January, 2020

AVINOAM NIR

PERSONAL DATA

Born: Israel, 1941.
Married to Chava Nir. Social worker.
Three children.

EDUCATION

1969 - 1973 Stanford University, Department of Chemical Engineering, Ph.D., September 1973.

1966 - 1968 Technion-Israel Institute of Technology, Department of Chemical Engineering, M.Sc., January 1969.

1962 - 1966 Technion-Israel Institute of Technology, Department of Chemical Engineering, B.Sc., June 1966.

ACADEMIC APPOINTMENTS

2009 - Professor Emeritus, Department of Chemical Engineering, Technion, Haifa, Israel.

1995 – 2009 Israel Isaac and Nathalie Kudish Chair in Chemical Engineering.

1990 – 2009 Professor, Department of Chemical Engineering, Technion, Haifa, Israel.

2009 Visiting Professor, Department of Chemical Engineering,, Madison, U. Wisconsin.

2009 Visiting Professor, Department of Mechanical Engineering, UBA, Argentina.

2008 – 2009 Visiting Professor, Institute de Ingenieria, UNAM, Nexico.

2004 – 2005 Visiting Professor, Department of Chemical and Biomolecular Engineering, NUS, Singapore.

1997 - 1998 Visiting Professor, Department of Chemical Engineering, University of California at Santa Barbara, Santa Barbara, California.

1997 Visiting Scholar, Department of Mathematics and Statistics, University of Melbourne, Parkville, Victoria, Australia.

1988 - 1989 Visiting Research Professor, The Benjamin Levich Institute for Physicochemical Hydrodynamics, CCNY, New York.

1987, 1989 Adjunct Associate Professor, School of Chemistry, Tel-Aviv University.

1982 - 1990 Associate Professor - Department of Chemical Engineering, Technion, Haifa, Israel.

1983, 1984 Visiting Research Associate Professor, Department of Chemical Engineering, CCNY, New York.

1979 - 1980 & 1982 Visiting Research Associate Professor, Institute of Applied Chemical Physics, CCNY, New York.

1977 - 1982 Senior Lecturer - Department of Chemical Engineering, Technion, Haifa, Israel.

1974 - 1977 Lecturer - Department of Chemical Engineering, Technion, Haifa, Israel.

1973 - 1974 Visiting Assistant Professor, Department of Biochemical Engineering, University of Pennsylvania, Philadelphia, Pennsylvania.

RESEARCH ACTIVITY

Fluid mechanics, transport phenomena, viscous suspensions

TEACHING ACTIVITY

Undergraduate Courses - Chemical Engineering Principles courses (Momentum, Heat and Mass Transport, Unit Operations). Mathematical Modeling in Chemical Engineering.

Graduate Courses - Fluid Mechanics, Slow Viscous Flows, Transport Phenomena, Reactor Stability, Mathematical Analysis in Chemical Engineering, PDE in Chemical Engineering, Numerical and Perturbation Methods in Chemical Engineering.

TECHNICAL AND INDUSTRIAL ACTIVITIES

1982 - 1983 Simulation of cold crystallization (with Mr.V.Amon),
(Funded by Dead Sea Works)

1978 - 1982 Improved sedimentation using flocculants (with Prof.E.Rubin),
(Funded by Israel Chemicals).

1976 Catalytic dehydrogenation of tetralone to □-naphtol.
(Funded by Makhteshim Darom).

1968 - 1969 Development of a heat exchanger free of scale deposits or corrosion.
(Technion Foundation for Research and Development).

ADMINISTRATIVE AND ACADEMIC RESPONSIBILITIES

National

Chair of the committee for the subject MUTAV, "Science and Technology in Society", Ministry of Education 2003 – 2008.
Co-chair of academic and professional advisory committee for the division of psychosocial services in one of the sections of the Ministry of Education (former Aliyat Hanoar) 2003 – 2004.
Member of a sub-committee of the Israel Council for Higher Education for evaluation of programs in Colleges toward change from B. Tech. to B.Sc. 2002 – 2004
Member of a sub-committee of the Israel Council for Higher Education for evaluation of programs in Chemical Engineering and Biotechnology 2003 – 2004
Member of the Initiative Committee of "Bashaar" - Academic Community for Israeli Society 1999 –
Member of Israel Council for Higher Education 1999 – 2000.
Member of the Board of governers of "Reali" schools 1998 –
Member of the "Reali" school council (vaad menahel) 2005 – 2008.

Technion

Chairman of the All-Technion (Faculty-Students) senate committee 2006 – 2008.
Member of the Technion Senate Committee for Faculty Promotion and Tenure 2003 – 2004.
Member of the Board of Governors 1991 – 1994, 1998 – 2001.
Acting Head of the Water Research Institute, 1998.
Dean of Students at Technion, 1991 – 1994.
Member of Technion senate, 1990 –
Member of the Technion council (vaad menahel) 1991 – 1994, 2005 – 2007 (senate representative).
Technion representative to the Board of governers of "Reali" schools 1998 – 2008.
Head of Technion Liaison Office for contact with the youth, 1986 – 1987.
Member of Interdepartmental Committee for Graduate Studies in Applied

Mathematics 1981 – 1983, 1986 – 1987.
Member of Technion Faculty-Students Committee, 1986 – 1987, 1991 – 1994.
Member of Technion Senate Committee for Undergraduate and Graduate Studies, 1991 – 1994.

Department of Chemical Engineering
Dean of the Faculty of Chemical Engineering 1995 - 1996.
Vice Dean 1986 - 1987, 1989 - 1990.
Coordinator of the Chemical Engineering Seminar Program 1984 - 1987, 1998/9.
Coordinator of the Chemical Engineering Graduate Studies 1981 - 1983.
Acting Head of the Laboratory for Process Control 1976/7.
Coordinator of the Chemical Engineering Undergraduate Studies 1974/76.
Member of Various Departmental Committees (Undergraduate Studies 1974 - 76;
Graduate Studies 1974 - 78, 1981 - 1983, 1998 -).

GRANTS

2018 – 2022 "Stabilization of toroidal drops in viscous flow" Israel Science Foundation, $50,000/year.

2014 – 2017 "Formation, evolution and stability of toroidal drops in compressional flow", Israel Science Foundation, $ 50,000/year.

2011 – 2014 "Crystalinity" and pattern formation of dynamic bubbles dispersion in vortical flow", Israel Science Foundation, $ 50,000/year.

2006 – 2010 "Dynamics of drops and bubbles in micro and nano emulsions of yield stress fluids", Israel Science Foundation, $ 37,000/year.

2001 - 2004 "Thermocapillary Interaction of Drops: External Forcing Effects and 3 dimensional cases", Israel Science Foundation, $ 50,000/year.

2000 - 2001 "Measurement of Particle Diffusivity in Suspensions", Marie Curie Individual Fellowship, European Community Vth program, 89,000 Euro.

1998 - 2001 "Spontaneous Thermocapillary Interaction of Drops and Bubbles: Convective Transport and Deformation effects" Israel Science Foundation, $ 32,000/year

1993 - 1996 "Effective Properties of Polydispersed Concentrated Suspensions" U.S.- Israel Bi-national Science Foundation, $ 50,000/year.

1990 - 1993 "Dispersion in Sheared Suspensions" Israel Academy of Sciences, IS 46,000/year.

1988 - 1990 "The Effect of Compounding and Mixing on the The Morphology of Polymer Blends and alloys" (with Z. Tadmor), KFA, DM 245,000.-

1985 - 1987 "Scale up of Internal Mixers" (with Prof. Z. Tadmor), DM 240,000.-

CONFERENCE ORGANIZATION

19th Annual Meeting of the Israel Institute of Chemical Engineers, 1983, Haifa, Israel.
20th Annual Meeting of the Israel Institute of Chemical Engineers, 1984, Beer-Sheva, Israel.

PROFESSIONAL AFFILIATION AND ACTIVITIES

President - Israel Institute of Chemical Engineers (1983 - 1984).
Member - A.I.Ch.E., APS, I.I.Ch.E., I.A.A.R.

SUPERVISION OF GRADUATE STUDENTS AND POST-DOCTORAL FELLOWS

Post Docs

Loimer Thomas	(Austria)	1998 – 2000.
Berejnov Viatcheslav	(Russia)	2001 – 2003.
Singh Anugrah	(India)	2002 – 2004.
Gu Wei	(China)	2003 – 2004.
Frolovskaya Oxana	` (Russia)	2005 – 2006.
Pathak Manabendra	(India)	2007 – 2009.
Prakash Jai	(India)	2011 – 2014.
Ee Bernard	(Singapore)	2015 – 2017.
Malik Sumit	(India)	2018 –
Benerjee Abhishek	(India)	2019 –

D.Sc.

Hiram, Y.,	1981.	Manas-Zloczower, I.,	1983 (with Prof. Z. Tadmor).
Zinemanas, D.,	1988.	David, B.,	1990 (with Prof. Z. Tadmor).
Leshansky, A. M.	2002.		
Rosenfeld (Bialik), L.,	2010 (with Dr. O. M. Lavrenteva).		
Holenberg, Y.,	2012 (with Dr. O. M. Lavrenteva).		

M.Sc.

Mund, H., 1978; Cogan (Gertner), R., 1979; Meisel, S., 1980; Amon, V., 1981; Kislev, H., 1983; Sapir, T., 1984; Goldschmidt, E., 1986; Yulewitz, O., 1987 (with Prof. Y. Talmon); Sheinfeld, A., 1988; Cohen, A., 1988 (with Prof.Y.Talmon); Liss-Ariely, D., 1992 (with Dr. R.Semiat); Berhan, S., 1993 (with Dr. S. Semiat); Shauli, A. 1995 (with Prof. R. Semiat); Leshansky, A., 1996; Elgart, V., 1997 (with Prof. R. Semiat); Tweg, R. 1997 (with Prof. R. Semiat); Rosenstein, Y., 1999; Lipp Y. (with Prof. G. Grader) 2003; Bialik, L., (with Dr. O. M. Lavrenteva) 2006; Manor, O., (with Dr. O. M. Lavrenteva) 2006; Byk, L., (with Dr. O. M. Lavrenteva) 2007; Holenberg, Y., (with Dr. O. M. Lavrenteva) 2007; Ragunis, P., 2020 (expected).