Curriculum Vitae of László Gránásy

Birth: 15th February, 1955, Budapest, Hungary

Citizenship: Hungary

Education: Roland Eötvös University, Budapest, 1974-1979
Diploma: 1979, physics
Ph. D. degree: 1982 (summa cum laude).
Thesis: 'Formation and thermal stability of metallic glasses' (1981)
Candidate of Science degree (given by the Hungarian Academy of Sciences): 1989
Thesis: 'Preparation and thermal stability of amorphous alloy' (1988)
Current title: ***Doctor of the Hungarian Academy of Sciences:*** 2004
Thesis: 'Theoretical investigation of nucleation processes' (2004)

Awards:
Award for Young Scientists by the Central Research Institute for Physics, 1984
'Distinguished Young Scientist' title, 1984
Academic Award for Young Scientists (given by the Hungarian Academy of Sciences), 1989
Publication Award of the Research Institute for Solid State Physics, 1992, 1997, 1999
Physics Award of the Hungarian Academy of Sciences, 2000
Széchenyi Professorship at the Technical University, Budapest, 2000-2003
Academic Award of the Hungarian Academy of Sciences, 2005

Languages: English (good); German (basic level); Russian (basic level); Japanese (basic level).

Employer: - Institute for Solid State Physics and Optics, Wigner Research Centre for Physics, Hungarian Academy of Sciences, (since 2012)
- Research Institute for Solid State Physics and Optics of the Hungarian Academy of Sciences (RISSPO, 1979-2007 and 2009-2011)
- Brunel Centre for Advanced Solidification Technology, Brunel University, West London (BCAST, 2007-2009)

Positions: scientific advisor (2012-, WRCP; 2009-2011, RISSPO), professor of solidification (2007-2009, BCAST), scientific advisor (2006-2007, RISSPO); senior scientist (1990-2005, RISSPO); scientific coworker (1983-1989, RISSPO)

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Expertise:
- Preparation of amorphous alloys by melt-spinning, splat cooling and laser glazing methods (1979-1993).
- Viscosity measurements on oxide glasses by the parallel plate method (1985-86).
- Differential scanning calorimetry for determination of temperatures, heats and kinetics of transformations in metallic glasses (crystallization, relaxation) and C_{60} derivatives (dimerization, polymerization, phase separation). Theory of transformation kinetics (1979-1998).
- Modeling of rapid solidification process during melt-spinning, laser glazing and splat-cooling techniques. Theoretical study of microstructure evolution during rapid solidification (planar to dendritic transition, oscillating solidification, compositional changes, etc., 1981-1991).
- Theory of first-order phase transformations: condensation and crystallization from melt/glasses with the main emphasis on the description of nucleation processes (main research topics in the past decade). Applied techniques: discrete (cluster dynamics) and continuum models (Cahn-Hilliard, phase-field, and density functional theory). Phase field modeling of complex polycrystalline solidification morphologies. Dynamical density functional theory of nucleation and crystal growth.

Research work abroad:
1985-1986 (15 months): Research Institute of Mineral Dressing and Metallurgy, Tohoku University, Japan. Monbusho scholarship. Viscosity measurements on oxide glasses, modeling of the melt-spinning process.
1989, 1990 (2-2 months): Max-Planck-Intsitut für Eisenforschung, Düsseldorf, Germany. Modeling of rapid solidification and microstructure evolution during rapid solidification (oscillating microstructure).
1992-1993 (14+6 months): Institute for Space Simulation, Deutsche Forschungsanstalt für Luft- und Raumfahrt, Cologne, Germany. *Alexander von Humboldt Fellowship.* Development of diffuse interface theory of condensation and crystal nucleation.
1997 (3 months): University of Sheffield, *British Council Science Fellowship*. Nucleation theory (cluster dynamics).
1999 (3 months): The University of Chicago. Description of crystallization (stable and metastable phases) and condensation in the framework of Cahn-Hilliard and density functional techniques.
2002 (1 month): National Institute of Standards and Technology, Gaithersburg, MD, USA. Phase field modeling of particle-dendrite interaction in clay-polymer films.
2003 (3 months): University of Bergen. Phase field modeling of hydrate nucleation.
2003 (1 month): National Institute of Standards and Technology, Gaithersburg, MD, USA. Phase field modeling of crystallization in polymers.

2004 (3 months): University of Bergen. Phase field modeling of hydrate formation.
2005 (3 months): University of Bergen. Phase field modeling of gas hydrate transitions.
2006 (3 months): University of Bergen. Phase field modeling of gas hydrate transitions.
2007-2009 (27 months): BCAST, Brunel University, West-London. Phase-field crystal modeling of crystal nucleation and growth.

Publications: 165; 123 in international scientific journals and 42 in conference proceedings/books.

Independent citations: over 2416 [self-citations and citations in independent PhD Theses (97) excluded],
h-factor: 25 [self-citations and citations in independent PhD Theses (97) excluded]
More than 50 invited talks at international conferences/workshops.

Research Grants: Previously, PI of 4 Hungarian OTKA grants, 4 ESA PECS, 3 ESA PRODEX projects and an EU 6th Framework Integrated Project (IMPRESS). Recently, PI of Hungarian participating team in 2 ESA MAP projects, and an EU 7th Framework Collaborative Project (ENSEMBLE). Total ~ 1.7 M€.

Education activities: Previously, physics laboratory practices at the Technical University, Budapest; guest lecturer for a special course for graduate students on materials science; special course on nucleation theory at Eötvös Graduate School. Supervision of 3 PhD students (2 RISSPO/1 BCAST). Invited lecturer for the 5 days long course "Phase-field modelling of solidification" at the Rolls-Royce Technology Centre, Cambridge University, UK.

Memberships: The Mineral, Metals, and Materials Society, American Association for Crystal Growth. ESA Topical Team "*Solidification of Containerless Undercooled Melts*" (SOL-EML); MTA Fizikai Osztálya Szilárdtest-fizikai Bizottsága; MTA AKT Matematikai és Természettudományi Szakbizottság

Budapest, 5th October, 2012.

Prof. Dr. László Gránásy