

CURRICULUM VITAE

October 2021

Personal:

Name: Izhak Etsion I.D. 00670860

Place and Date of Birth: Israel, Aug. 13, 1942

Citizen of: Israel

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Academic Degrees:

1964: B.Sc., Technion, Israel Institute of Technology

1971: M.Sc., Technion, Israel Institute of Technology

1974: D.Sc., Technion, Israel Institute of Technology

Academic Appointments:

1971-1974: Instructor, Department of Aeronautical Engineering, Technion, Haifa, Israel.

1974-1975: Lecturer, Department of Mechanical Engineering, Technion, Haifa, Israel

1976-1983: Senior Lecturer, Department of Mechanical Engineering, Technion, Haifa, Israel.

1983-1996: Associate Professor, Department of Mechanical Engineering, Technion, Haifa, Israel.

1996-2010: Professor, Department of Mechanical Engineering, Technion, Haifa, Israel.

2004-2010: The Yeshayahu Winograd Chair

2010: Professor Emeritus, Department of Mechanical Engineering, Technion, Haifa, Israel.

Teaching Experience:

Technion:

Undergraduate courses: 1975-2010

- Design projects
- Compressible fluid flow
- Statics
- Dynamics
- Mechanical Engineering Design
- Introduction to computers
- Strength of Materials

Graduate courses: 1975-2014

Hydrodynamic Lubrication

Theoretical Tribology

U.C. Berkeley:
 Undergraduate
 courses: 1986
 Advanced Lab. in Mechanical Engineering

Professional and Research Experience:

1974 - present Department of Mechanical Engineering, Technion, Haifa, Israel
 1975-1976: U.S. NRC Research Associate, NASA-Lewis Research Center, Cleveland, Ohio.
 Summer 1978: Research Fellow, Department of Mechanical Engineering and Astronautical Sciences, Northwestern University, Evanston, Illinois.
 1979-1980: U.S. NRC Senior Research Associate, NASA Lewis Research Center, Cleveland, Ohio.
 Summer 1982: Visiting Scientist, Atomic Energy of Canada Ltd., Chalk River Nuclear Laboratories, Chalk River, Ontario.
 1985-1986: Visiting Professor, Department of Mechanical Engineering, University of California, Berkeley, California.
 Summer 1987: Department of Mechanical Engineering, University of California, Berkeley, California.
 Summer 1988: Department of Mechanical Engineering, University of California, Berkeley, California
 2006-2007: Dept. of Mechanical and Industrial Engineering Northeastern University, Boston, MA. (Aug.-Sept. 2006) and Dept. of Mechanical Engineering University of California, San Diego, CA (Oct. 2006-Feb. 2007).
 2007-2008: Dept. of Engineering University of Cambridge, Cambridge UK, (Aug. 2007) and Dept. of Mechanical Engineering University of California, San Diego, (Aug. 2007-Feb. 2008).
 2008-2009: State Key Lab. of Tribology, Tsinghua University, Beijing China (Aug-Sept. 2008). School of Mechanical Engineering University of Western Australia, Perth Australia (Oct.-Nov. 2008). Indian Institute of Science, Bangalore India (Dec. 2008-Jan. 2009), and Dept. of Mechanical Engineering University of California, San Diego, (Feb. 2009).
 2009-2010 Dept. of Mechanical Engineering University of California, San Diego, (Oct.-Nov. 2009), Dept. of Mechanical Engineering University of Sao Paulo, Sao Paulo, Brazil (Jan.-Feb. 2010)

Industrial Experience:

1964-1966: Design engineer, Israel Air Force, design of aircraft components
 1967-1970: Research engineer, Center of Aeronautical Research, Technion, I.I.T., in charge of the supersonic wind tunnels of the center. Research and development projects in wind tunnel testing.
 1970-1971: Senior engineer, Vulcan Engineering Ltd., Haifa, Israel. Manager technical office, design and production of aeronautical engineering projects.
 1974 - 2010: Consultant to various companies in Israel, the U.S. and W. Germany on bearings and sealing problems.
 1992 – 1999: Scientific Manager (Founder), Tribology Ltd., a subsidiary of Technion Entrepreneurial Incubator Co.
 1996 – 2005: Director (Founder) and Chief Scientist, Surface Technologies Ltd.

Administrative Posts

1991- 2010:	Head, Shamban Tribology Laboratory, Dept. of Mechanical Engineering, Technion.
2001-2007:	Head, "Brakim" program, Dept. of Mechanical Engineering, Technion
2006- 2007:	Head, Danciger Laboratories, Technion.
2010-2021:	Technion Representative, Executive Committee of IEA-AMT

Research Interests:

Hydrodynamic and Hydrostatic Lubrication
 Fluid Film Bearings and Seals
 Contact mechanics
 Contact, Adhesion and Friction of Rough Surfaces
 Thin film coatings
 Micro/Nano Tribology
 Bio Tribology
 Laser Surface Texturing
 Modeling friction and wear of materials

Professional Associations

1. Fellow (life), American Society of Mechanical Engineers.
2. Fellow (life), Society of Tribologists and Lubrication Engineers.
3. Member, Israel Society for Tribology.

Reviewer for

ACS Applied Materials & Interfaces
 Acta Materialia
 Applied Mechanics Reviews,
 Applied Physics A,
 ASME Jour. of Applied Mechanics,
 ASME Jour. of Tribology,
 ASME Jour. of Fluid Engineering,
 eXPRESS Polymer Letters,
 Friction,
 International Jour. of Impact Engineering,
 International Jour. of Modern Physics B,
 International Jour. of Precision Engineering and Manufacturing,
 International Jour. of Solids and Structures,
 Jour. of Adhesion Science and Technology,
 Jour. of Applied Physics,
 Jour. of Physics D: Applied Physics,
 Jour. of Materials Processing Technology,
 Jour. of Materials Research,
 Jour. of the Mechanics and Physics of Solids,
 Mechanics of Materials
 Meccanica
 Nanoscience and Nanotechnology Letters
 Proc. IMechE Jour. of Engineering Tribology,
 Surface and Coatings Technology
 Tribology Transactions,
 Tribology International,

Tribology Letters,
Wear,

German-Israel Foundation for Scientific R&D (GIF),
Israel Ministry of Science,
Israel-U.S. Binational Science Foundation (BSF),
U.S. National Science Foundation (NSF),

Public Professional Activities:

- 1982: Chairman, Organizing committee of the 16th Israel Conference on Mechanical Engineering.
- 1983: Member, Organizing committee of the 17th Israel Conference on Mechanical Engineering.
- 1984-1985: Secretary (1984) and Chairman (1985) of the Israel Society of Tribology.
- 1987: Organizer of the International Tribology Workshop held at the 21st Israel Conference on Mechanical Engineering.
- 1990 -1996: Associate Editor, Trans. ASME Journal of Tribology.
- 1994 - 2000: Member (1994–1998), and Secretary (1999–2000), Executive Committee Tribology Division of the ASME.
- 1996 - 1998: Chairman of the ASME Tribology Division, International Coordination Committee.
- 1997- 1998: Member, Committee for Academic Development, Technion.
- 1997 - 2000: Member, MEMS committee, Israel National Academy of Sciences.
- 1998 – 1999: Chairman, ASME International Israel Section.
- 2000 – 2003: Member (2000-2002), and Chairman (2002-2003), Nomination and Oversight Committee Tribology Division of the ASME.
- 2001 – 2002: Member, Planning committee of the 2nd World Tribology Congress.
- 2001 – 2002: Member, Scientific Committee 3rd AIMETA International Tribology Conference
- 2001 – 2003: Member (2001-2002), and Chairman (2003), All Technion Joint Faculty Students Committee.
- 2002 – 2005: Member, Technion Senate committee for undergraduate and graduate studies.
- 2003 – 2004: Member, Technion Stipends Committee.
- 2003 - 2004: Member, Scientific Committee 4th AIMETA International Tribology Conference
- 2003 - 2005: Member, Technion Patents Committee.
- 2004-2005: Member, International Advisory Board of World Tribology Congress III.
- 2005 – 2006: Member, Scientific Committee 5th AIMETA International Tribology Conference
- 2005- 2010: Member, Managing Committee, Russell Berrie Nanotechnology Institute.
- 2005- 2011: Member and Chair (2010-2011), STLE Fellows Committee
- 2006 - 2008: Member, Editorial Board of Advances in Tribology.

2010: Co-Chair, Organizing committee China international workshop on surface texturing CIST 2010.

2010 -2021: Member, representing Technion and Israel, Executive committee of the International Energy Agency Programme of Research and Development on Advanced Materials for Transportation

2012 -2020: Member, Board of Editors, Friction.

2014 -2019: International Member of the Advisory Committee of the State Key Laboratory of Tribology, Tsinghua University, Beijing, China.

Prizes and Awards:

1. 1984 D.D. Ben-Aharon Research Prize (Technion)
2. 1989 H. Gutwirt Research Award (Technion)
3. 1991 STLE/STC Fluid Sealing Research Award
4. 1998 Academia Romana Traian Vuia Prize
5. 1999 The Hershel Rich Technion Innovation Award
6. 1999 ASME Fellow
7. 2001 STLE Fellow
8. 2004 Sanford Kaplan Prize in Creative management for 21st Century High Technology
9. 2005 STLE International Award
10. 2005 ASME Tribology Division RCT Innovative Research Award
11. 2008 ASME Tribology Division K.L. Johnson Best Paper Award
12. 2016 ASME Mayo D. Hersey Award