CURRICULUM VITAE

Gregory Falkovich

Israel Pollak Professor of Theoretical Physics

Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100 Israel

PERSONAL DATA

Born June 15, 1958, Tomsk, Russia. Married +3.
Webpage: http://www.weizmann.ac.il/complex/falkovich/

RESEARCH INTERESTS

Theoretical physics, statistical physics, fluid mechanics,
solid state physics, cloud physics and geophysics.

EDUCATION

1984: Ph.D in Physics and Mathematics, Nuclear Physics Inst., Novosibirsk
1981: M.Sc. in Physics cum laude, Novosibirsk State University

EMPLOYMENT HISTORY

2002-pres: Professor; 1996-2002: Associate Professor; 1992-1996: Senior Scientist; WIS.
2004-2010: Department Head, Physics of Complex Systems, WIS.
1991-1992: Visiting Scientist, WIS.
1987-1992: Senior Research Fellow, 1985-1987: Research Associate,
1982-1985: Junior Research Associate, 1981-1982: Postgraduate,
Institute of Automation and Electrometry, USSR Ac. Sci., Novosibirsk.

sabbatical leaves:
1997, 2002-2003: Institute for Advanced Study (IAS), Princeton, USA
2000, 2011, 2014: Institute of Theoretical Physics, UC Santa Barbara, USA
2022: Harvard, NYU.

visiting professorships:
1998, 2012: Ecole Normale superieure, Paris; 1999: Nice observatory and IHES, France.
2000, 2013, 2015 : Rutgers University, USA. 2001: Max Planck Inst, Dresden, Germany.
2005, 2006, 2015: Aston University, UK.
2008: University of Chicago and Argonne National Lab, USA.
2010, 2011: Ecole Normale Superieure, Lyon, France
2014, 2017, 2020, 2022: Simons Center, Stony Brook, USA

OTHER APPOINTMENTS:

Head of Scientists Union at the Weizmann Institute of Science.
Divisional Editor of Phys. Rev. Lett.

Referee: ANR (France), BSF (USA-Israel), EPSRC and NERC (UK), ERC, Europhysics Letters, FNRS (Belgium), FWF (Austria), Italian Committee of Research Evaluation, Journal of Atmospheric Science, Journal of Fluid Mechanics, Meteorologische Zeitschrift, NASA, Nature, Nature Physics, Nuclear Physics, NSF (USA), Physica D, Physical Review Letters, Physical Review, Physics of Fluids, Swiss NSF, PRACE (Italy).

Conference organization: Wave Turbulence — advisor (USA, 2000), Les Houches Summer School — co-director (France, 2000), Waves and Wave Turbulence — advisor (Denmark, 2001), GEOMIX Summer School — program committee (France, 2001), Turbulence Workshop — program committee (USA, 2003), ICTP Summer School and Conference — co-director (Italy, 2003), "Turbulence and Mixing" Workshop — co-organizer (Eilat, 2004, 2007, 2010), Aspen program "Novel approaches to climate" — co-organizer (USA, 2005), EGU General Assembly — session convener (Vienna, 2007, 2008), KITP Program "Physics of Climate Change" — co-organizer (USA, 2008), Turbulence and Stat Mechanics - Sci Committee (Les Houches, 2009), International Symposium on Turbulence - Advisory Committee (Peking, 2009), ICTP Advanced Workshop on Anderson localization and turbulence - co-director (Trieste, 2010), KITP Program "The nature of turbulence" — co-organizer

(USA, 2011), Rainfall and Marine Snow — co-organizer (Leiden 2014), Simons Center Program (USA, 2017), Simons Fest - co-chairman (New York 2018), SRITP Program on Fluids (Israel, 2018), Universal features of turbulence (France 2019) .

Teaching: Quantum Mechanics, Classical Mechanics, Fluid Mechanics, Statistical Physics, Information Theory.

RESEARCH GRANTS (last 5 years):

Australian Research Council: *2015-17*, Wave flow generation, 500,000$ (shared).
Bi-national Science Foundation: *2011-15* Conformal geometry in non-equilibrium processes, 24,000$; *2019-23* Novel Electronic Fluids in Quantum Materials: Energy Transport and Johnson Noise Thermometry, 64,000$.
Minerva Foundation: *2017-20* Viscous flows 120,000$; *2013-16* New approach to particle dispersion, 120,000$;
Russian Ministry of Education: *2014-17* Turbulence on surfaces, 160 000$; *2012-13* Turbulent mixing in the atmospheric boundary layer, 120,000$.
Israel Science Foundation: *2015-19* Turbulence-flow interaction, 280,000$; *2009-13* Emerging and broken symmetries, 113,000$. *2019-2024* Stokes flows of Newtonian and viscoelastic fluids, 300,000$.
EU H2020: *2018-22* Hydrodynamic approach to light turbulence, 294 000 euro (shared); *2019-23* Hydrotronics, 560,000 euro (shared).
Simons Foundation *2019-23* Revisiting turbulence problem, 1 000 000 $.

INTERNATIONAL RECOGNITION:

Awards:
1983: Excellence Prize of the USSR Ac. Sci.
1984: Award of the USSR Ac. Sci. Siberian Division.
1992: Guastalla Fellowship at the Weizmann Institute.
1994: Walter and Elise Hass Career Development Chair.
1996: Levinson Prize in Physics, Weizmann Institute.
2005: elected Fellow of the Institute of Physics, London.
2009: selected as an outstanding referee of APS.

Competitive Scholarship: Leverhulme Visiting Professorship (UK, 2005-2007).

Advisor: Hong Kong Research Grants Council, Grant review committee of Italian Ministry of Education, Universities and Research, Expert of the Russian Academy of Sciences.

Recent invited, memorial and plenary lectures, and courses:
"Stochastic geometry of turbulence", APS March meeting, Boston, February 2012.
"Phase transitions in optical turbulence", RETUNE, Heidelberg, June 2012.
"Introduction to fluid mechanics", course, MIPT, Moscow, September 2012.
Berkeley colloquium (April 1, 2013), Mini-course on turbulence in ENS (Paris 2013)
What drives the weather changes? (Santa Barbara 2014)
"On multi-point correlations and symmetries in turbulence", Simons Center 2014.
"Symmetries and Operator Product Expansion" and "Flight-crash events and irreversibility" (Trieste 2014)
"How rain starts" and "What drives weather changes" (Kiev 2015)
"Turbulence-flow interaction" (Univ. of Warwick, 2015)
"Vorticity instanton renormalized by fluctuations" (Rio 2015).
2016-2019: invited colloquium talks at Perimeter Institute, MIT, Stony Brook, Nordita, UCSD, Stockholm, Aston and Princeton Universities; four invited lectures at Warsaw Fluid Mechanics Week, invited talks on conferences and workshops at Warwick, Dresden, Moscow, Rome, Bertinoro, TAMU, UCLA, KITP, Nagoya, Moscow, Nice, Lyon; courses at Simons Center, Skoltech, Alba Nova University, etc, see webpage.

Supervision: 6 PhD students, 8 MSc students, 11 postdocs.