapir - Software Systems Dept.

Aug 02 - July 03, IBM distinguished professorship at the Div. Applied Math, Brown University, Providence, RI, USA.

2009 Toronto prize for the "best researcher" in the faculty of engineering, Ben-Gurion University, Israel.

Dec 2013, Awarded the honorary title "TUM Ambassador" - "Through his outstanding research work he contributed to the international reputation of our (TUM) university".

2020 Fellow award - European Structural Integrity Society.

2020 Fellow award - International Association for Computational Mechanics.

2020 Citation for Teaching - School of Mechanical Eng, Tel-Aviv University.

2021 Citation for Teaching - School of Mechanical Eng, Tel-Aviv University.

D.4) Invited (funded) Short Visits in Foreign Universities

May-June, 1997, Visiting researcher, Math. Institute A and Dept. of Civil Engineering Stuttgart University, Germany - DAAD grant.

Oct-Nov, 1997, Visiting Professor, CNRS - Dept. of Applied Mathematics, Universite de Rennes 1, Rennes, France - CNRS grant.

April, 2000, Visiting Professor, CNRS - Dept. of Applied Mathematics, Universite de Rennes 1, Rennes, France - CNRS grant.

Feb 2001, Visiting Professor, Dept. of Civil Eng., Technical University of Munich and Math. Institute A, Univ of Stuttgart, Germany - DAAD fellowship.

July-Aug 2004, Visiting Associate Professor of Research, Div. of Applied Math, Brown University, USA - ONR grant.

July-Aug 2005, Visiting Associate Professor of Research, Div. of Applied Math, Brown University, USA - ONR grant.

Sept. 25 -Oct. 2 2005, Visiting Professor, Institute for Mechanics, Karlsruhe University, Karlsruhe, Germany.

July-Aug 2006, Visiting Associate Professor of Research, Div. of Applied Math, Brown University, USA - ONR grant.

July-Aug 2011, Visiting Professor, Institute for Computation in Engineering, Technical Univ of Munich, Germany.

E. MEMBERSHIP IN PROFESSIONAL SOCIETIES

1994 - present, Tau Beta Pi Honor Society.

1994 - 2001, 2022-present, Member - Society for Industrial and Applied Math.

1995 - present, Member - Israel Association for Computational Methods in Mechanics.

1996 - present, Member - International Association for Computational Mechanics.

2004 - 2014, Israel Society for Theoretical and Applied Mechanics. Mathematics.

2010 - present, ESIS: European Structural Integrity Society.

2014 - present, European Society of Biomechanics.

F. SUPERVISION OF GRADUATE STUDENTS

F.1) Present PhD. Students

1. Oct, 19 - Mrs. Shani Martinez Weisberg Thesis subject: *Biomechanical response of femurs with tumors and treatments.*
2. Jan, 21 - Mr. Maxime Levy Thesis subject: *Failure initiation of bone tissues.*

F.2) Present MSc. Students

1. Mar, 20 - Ms. Sahar Benjamin - Thesis subject: *FEA of a spine segment.*
2. April, 20 - Ms. Leetal Eliyahu - Thesis subject: *FEA of femurs in the context of multiple myeloma.*
3. Jan, 21 - Mr. Aviad Galler - Thesis subject: *Experimental investigation of the active response of human arteries.*
4. Feb, 22 - Mr. Oren Rachmil - Thesis subject: *Identification of tumors in femurs and their treatment by FEA.*
5. Oct, 22 - Ms. Arielle Feder - Thesis subject: *Biomechanics of the Lumbar Spine Segment.*

F.3) PhD. Alumni

1. Oct, 03 - Dec, 07 - Dr. Netta Omer. Thesis subject: *Edge Singularities in 3-D Elastic Domains.*

2. Oct, 05 - Oct, 11. MSc combined PhD program - Dr. Nir Trabelsi - Recipient of Ben-Amitai Prize for excellence in MSc studies, 2007. Recipient of Tzin Fellowship for excellence in PhD studies, 2007-2011. Recipient of the first prize for the best presentation at Israel association of computational methods in mechanics among presenters at ISCM25-ISCM26, 2009. Thesis subject: *The mechanical response of the proximal femur.*

3. Jul, 07 - Oct, 11 - Dr. Elad Priel - Recipient of Ben-Amitai Prize for excellence in MSc studies, 2006. Recipient of Faran Fellowship for excellence in PhD studies, 2007-2011, Recipient of the first prize for the best presentation at Israel association of computational methods in mechanics among presenters at ISCM30-ISCM31, 2011. Recipient of Katzir Fellowship, 2011-2017. Thesis subject: *Finite element analysis of arteries.*

4. June, 09 - July, 15. MSc combined PhD program - Dr. Samuel Shannon - Recipient of Yakov Ben-Isaac HaCohen Prize for excellence in MSc studies, 2010. Recipient of Tzin Fellowship for excellence in PhD studies, 2011-2014. Thesis subject: *Singular solutions of elliptic boundary value problems along curved edges in 3-D domains.*

5. Oct, 10 - Mar, 15 - Dr. Brigit Mittelman - Thesis subject: *A Failure Initiation Criterion from a Sharp V-notch Edge in 3D Elastic Brittle Structures.*

6. July, 15 - Apr, 2020 - Dr. Yaron Schapira - Winner of the first prize for the best student presentation at the Sixth Israel Structural Intengrity Group (ISIG) symposium held at Tel Aviv University (March 2017). Recipient of the Humboldt award for PD 2020. Thesis subject: *Elastic solutions in the vicinity of 3-D singular edges.*

7. June, 13 - Dec 2020 - MSc combined PhD program - Dr. Yekutiel Katz, Excellence prize for ME project, and Goldhirsh award in 2019, Thesis subject: *The mechanical response of a femur with an implant.*

8. June, 13 - Mar 2021 - MSc combined PhD program - Dr. Gal Dahan - Thesis subject: *The mechanical response of human proximal humeri.*

F.4) MSc. Alumni

1. Title conferred in July, 02 - Mr. Nir Rotem . Thesis subject: *Towards HIP Simulation by the FEM.*

2. Title conferred in Jan, 02 - Mr. Ofer Adan (Dr. Schneck co-supervisor). Thesis subject: *Failure initiation in Electronic Devices.*

3. Title conferred in Oct, 03 - Ms. Netta Omer - Recipient of Ben-Amitai Prize for excellence in MSc studies, 2003. Thesis subject: *Edge Flux Intensity Functions in 3-D Domains.*

4. Title conferred in Jan, 04 - Mr. Meidad Korengold (Dr. Szanto co-supervisor). Thesis subject: *Reliable simulation of a metal forming process.*

5. Title conferred in Oct, 04 - Ms. Elena Urman (co-supervisor with prof. Yakhot). *High order numerical methods for problems with singular points.*

6. Title conferred in June 05 - Mrs. Michal Peleg-Lubovsky. Thesis subject: *Constitutive laws for carotid arteries.*

7. Title conferred in Jan 06 - Mr. Royi Padan (Fedida) - Recipient of Wolf Prize for excellence in MSc studies, 2004. Thesis subject: *Towards a reliable mechanical simulation of the proximal femur.*

8. Title conferred in July 07 - Mr. Elad Priel - Recipient of Ben-Amitai Prize for excellence in MSc studies, 2006. Thesis subject: *Mechanical failure criteria for brittle elastic materials containing V-notches under mixed mode loading.*

9. Title conferred in Oct, 10 - Ms. Brigit Ben-Ami (Co-supervisor with Dr. Roni Shnek) - Thesis subject: *Failure initiation in 3-D elastic brittle structures.*

10. Title conferred in Oct, 10 - Ms. Shani Weissberg - Thesis subject: *Finite element analysis for a plastic process with large strains.*

11. Title conferred - Mar, 11, Mr. David Tal - Thesis subject: *Yield laws for the human femur.*

12. Title conferred - Aug, 11, Mr. Alon Katz - Recipient of an award for fourth year project, 2011. Thesis subject: *The mechanical response of femurs fixed by metal devices.*

13. Title conferred - Oct, 13, Mrs. Romina Plitman Mayo - Thesis subject: *Predicting the mechanical response of human femurs with metastatic tumors using patient-specific p-FEMs.*

14. Title conferred - Jan, 15, Mr. Natan Levin - Thesis subject: *On hole-bone failure laws for human femurs.*

15. Title conferred - Jan, 15, Ms. Hadar Frenkel (Co-supervisor with Prof. Jacob Bortman)- Thesis subject: *Towards implementation of a structural constitutive law in a FE model of the heart.*

16. Title conferred - Jan, 15, Mr. Itay Manor - Thesis subject: *Experiments to determine the mechanical properties of arteries.*

17. Title conferred - May, 15, Mr. Yosi Levi - Thesis subject: *Development of a parallel Java based high order finite elements code.*

18. Title conferred - May, 17 - Mrs. Sigal David (Co-supervisor with Prof. Jacob Bortman)- Thesis subject: *Failure Criteria of Pultruded Composites - Analytical and Numerical Study.*

19. Title conferred - May, 17 Mr. Snir Lugassi (Co-supervisor with Prof. Jacob Bortman)- Thesis subject: *Failure Criteria of Carbon Fiber Pultruted Composite - An Experimental Study.*

20. Title conferred - May, 17 - Mr. Ofry Yosef (Co-supervisor with Prof. Gideon Sahar)- Thesis subject: *Experimental investigation of arteries' mechanical properties: Compresibility, passive and active responses.*

21. Title conferred - May, 2018 - Mr. Itay Yacobi - Thesis subject: *High order hierarchical tetrahedral finite elements.*

22. Title conferred - Apr, 2020 - Mr. Or Shaviv - Thesis subject: *Insights on Micromechanical Models of Active Response of Arteries* .

23. Title conferred - March 2021 - Ms. Shirly Cherevatsky - Thesis subject: *Experimental and Numerical Investigation of Delamination in Pultruded Composites & Insights on Phase-Field Methods.*

24. Title conferred - Dec 2021 - Ms. Vered Mendelovich - Thesis subject: *Failure initiation at V-notch tips in materials with a SSY.*

G. SCIENTIFIC PUBLICATIONS

G.1) Books

1. Z. Yosibash, *Singularities in Elliptic Boundary Value Problems and Elasticity and their Connection with Failure Initiation*, Springer, ISBN 978-1-4614-1507-7, Interdisciplinary Applied Mathematics Series, Vol. 37, 2012.

G.2) Original Articles **ISI,Google Scholar H-index=27,35 , Citations > 2620,4564**

* - Supervised MSc/PhD students

1. **Yosibash Z.**, "Structural Risk Assessment in the Israel Air Force for Fleet Management", *AIAA J. of Aircraft*, **29**, No. 4, (1992), pp. 540-544.
   Q1, IF 0.85-1.29

2. **Yosibash Z.**, and Schiff B., "A super element for two-dimensional singular boundary value problems in linear elasticity", *Int. Jour. of Fracture*, **62**, No. 4 (1993), pp. 325-340.
   Q1, IF 0.8-1.6

3. **Yosibash Z.**, and Szabó B. A., "Convergence of stress maxima in finite element computations", *Communications in Numerical Methods in Engineering*, **10**, No. 9 (1994), pp. 683-697.
   Q1, IF 0.6-2.0

4. **Yosibash Z.**, and Szabó B. A., "The solution of axisymmetric problems near singular points and computation of stress intensity factors", *Finite Elements in Analysis and Design*, **19** (1995), pp. 115-129.
   Q1-Q2, IF 1.0-2.0

5. **Yosibash Z.**, and Szabó B. A., "Numerical analysis of singularities in two dimensions, Part 1: Computation of eigenpairs", *International Journal for Numerical Methods in Engineering*, **38**, No. 12 (1995), pp. 2055-2082.
   Q1, IF 2.1

6. **Yosibash Z.**, and Szabó B. A., "Generalized stress intensity factors in linear elastostatics", *International Journal of Fracture*, **72**, No. 3, (1995), pp. 223-240.
   Q1, IF 0.8-1.6

7. Szabó B. A., and **Yosibash Z.**, "Numerical analysis of singularities in two dimensions, Part 2: Computation of generalized flux/stress intensity factors". *International Journal for Numerical Methods in Engineering*, **39**, No. 3, (1996), pp. 409-434.
   Q1, IF 2.1

8. **Yosibash Z.**, "Numerical thermo-elastic analysis of singularities in two-dimensions", *International Journal of Fracture*, **74**, No. 4, (1996), pp. 341-361.
   Q1, IF 0.8-1.6

9. Szabó B. A., and **Yosibash Z.**, "Superconvergent computations of flux intensity factors and first derivatives by the FEM". *Computer Methods in Applied Mechanics and Engineering*, **129**, No. 4, (1996), pp. 349-370.
   Q1, IF 3.5

10. Holzer S. M., and **Yosibash Z.**, "The p-version of the finite element method in incremental elasto-plastic analysis", *International Journal for Numerical Methods in Engineering*, **39**, (1996), pp. 1859-1878.
    Q1, IF 2.1

11. **Yosibash Z.**, and Szabó B. A., "A note on numerically computed eigenfunctions and generalized stress intensity factors associated with singular points", *Engineering Fracture Mechanics*, **54**, (1996), pp. 593-595.
    Q1, IF 1.7

12. **Yosibash Z.**, "Accurate stress extraction for nearly incompressible materials by the displacement formulation of the p-version FEM", *Communications in Numerical Methods in Engineering*, **12**, (1996), pp. 807-826.
    Q1, IF 0.6-2.0

13. **Yosibash Z.**, "On solutions of two-dimensional linear elastostatic and heat-transfer problems in the vicinity of singular points", *International Journal of Solids and Structures*, **34**, No. 2, (1997), pp. 243-274.
    Q1, IF 1.8

14. **Yosibash Z.**, "Finite element stress extraction by the complementary energy principle", *International Journal for Numerical Methods in Engineering*, **40**, No. 7, (1997), pp. 1335-1354.
    Q1, IF 2.1

15. **Yosibash Z.**, and Schiff B., "Super-Elements for the Finite Element Solution of Two-Dimensional Elliptic Problems with Boundary Singularities", *Finite Elements in Analysis and Design*, **26**, (1997), pp. 315-335.
    Q1-Q2, IF 1.0-2.0

16. **Yosibash Z.**, "Numerical analysis on singular solutions of the Poisson equation in two dimensions", *Computational Mechanics*, **20**, (1997), pp. 320-330.
    Q1, IF 1.6

17. **Yosibash Z.**, "Numerical analysis of edge singularities in three-dimensional elasticity", *International Journal for Numerical Methods in Engineering*, **40**, (1997), pp. 4611-4632.
    Q1, IF 2.1

18. **Yosibash Z.**, "Computing edge singularities in elastic anisotropic three-dimensional domains", *International Journal of Fracture*, **86**, (1997), pp. 221-245.
    Q1, IF 0.8-1.6

19. **Yosibash Z.**, "Thermal generalized stress intensity factors in 2-D domains", *Computer Methods in Applied Mechanics and Engineering*, **157**, (1998), pp. 365-385.
    Q1, IF 3.5

20. **Yosibash Z.**, Arad M.*, Yakhot A., Ben-Dor G., "An accurate semi-analytic finite difference scheme for treatment of two-dimensional elliptic problems with singularities", *Numerical Methods for Partial Differential Equations*, **14**, (1998), pp. 281-296.
    Q2, IF 0.5

21. Arad M.*, **Yosibash Z.**, Yakhot A., Ben-Dor G., "Computing flux intensity factors by a boundary method for elliptic equations with singularities", *Communications in Numerical Methods in Engineering*, **14**, (1998), pp. 657-670.
    Q1, IF 0.6-2.0

22. Dauge, M. and **Yosibash Z.**, "Boundary Layer Realization in Thin Elastic 3-D Domains and 2-D Hierarchic Plate Models", *International Journal of Solids and Structures*, **37**, (2000), pp. 2443-2471.
    Q1, IF 1.7

23. Schiff, B. and **Yosibash Z.**, "Eigenvalues for Waveguides Containing Re-entrant Corners by a Finite Element Method With Superelements", *IEEE Trans. Microwave Theory Tech. and Technics*, **48**, (2000), pp. 214-220.
    Q1, IF 2.7

24. **Yosibash Z.**, "Computing singular solutions of elliptic boundary value problems in polyhedral domains using the p-FEM", *Applied Numerical Mathematics*, **33**, (2000), pp. 71-93.
    Q2, IF 1.2

25. Yakhot A. and **Yosibash Z.**, "The Poisson Equation with Local Non-Regular Similarities", *Numerical Methods for Partial Differential Equations*, **17**, No. 4, (2001), pp. 336-346.
    Q2, IF 0.5

26. Dauge, M., Rössle, A. and **Yosibash Z.**, "Higher Order Responses of Three-Dimensional Elastic Plate-Like Structures and their Visualization", *International Journal for Numer. Meth. Engrg.* , **53**, No. 6, (2002), pp. 1353-1376.
    Q1, IF 2.1

27. **Yosibash Z.**, Actis R. and Szabó B. A., "Extracting Edge Flux Intensity Functions for the Laplacian", *International Journal for Numer. Meth. Engrg.* , **53**, No. 1, (2002), pp. 225-242.
    Q1, IF 2.1

28. Dauge, M. and **Yosibash Z.**, "Eigen-Frequencies in Thin Elastic 3-D Domains and Reissner-Mindlin Plate Models", *Mathematical Methods in the Applied Sciences* , **25**, (2002), pp. 21-48.
    Q1-Q2, IF 0.5

29. **Yosibash Z.**, and Suri M., "p-FEM2000 - International Conference on p and hp Finite Element Methods: Mathematics and engineering practice - Preface", *International Journal for Numer. Meth. Engrg.* , **53**, No. 1, (2002), pp. 1-2.
    Q1, IF 2.1

30. **Yosibash Z.**, Adan O.*, Shneck R. and Atlas H., "Thermo-Mechanical Failure Criterion at the Micron Scale in Electronic Devices", *International Journal of Fracture*, **122** (2003), pp. 47-64.
    Q1, IF 0.7

31. Leguillon D. and **Yosibash Z.**, "Crack onset at a V-notch. Influence of the notch tip radius.", *International Journal of Fracture*, **122** (2003), pp. 1-21.
    Q1, IF 0.7

32. **Yosibash Z.**, and Suri M., "Preface and Dedication to Prof. B. Szabó", *Computers and Mathematics with Applications*, **46**, No. 1, (2003), pp. xi-xvi.
    Q2, IF 0.5

33. Kirby R.M. and **Yosibash Z.**, "Solution of von-Kármán dynamic non-linear plate equations using a pseudo-spectral method", *Computer Methods in Applied Mechanics and Engineering*, **193** (2004), No. 6-8 pp. 575-599.
    Q1, IF 1.7

34. Costabel M., Dauge, M. and **Yosibash Z.**, "A quasidual function method for extracting edge stress intensity functions", *SIAM Journal on Mathematical Analysis*, **35**, No. 5, (2004), pp. 1177-1202.
    Q1, IF 2.2

35. **Yosibash Z.**, Bussiba A. and Gilad, I. "Failure Criteria for Brittle Elastic Materials", *International Journal of Fracture*, **125**, No. 3-4 (2004), pp. 307-333.
    Q1, IF 0.8

36. **Yosibash Z.**, Kirby R.M. and Gottlieb, D., "Collocation methods for the solution of von-Kármán dynamic non-linear plate systems", *Jour. Comp. Phys.*, **200**, (2004), pp. 432-461.
    Q1, IF 2.5

37. Omer N.*, **Yosibash Z.**, Costabel M. and Dauge, M., "Edge Flux Intensity Functions in Polyhedral Domains and their Extraction by a Quasidual Function Method",*International Journal of Fracture*, **129**, (2004), pp. 97-130
    Q1, IF 0.8

38. **Yosibash Z.**, Kirby R.M. "Dynamic response of various von-Kármán non-linear plate models and their 3-D counterparts", *Int. Jour. of Solids and Structures*, **42**, No. 9-10 (2005), pp. 2517–2531.
Q1, IF 1.8

39. Omer N.* and **Yosibash Z.**, "On the path independency of the pointwise J-Integral in 3-D domains", *International Journal of Fracture*, **136**, (2005), pp. 1–36.
Q1, IF 1.1

40. **Yosibash Z.**, Omer N.*, Costabel M. and Dauge, M., "Edge Stress Intensity Functions in Polyhedral Domains and their Extraction by a Quasidual Function Method", *International Journal of Fracture*, **136**, (2005), pp. 37–73.
Q1, IF 0.9

41. **Yosibash Z.**, Priel E.* and Leguillon, D., "A Failure Criterion for Brittle Elastic Materials under Mixed-mode Loading", *International Journal of Fracture*, **141**(1), (2006), pp. 291-312.
Q1, IF 0.9

42. **Yosibash Z.**, Hartmann S. Heisserer U., Duester A., Rank E. and Szanto M., "Axisymmetric pressure boundary loading for finite deformation analysis using p-FEM", *Computer Methods in Applied Mechanics and Engineering*, **196**, (2007), pp. 1261–1277.
Q1, IF 2.3

43. Kirby R.M., **Yosibash Z.** and Karniadakis, G., "Towards Stable Coupling Methods for High-Order Discretization of Fluid-Structure Interaction: Algorithms and Observations", *Jour. Comp. Phys.*, **223** (2007), pp. 489–518.
Q1, IF 3.1

44. **Yosibash Z.** and Omer N.*, "Numerical methods for extracting edge stress intensity functions in anisotropic three dimensional domains", *Computer Methods in Applied Mechanics and Engineering*, **196** (2007), pp. 3624–3649.
Q1, IF 2.3

45. **Yosibash Z.**, Padan R.*, Joscowicz, L. and Milgrom, C.,"A CT-based high-order finite element analysis of the human proximal femur compared to in-vitro experiments", *ASME Journal of Biomechanical Engineering*, **129**(3) (2007), pp. 297-309.
Q2, IF 1.9

46. Priel E.*, Bussiba A., Gilad I. and **Yosibash Z.**, "Mixed mode failure criteria for brittle elastic V-notched structures", *International Journal of Fracture*, **144** (2007), pp. 247-265.
Q1, IF 1.23

47. Foo Jasmine, **Yosibash Z.** and Karniadakis G, "Stochastic simulation of riser-sections with uncertain measured pressure loads and/or uncertain material properties", *Computer Methods in Applied Mechanics and Engineering*, **196** (2007), pp. 4250–4271.
Q1, IF 2.3

48. **Yosibash Z.**, Trabelsi N.*, and Milgrom C., "Reliable simulations of the human proximal femur by high-order finite element analysis validated by experimental observations", *Jour. of Biomechanics*, **40** (2007), pp. 3688-3699.
Q1, IF 3.2

49. Heisserer U., Hartmann S., Duester A., Bier W., **Yosibash Z.**, and Rank E., "*p*-FEM for finite deformation powder compaction", *Computer Methods in Applied Mechanics and Engineering*, **197** (2008), pp. 727–740.
Q1, IF 2.3

50. Omer N.*, **Yosibash Z.**, "Edge singularities in 3-D elastic anisotropic and multi-material domains", *Computer Methods in Applied Mechanics and Engineering*, **197**, (2008), pp. 959–978.
Q1, IF 2.3

51. Szanto M., Bier W., Hartmann S., Frage N. and **Yosibash Z.**, "Experimental based finite element simulation of cold isostatic pressing of metal powders", *Int. Jour. of Mechanical Sciences*, **50** (2008), pp. 405–421.
Q1, IF 1.4

52. **Yosibash Z.**, Omer N.* and Dauge M., "Edge stress intensity functions in 3-D anisotropic composites", *Composites Science and Technology*, **68** (5) (2008), pp. 1216–1224.
Q1, IF 2.9

53. Priel E.*, **Yosibash Z.**, and Leguillon, D., "Failure Initiation at a Blunt V-notch Tip Under Mixed Mode Loading", *International Journal of Fracture*, **149** (2008), pp. 143 – 173.
Q1, IF 1.2

54. Apel T., Leguillon D., Pester C. and **Yosibash Z.**, "Edge singularities and structure of the 3-D Williams' expansion", *Comptes Rendus Mécanique - Acad. Sci. Paris*, **336**, Issue 8, (2008), pp. 623-684.
Q2, IF 0.6

55. Medalion B, Tobar A., **Yosibash Z.**, Stamler A, Sharoni E, Snir E, Porat E and Hochhauser E, " Vasoreactivity and histology of the radial artery: comparison of open versus endoscopic approaches", *European J. of Cardio-Thoracic Surgery*, **34**, Issue 4, (Oct. 2008), pp. 845-849.
Q1, IF 2.2

56. Heisserer U., Hartmann S., Duester A. and **Yosibash Z.**,"On volumetric locking-free behavior of p-version finite elements under finite deformations", *Comm. Num. Meth. Engrg.*, **24**, Issue 11 (Nov. 2008), pp. 1019-1032.
    Q1, IF 0.6-2.0

57. **Yosibash Z.**, Trabelsi N.* and Hellmich C., "Subject-specific p-FE analysis of the proximal femur utilizing micromechanics based material properties", *International Journal for Multiscale Computational Engineering*, **6**, Issue 5, (2008) pp. 483–498.
    Q2, IF 0.8

58. Dong S. and **Yosibash Z.**, "A Parallel Spectral/hp Element Method for Dynamic Three-Dimensional Nonlinear Elasticity Problems", *Computers and Structures*, **87** (2009), pp. 59–72.
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Q2

119. L. Hug, G. Dahan *, S. Kollmannsberger, E. Rank and **Yosibash Z.**, "Predicting Fracture in the Proximal Humerus using Phase Field Models", *Journal of the Mechanical Behavior of Biomedical Materials*, **134**, (2022), paper 105415
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120. Hu, Tianchen, Dolbow John E. and **Yosibash Z.**, " Towards validation of crack nucleation criteria from V-notches in quasi-brittle metallic alloys: energetics or strength?", *Computer Methods in Applied Mechanics and Engineering*, **402**, (2022), paper 115419
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G.3) Accepted Articles

1. **Yosibash Z.**, Trabelsi N., Buchnik I., Myers K., Salai, M., Eshed I., Barashi Y., Klang, E., and Tripto-Shkolnik L., "Hip fracture risk assessment in elderly and diabetic patients: combining autonomous finite element analysis and machine learning", *Jour. Bone Mineral Research*, Accepted, Mar 2023
Q1, IF 6.4

G.4) Chapters in Books

1. **Yosibash Z.**, Szabó B. A., "Numerical analysis of singular points", *Recent Developments in Computational Mechanics*, P. K. Basu and A. Nagar editors, AD-Vol. 39, ASME press, 1993, pp. 29-44.

2. Dauge M., Faou, E., and **Yosibash Z.**, "Plates and Shells: Asymptotic expansions and hierarchical models", pp. 199-236, *Encyclopedia of Computational Mechanics - Vol. 1 - Fundamentals*, Stein, E., deBorst, R. and Hughes, TJR. editors, Wiley&Sons, 2004.

3. **Yosibash Z.** and Trabelsi N.*,"Reliable patient-specific simulations of the femur", *Patient-Specific Modeling in Tomorrow's Medicine* edited by Amit Gefen, Springer ISBN 978-3-642-24617-3, 2012.

4. **Yosibash Z.** ,"Chapter 20- Principles of finite element analysis", *Experimental research methods in orthopedics and trauma*, edited by H. Simpson and P. Augat, Thieme press, ISBN 978-3-13-173111-1, pp. 145-155, 2015.

5. **Yosibash Z.** Myers, Kent and Levi, Yosi.,"Computational bone mechanics - From the cloud to an orthopedists mobile device", in M. Mehl et al. (eds.), *Recent Trends in Computational Engineering - CE2014*, Lecture Notes in Computational Science and Engineering 105, Springer, pp. 235-249, 2015.

6. Chaussade-Beaudouin Marie, Dauge Monique, Fauo Erwan, and **Yosibash Z.** "High frequency oscillations of first eigenmodes in axisymmetric shells as thickness tends to zero", V. Maz'ya, D. Natroshvili, E. Shargorodsky, and W.L. Wendland editors, *Recent Trends in Operator Theory and Partial Differential Equations - The Roland Duduchava Anniversary Volume*, "Operator Theory. Advances and Applications", Springer / Birkhäuser, Vol. 258, pp 89-110, 2017

7. Dauge M., Faou E. and **Yosibash Z.**, "Plates and Shells: Asymptotic Expansions and Hierarchical Models"x, in *Encyclopedia of Computational Mechanics Second Edition*, edited by Erwin Stein, Rene de Borst and Thomas J. R. Hughes. Chichester, UK: John Wiley & Sons, Ltd, pp. 1-39, 2018

G.5) Editing

1. Guest Editor with M. Suri - *International Journal for Numerical Methods in Engineering*, - Special issue dedicated to p-FEM2000, **53**, No. 1, (2002).

2. Guest Editor with M. Suri - *Computers and Mathematics with Applications*, - Special issue - p-FEM2000: p and hp finite element methods-mathematics and engineering practice, **46**, No. 1, (2003).

3. Guest Editor with E. Rank and A. Düster - *Computer Methods in Applied Mechanics and Engineering*, - Special issue dedicated to HOFEM07 - International Workshop on High-Order Finite Element Methods, 2007, **198**, Issues 13-14, 1 (March 2009).

4. Guest Editor with A. Düster, A. Reali and S. Kollmannsberger - *Computers and Mathematics with Applications*, - Special issue dedicated to HOFEIM 2014 - International Workshop on High-Order Finite Elements and Isogeometric Methods, 2014, **70**, Issue 7, (October 2015).

5. Guest Editor with E. Rank, A. Düster and A. Reali - *Computers and Mathematics with Applications*, - Special issue dedicated to HOFEIM 2016 - International Workshop on High-Order Finite Elements and Isogeometric Methods, 2016, **74**, Issue 7, (October 2017).

6. Guest Editor with A. Düster, A. Reali and G. Sangalli, - *Computers and Mathematics with Applications*, - Special issue dedicated to HOFEIM 2019 - International Workshop on High-Order Finite Elements and Isogeometric Methods, 2019, **80**, Issue 11, (Dec 2020).

G.6) Patents

1. US9937011B2 - **Yosibash Z.**, Trabelsi N., Myers K. and Milgrom C., "Automated patient-specific method for biomechanical analysis of bone", Granted Apr, 10, 2018

2. US11,449,993 - Book G., **Yosibash Z.**, Trabelsi N., "Automated bone segmentation in images", Granted Sep, 20, 2022

H. SCIENTIFIC COMMITTEES, EDITORIAL BOARDS, PROFESSIONAL FUNCTIONS

H.1) Participation in scientific committees

2000 International conference: p and hp Finite Element Methods - Mathematics and Engineering Practice, St. Louis, USA, May 2000.

2001 Com^2 Conference on Computational Mathematics, 2-5, July 2001, POSTECH, Pohang, S. Korea.

2006 International Workshop Research in Mechanics of Composites 2006 26 - 29, Nov. 2006, Bad Herrenalb, Germany

2007 International conference: High Order Finite Element Methods near Munich, Germany, May 2007.

2009 IV International Conference on Computational Bioengineering, Bertinoro, Italy, Sep 2009.

2011 International conference: Higher Order Finite Element and Isogeometric Methods Krakow, Poland, June 2011.

2011 Coupled Problems 2011: IV International conference on computational methods for coupled problems in science and engineering, Kos Island, Greece, 20-22, June 2011.

2012 18th Congress of the European Society of Biomechanics (ESB2012), Lisbon, Portugal, 1-4 July 2012.

2013 Coupled Problems 2013: V Conference on computational methods for coupled problems in science and engineering, Ibiza, Spain, 17-19, June 2013.

2013 Journees Singulieres Augmentees, Rennes, France, 26-30, Aug. 2013.

2013 ICAF 2013, Jerusalem, Israel, 3-4, June 2013.

2014 International conference: Higher Order Finite Element and Isogeometric Methods Germany, July 2014.

2015 Coupled Problems 2015: VI International Conference on Computational Methods for Coupled Problems in Science and Engineering, Island of San Servolo, Venice, Italy, 18 - 20 May 2015.

2015 VI International Conference on Computational Bioengineering (ICCB'2015) ICNME, Barcelona, Spain, 14-16 September 2015.

2016 International conference: Higher Order Finite Element and Isogeometric Methods Jerusalem, Israel, May, 2016.

2016 Eight Singular Days, Nancy, France, 27-30, June 2016.

2016 XIII International Congress on Numerical Methods in Engineering and Applied Sciences (Cimenics), Caracas, Venezuela, 11-13, July 2016.

2017 Coupled Problems 2017: VII International Conference on Computational Methods for Coupled Problems in Science and Engineering, Rhodes Island, 12 - 14 June 2017.

2018 12^{th} World Congress on Computational Mechanics and 2nd Pan American Congress on Computational Mechanics (WCCM XIII & PANACM II), New-York, NY, USA, 22 - 27 July 2018.

2018 9^{th} International Conference on Computational Methods (ICCM2018), Rome, Italy, August 6 -10, 2018.

2019 International conference: Higher Order Finite Element and Isogeometric Methods Pavia, Italy, May 2019.

2019 Coupled Problems 2019: VIII International Conference on Computational Methods for Coupled Problems in Science and Engineering, Sitges, Spain, 3-5 June 2019.

2019 ESBiomech Conference 2019, Vienna, Austria, 7-10 July 2019.

2020 ESBiomech Conference 2020, Milano, Italy, 12-15 July 2020.

2021 Coupled Problems 2021: IX International Conference on Computational Methods for Coupled Problems in Science and Engineering, Chia Laguna, Sardinia, Italy, June 13-16, 2021.

2021 16th US National Congress on Computational Mechanics (USNCCM-16), Chicago, USA, July 25-29, 2021

2022 15^{th} World Congress on Computational Mechanics and 8^{th} Asian Pacific Congress on Computational Mechanics- Technical Program Committee - "Computational Solids and Structural Mechanics" - Yokohama, Japan, 31/7- 5/8, 2022

2022 ECF23, European Conference on Fracture, Funchal, Madeira, Portugal, June 27 - July 1, 2022.

2022 APCFS/SIF 2022, 7th Asia-Pacific Conference on Fracture and Strength and 13th Conference on Structural Integrity and Failure, Adelaide, South Australia 6 - 9 December, 2022

2023 Coupled Problems 2023: X International Conference on Computational Methods for Coupled Problems in Science and Engineering, Chania, Crete, 2023.

2023 ICF15 - 15^{th} International Conference on Fracture, Atlanta, Georgia, USA, 2023.

2023 International conference: Higher Order Finite Element and Isogeometric Methods, Larnaca, Cyprus, May 2019.

2024 16^{th} World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics (WCCM XIV & PANACM IIII), Vancouver, Canada, 21 - 26 July 2024.

H.2) Editorial boards, Professional functions

Dec. 95 - 2021	Council Member of the Israel Association for Computational Methods in Mechanics.
Oct. 96 - 2000	Initiator and editor of the IACMM bulletin.
Jan. 00 - May 02	Secretary & Treasurer of the Israel Association for Computational Methods in Mechanics.
Mar. 06 - Present	Member of advisory board - Bavarian (Germany) graduate school of computational engineering.
Dec. 10 - July 14	Member of IUTAM's General Assembly
Jan. 11 - Jan 16	Editor of the IACMM bulletin.
Jan. 12 - Present	Member of the editorial board of *Computers & Mathematics with Applications*
Jan. 14 - Present	Member of the editorial board of *Biomaterials and Biomechanics in Bioengineering* (During 2014-2015 it was named *Advances in Biomechanics and Applications*)
July 15 - July 21	President - Israel Association for Computational Methods in Mechanics
Nov 16 - Present	Founder and Co-Chair (with D. Leguillon) - of the Technical Committee #16: on Finite Fracture Mechanics at the European Structural Integrity Society.
Mar. 21 - Present	Review Editor on the Editorial Board of *Biomechanics* (specialty section of Frontiers in Bioengineering and Biotechnology)

H.3) Organization and chairman of international conferences

May 2000	Chairman (with M. Suri) and Organizer of the *International conference: p and hp Finite Element Methods - Mathematics and Engineering Practice* in St. Louis, USA, May 2000. Hosting over 100 international participants with 80 talks.
May 2007	Chairman (with E. Rank and A. Duester) and Organizer of the *International conference: High Order Finite Element Methods* Herrsching, Germany, May 17-19, 2007. Over 80 international participants.
Jan. 2008	Organization committee member of *18^{th} International Conference on Domain Decomposition Methods* Jerusalem, Israel, 13-18 Jan 2008. Hosting about 100 international participants.
Nov. 2010	Organizer with E. Rank of the international workshop *Bone simulations, experimentation and their applications in clinical practice* at the TUM-Institute for Advanced Study, Nov 3-4, 2010, Garching, Germany
July 2014	Chairman (with A. Reali, A. Duester and S. Kollmannsberger) and Organizer of the *International conference: High Order Finite Element and Isogeometric Methods* Germany, July 15-18, 2014. Over 80 international participants.
May 2016	Chairman (with A. Reali, A. Duester and S. Kollmannsberger) and Organizer of the *International conference: High Order Finite Element and Isogeometric Methods* Jerusalem, Israel, May 30- June 2, 2016. Over 55 international participants.
April 2018	Chairman and Organizer of the international workshop *First workshop on TC16 - finite fracture mechanics* La Thuile, Italy, April 13-14, 2018. 11 international participants from 5 different countries.
March 2019	Chairman with Leguillon of the international workshop *Second workshop on TC16 - finite fracture mechanics* Grenoble, France, March 28-29, 2019. 20 international participants from 6 different countries.
May 2019	Chairman (with A. Reali, E. Rank, A. Duester and G. Sangalli) of the *International conference: High Order Finite Element and Isogeometric Methods* Pavia, Italy, May 28-31, 2019. Over 80 international participants.
Jan 2022	Co-Organizers (with B. Wolmuth, S. Pop and M. Peszynska) of the *MFO workshop: Multiscale Coupled Models for Complex Media: From Analysis to Simulation in Geophysics and Medicine* Oberwolfach, Germany, Jan 23-29, 2022. 48 international participants.

H.4) Symposium chairman and international mini-symposium organization

Sep. 95 - July 96	Organizer of the mini-symposium on "Treatment of singular points associated with elliptic BVPs", at the conference Numerical Methods and Computational Mechanics in Science & Engineering, Miskolc, Hungary, July 1996.
Oct. 97	Organizer and Host of the 3^{rd} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
Oct. 96 - June 98	Organizer of the workshop on singularities and dimension reduction at the "Int. Conf. on Spectral and High Order Methods" in Herzlia, June, 1998.
April 99	Organizer and Host of the 7^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
Oct. 00 - June 01	Organizer of a mini-symposium on p-FEM at the "Int. Conf. on Spectral and High Order Methods" in Upsalla, Sweden, June 2001.
Oct. 01	Organizer and Host of the 11^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
June 04	Organizer (with M. Dauge) of the minisymposium titled *High-order methods for problems involving singularities and dimension reduction methods - In memory of prof. Bernard Schiff* at the "Int. Conf. on Spectral and High Order Methods 04", Brown University, Providence, USA, June, 2004.
Oct. 04	Organizer and Host of the 17^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
Oct. 06	Organizer and Host of the 21^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
Jun. 07	Organizer (with S. Sherwin) of the minisymposium titled *Computational bio-mechanics by high-order methods* at the "Int. Conf. on Spectral and High Order Methods 07", Beijing, China, June, 2007.
Oct. 08	Organizer and Host of the 25^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
June 09	Organizer (with S. Sherwin) of the minisymposium titled *Computational bio-mechanics by high-order methods* at the "Int. Conf. on Spectral and High Order Methods 09", Trondheim, Norway, June, 2009.
July 10	Organizer with E. Rank of the session *Multidisciplinary Biomechanical Simulation* at the "IV Conference on Computational Methods for Coupled Problems in Science and Engineering, June 20-22, 2011, Kos Island, Greece
Oct. 11	Organizer and Host of the 31^{st} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.
July 12	Organizer with E. Rank of the session *Simulating the mechanical response of bones at multiple scales* at the "X World Congress on Computational Mechanics", July 8-13, 2012, Sao Paulo, Brazil
June 13	Organizer with E. Rank of the session *Coupled problems with high order FEMs* at the "V International Conference on Computational Methods for Coupled Problems in Science and Engineering", June 17-19, 2013, Ibiza, Spain
Oct. 13	Organizer and Host of the 35^{th} Symposium of the Israel Association for Computational Methods in Mechanics, Ben-Gurion Univ.

July 14 Organizer with E. Rank of the session *Computational bone biomechanics* at the "XI World Congress on Computational Mechanics", July 20-25, 2014, Barcelona, Spain

May 15 Organizer with B. Merkert of the session *Coupled problems in biomechanics and mechanobiology* at the"VI International Conference on Computational Methods for Coupled Problems in Science and Engineering", May 18-20, 2015, Venice, Italy

June 18 Co-Organizer with Dallara... the session *Computational modeling in biomechanics, mechanobiology and tissue engineering I*, at the"6^{th} European Conference on Computational Mechanics", June, 11-15, 2018, Glasgow, UK.

July 18 Organizer of the session *Lap....* at the"6^{th} World Congress of Computational Mechanics", July, 22-27, 2018, NYC, USA.

June 19 Organizer of the session *Coupling FEA with Clinical Applications*, at the"VIII International Conference on Computational Methods for Coupled Problems in Science and Engineering", June 3-5, 2019, Sitges, Spain

June 22 Organizer of the session (with D. Leguillon and V. Mantic) *TC16: Finite Fracture Mechanics*, at the"23rd European Conference on Fracture 2022" June 28-July 25, 2022, Funchal, Madeira (Portugal)

I. EDUCATIONAL AND ADMINISTRATIVE ACTIVITIES

I.1) Courses taught

Fracture mechanics 362-26781	Grad	ME Dept, BGU	SP05, SP06, SP08 SP13
Singularities in elliptic problems & their treatment by high-order FEM AM282(S3)	Grad	Applied Math, Brown Univ, USA	SP03
Mechanics of non-elastic bodies 362-26081	Grad	ME Dept, BGU	SP01, FL06, SP10 FL11, FL13
Elasticity 1 362-26061	Grad	ME Dept, BGU	FL00, FL01, FL04
Elasticity 2 362-26131	Grad	ME Dept, BGU	SP11
Numerical analysis SSM 511	Grad	System Sci & Math Washington Univ, USA	FL94, SU95
Advanced methods in finite element analysis 362-26491	Grad	ME Dept, BGU	SP97, SP99, FL00 SP02, FL03, FL05 SP09, SP11, FL14 SP17
Plasticity 0540-6406-01	Grad	School of ME, TAU	SP18, FL20
Biomechanics of bones & arteries 0540-6445	Grad	School of ME, TAU	FL18, FL19, SP22

Biomechanics of bones & arteries 362-14922	Undergrad	ME Dept, BGU	SP15, SP16, SP17
Strength of materials 1 362-12111	Undergrad	ME Dept, BGU	SP04, FL04, FL05, FL06, FL07, FL08
Intro to elasticity 362-13111	Undergrad	ME Dept, BGU	FL98, FL03, SP07, FL07, FL08, FL11 FL12, FL13, FL15 SP17
Intro to elasticity 0542-422101	Undergrad	School of ME, TAU	SP21, SP22, FL22
Numerical methods for engineers 362-13341	Undergrad	ME Dept, BGU	SP98, SP00, FL00, FL01 SP14
Statics 362-11061	Undergrad	ME Dept, BGU	SU97
UNIX system administration	Undergrad	Sapir College	SP00, SP01, SP02
Programming (Fortran 90), (C) 201-19061	Undergrad	Sapir College	FL96, FL97, SP99, FL00, FL01
Intro to finite element analysis 362-13091	Undergrad	ME Dept, BGU	FL96, SP96, FL97, FL98, SP99, SP00, SP01, SP02, SP04, SP05, SP06, SP07, SP08, SP09, SP10, SP12 SP13, SP14, FL14, FL15 FL16
Intro to finite elements 0542-4223	Undergrad	School of ME, TAU	FL18, FL19, FL20 FL22

I.2) Positions at TAU academic administration

March 2018 - Sep 2018: PhD students committee at the Faculty of Engineering.

Oct 2018 - Sep 2020: Chairman - PhD students committee at the Faculty of Engineering.

June 2019: Search committee for the head of School of Mechanical Engineering.

July 2022 - Present: Vice-Dean of Research & Industry Cooperation of the Faculty of Engineering.

I.3) Positions at BGU academic administration

1995 - 1996: Dept. graduate students committee.

1995 - 1997: Chairman - Dept. computational committee.

1996 - 1997: Dept. seminars committee.

1996 - 1998: Univ. BGU Representative at IDF - committee on "Atudaim".

1997 - 1999: Dept. marketing committee.

1997 - 2000: Dept. computational committee.

2000 - 2002: Elected to the steering committee - Pearlstone Center.

2000 - 2002: Chairman - Dept. curriculum committee.

2000 - 2002: Dept. Teaching committee.

2000 - 2002: Dept. Graduate students committee.

2001 - 2002: Head of Science and Technology Division in Creation of the Israel Flight Academy - Syllabi, lecturers employment and coordinator.

2003 - 2004: Chairman - Dept. Graduate Studies Committee.

2005 - 2009: BGU committee on Hi-Learn.

2007 - 2011: BGU committee for PhD studies.

2008 - 2010: Elected to BGU senate substitute in the committee for medical faculty promotion.

2008 - 2013: Elected to BGU senate.

2009 - 2011: Chairman - Dean's Podium Committee.

2011 - 2013: Elected to Vaada Merakezet (11 members - Rector, Deans, one representative from each Faculty).

2011 - 2013: Chairman of Talpiot committee at the Faculty of Engineering.

2011 - 2013: Graduate students committee at the Faculty of Engineering.

J) REVIEWING

J.1) Institutions

Evaluation Panel on assessment of research activity at the main University in a West. European Country

J.2) Grant Proposals

Natural Sciences and Engineering Research Council of Canada. ETH Zurich Research Commission. Fellowship, Institute for Advanced Study, Technical Univ of Munich, Germany. Paracelsus Medical University Research Fund, Salzburg, Austria. German-Israel Foundation (GIF). Research Promotion Foundation - Cyprus. International Graduate School of Science and Engineering (IGSSE) - Technical Univ. of Munich, Germany. Israel Defence Force - Health Division. Israel Ministry of Health. FWF - Austrian Science Foundation. Israel Ministry of Science and Technology. Israel-USA Binational Science Foundation (BSF). Israel Science Foundation (ISF).

J.3) Books

Reviewer for Wiley and Sons.

J.4) International journals/Book chapters

Advances in Biomechanics & Applications, An International Journal, Annals of Biomedical Engineering, ASME - Journal of Biomechanical Engineering, Biomechanics and Modeling in Mechanobiology, Biomedical Engineering/Biomedizinische Technik, Bone, Clinical Biomechanics, Computer Methods and Programs in Biomedicine, Int J for Numerical Methods in Biomedical Engineering, J of Biomechanics, J of Bones and Mineral Research, J of the Mechanical Behavior of Biomedical Materials, J of Orthopedic Research, Mechanics of Soft Materials, Medical & Biological Engineering & Computing, Medical Engineering and Physics, Philosophical Transactions of the Royal Society - A, UNESCO encyclopedia & EOLSS - on biomechanics.
Advances in Computational Mathematics, Applied Mechanics Reviews, Applied Numerical Mathematics, Composite Science and Technology, Computers and Mathematics with Applications, Computer Methods in Applied Mechanics and Engineering, Engineering Fracture Mechanics, European

J of Mechanics - A/Solids, Fatigue and Fracture of Engineering Materials and Structures, Finite Elements in Analysis and Design, Int J for Computational Methods in Engineering Science & Mechanics, Int J for Computer-Aided Engineering and Software, Int J for Numerical Methods in Engineering, Int J of Fracture, Int J of Solids and Structures, J of Computational Physics, J of Engineering Mechanics, ESAIM: Mathematical Modelling and Numerical Analysis Mathematical Reviews, Mechanics of Advanced Materials and Structures, Mechanics of Materials, Mechanics of Materials and Structures, Numerical Methods for Partial Differential Equations, SIAM J on Scientific Computing, Theoretical & Applied Fracture Mechanics, ZAMM - Journal of Applied Mathematics and Mechanics / Zeitschrift fur Angewandte Mathematik und Mechanik.