# Invited talks

## *László Gránásy*

1. L. Gránásy, A. Ludwig:
*Impact of casting conditions on the denritic solidification in single roller quenching methods.* TMS Annual Meeting, March 1-5, 1992, San Diego, California, USA

2. L. Gránásy, M. Tegze, S. Pekker, L. Forró:
*Thermodynamics of phase transformations in the $A_1C_{60}$ (A=K, Rb, Cs) alkali fullerides.* IWEPNM 96, March 3-8, 1996, Kirchberg, Austria

3. L. Gránásy, S. Pekker, L. Forró:
*Thermodynamic aspects of phase transformations in the $A_1C_{60}$ (A=K, Rb, Cs) alkali fullerides*. 189th Meeting of the Electrochem. Soc., May 5-10, 1996, Los Angeles, California, USA

4. L. Gránásy:
*Diffuse interface model of crystal nucleation.* International Symposium on Glasses and Related Materials, 1996, Florianopolis, Brazil

5. L. Gránásy:
*Diffuse interface theory of nucleation: Comparison with experiment and density functional calulations.* ICNAA-14, 1998, Penn State University, College Park, Pennsylvania, USA

6. L. Gránásy:
*Diffuse interface model of nucleation: Basic ideas and application to the free energy of small clusters.* Int. Workshop on Nucleation Theory and Applications, April 15-23, 2000, Bogolyubov Laboratory of Theoretical Physics at Joint Institute for Nuclear Research, Dubna, Russia

7. L. Gránásy, T. Börzsönyi, T. Pusztai:
*Nucleation and multiparticle growth in binary phase field theory.*
13th Int. Conference on Crystal Growth, 30 July – 4 August, 2001, Kyoto, Japan.

8. L. Gránásy, T. Börzsönyi, T. Pusztai:
*Diffuse interface models of nucleation.*
Workshop on Diffuse Interface Models, April 24-26, 2002, Lyon, France

9. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field theory of multi-domain solidification in alloys.*
TMS Annual Meeting, March 2-6, 2003, San Diego, California, USA

10. L. Gránásy, T. Pusztai, T. Börzsönyi, P. F. James:
*Nucleation and polycrystalline solidification in binary phase field theory.*
7th International Symposium on Crystallization in Glasses and Liquids, 6-9 July, 2003, Sheffield, UK

11. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field modeling of polycrystalline solidification.*
15th American Conference on Crystal Growth and Epitaxy, July 20–24, 2003, Keystone, Colorado, USA

12. L. Gránásy:
*Phase field theory for polycrystalline solidification.*
CECAM Workshop on Crystal-Melt Interfaces: Structure, Thermodynamics and Growth, June 23–25, 2003, Lyon, France

13. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field modeling of nucleation and polycrystalline solidification.*
CSCAMM Workshop on Nonequilibrium Interface Dynamics: Theory and Simulation from Atomistic to Continuum Scales, Oct. 27–31, 2003, University of Maryland, College Park, USA.

14. L. Gránásy, T. Pusztai, T. Börzsönyi, T. Kuznetsova, B. Kvamme:
*Towards a full dynamical model of hydrate formation: Phase field theory of hydrate nucleation and growth.* Workshop on Modelling and Simulation of Storage of CO2 in Geological Formations. Nov. 6–7, 2003, University of Bergen, Bergen, Norway.

15. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren:
*Phase field theory of nucleation and polycrystalline solidification.* Materials Research Society Spring Meeting, April 12–16, 2004, San Francisco, California, USA

16. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren:
*Phase field theory of polycrystalline freezing in far-from-equilibrium liquids.* US-EU Joint Workshop on Methods in Computational Materials Science, April 15–16, 2004, San Francisco, California, USA.

17. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field theory of nucleation and growth.* 3rd International Conference on Computational Modelling and Simulation of Materials, May 30 – June 4, 2004, Acireale, Sicily, Italy

18. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field theory of nucleation and polycrystalline solidification.* Workshop of Computational Materials Science, September 5, 2004, Warsaw, Poland

19. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren:
*Phase field theory of nucleation and polycrystalline solidification.* European Materials Research Society Fall Meeting, September 6 – 10, 2004, Warsaw, Poland

20. L. Gránásy, T. Pusztai, T. Börzsönyi:
*Phase field modeling of pattern formation during far-from-equilibrium freezing: Nucleation and polycrystalline solidification.* Workshop on Growth Control, September 9 – 10, 2004, Mulhouse, France (Keynote Presentation).

21. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren:
*Phase field theory of nucleation and polycrystalline solidification.* Materials Research Society Fall Meeting, November 29 – December 3, 2004, Boston, USA

22. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren:
*Phase field theory of nucleation and polycrystalline freezing.* The Minerals, Metals & Materials Society Sprint Meeting, February 13 – 17, 2005, San Francisco, USA

23. L. Gránásy, T. Pusztai, T. Börzsönyi, J. A. Warren, J. F. Douglas:
*Phase field modeling of polycrystalline freezing in far-from-equilibrium liquids.* American Conference on Crystal Growth and Epitaxy, July 10 – 15, 2005, Big Sky, Montana, USA

24. L. Gránásy:
*Phase field modeling of polycrystalline solidification in two and three dimensions.* Workshop on Dynamics of Phase Transitions, November 30 – December 3, 2005, Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany.

25. L. Gránásy, T. Pusztai, G. Tegze, G. Bortel, J. A. Warren, J. F. Douglas:
*Growth and form of spherulites: A phase field study.* American Physical Society March Meeting, March 13 – 17, 2006, Baltimore, Maryland, USA.

26. L. Gránásy, T. Pusztai, G. Tegze, G. Bortel, J. A. Warren, J. F. Douglas:
*From needle crystals to spherulites: A phase field study.* MCWASP XI., 28 May - 2 June, 2006, Opio, France

27. L. Gránásy, T. Pusztai, G. Tegze, G. Bortel, J. A. Warren, J. F. Douglas:
*Phase field modeling of polycrystalline patterns in two and three dimensions.*ESF Research Conference on Solid/Fluid Interfaces, Complex Fluid Interfaces and Nanofluidics, 9-14 Sept., 2006, Obergurgl, Austria

28. L. Gránásy, T. Pusztai, G. Bortel, J. A. Warren, J. F. Douglas:
*Nucleation and polycrystalline freezing in two and three dimensions: A phase field study.* 8th International Symposium on Crystallization in Glasses and Liquids, September 24 – 28, 2006, Jackson Hole, Wyoming, USA.

29. L. Gránásy, T. Pusztai, G. Tegze, G. Tóth, J. A. Warren, J. F. Douglas:
*Predicting polycrystalline patterns in 2D and 3D: A phase field approach.* International Workshop on Polymorphism in Condensed Matter, Nov. 13-17, 2006, Dresden, Germany

30. L. Gránásy:
*Homogeneous and heterogeneous nucleation in the phase field theory.* Phase-Field Models for the Evolution of Complex Structures, IHP, June 4-6, 2007, Paris, France.

31. L. Gránásy:
*Phase field modeling of polycrystalline spherulites.* Gordon Research Conference: Solid State Studies in Ceramics, August 5-10, 2007, Proctor Academy, NH, USA.

32. L. Gránásy:
*Phase field approach to polycrystalline solidification: including heterogeneous and homogeneous nucleation.* CODEF-II, March 30-April 2, 2008, GSI, Bonn-Badesberg, Germany.

33. L. Gránásy, T. Pusztai, G. I. Tóth, G. Tegze, L. Környei:
*Phase field approach to homogeneous and heterogeneous crystal nucleation in alloys.* SIAM Conf. on Mathematical Aspects of Materials Science, 11-14 May, 2008, Philadelphia, Pennsylvania, USA.

34. L. Gránásy, G. Tegze, T. Pusztai, G. I. Tóth, L. Környei:
*Phase-field modeling of self-organized polycrystalline structures: dendrites, spherulites, and eutectic.* IUCr 2008, 23 – 31 August, 2008, Osaka, Japan.

35. L. Gránásy, G. Tegze, T. Pusztai, L. Környei, G. I. Tóth: *Phase field modelling of complex polycrystalline solidification morphologies.* Materials Science and Technology Conference and Exhibition, 5-9 October, 2008, Pittsburgh, Pennsylvania, USA.

36. L. Gránásy, G, Tegze, L. Környei, T. Pusztai:
*Phase-field modeling of complex polycrystalline morphologies in three dimensions.* Workshop on Phase-field simulations: Materials Science Meets Biology and Medicine. 12-14 November, 2008, MPIPKS, Dresden, Germany.

37. G. Tegze, L. Gránásy:
*Morphology evolution and solidification kinetics in 2D: A phase-field crystal study.* Session: Frontiers of Solidification III, TMS Annual Meeting, 14-19 February, 2009, San Francisco, USA.

38. L. Gránásy, G, Tegze, G. I. Tóth, F. Podmaniczky, T. Pusztai:
*Phase-field crystal modeling of colloidal crystal aggregation and patterning in 2d and 3d.* CECAM Workshop, ETHZ, 14-17 April, 2009, Zürich.

39. L. Gránásy, G. Tegze, G. I. Tóth, F. Podmaniczky, T. Pusztai:
*Atomistic phase-field approach to crystal nucleation and growth in two and three dimensions.* Gordon Research Conference on Thin Films and Growth Mechanisms, 12-16 July, 2009, New London, NH, USA.

40. L. Gránásy, G. Tegze, G. I. Tóth, F. Podmaniczky, T. Pusztai:
*Morphology evolution and solidification kinetics in 2D and 3D: A phase-field crystal study.* 2nd International Symposium on Phase-Field Modeling in Materials Science, 30 August - 2 September, 2009, Roduc Abbey, Kerkraade, The Netherlands

41. L. Gránásy, G. Tegze, G. I. Tóth, F. Podmaniczky, T. Pusztai:
*Phase field crystal modelling of nucleation, patterning, and early-stage growth in 2d and 3d.* TMS 2010 Annual Meeting, 14-18 February, 2010, Seattle, USA

42. L. Gránásy, G. Tegze, G. I. Tóth, T. Pusztai:
*Phase-field crystal modeling of morphology evolution in 2D and 3D.* SIAM Math. Aspects of Materials Science, 23-26 May 2010, Philadelphia,PA, USA.

43. L. Gránásy:
*Two-dimensional crystallization in the phase-field crystal model.* Int. Workshop on Crystallization and Melting in Two-Dimensions, RISSPO, 18 May 2010, Budapest, Hungary.

44. L. Gránásy:
*Polycrystalline solidification I, Polycrystalline solidification II, Phase-field crystal modelling of crystal nucleation and growth,* International Summer School on Heterogeneous Nucleation and Microstructure Formation, 19-23 July 2010, University of Bayreuth, Germany

45. L. Gránásy, G. Tegze, G. I. Tóth, T. Pusztai:
*Phase-field crystal modeling of morphology evolution in colloidal suspensions.* Int. Workshop on Pattern Formation in Biological Systems, 25-26 October 2010, Eötvös University. Budapest, Hungary.

46. L. Gránásy, G. Tegze, G. I. Tóth, G. Tóth, T. Pusztai:
*Phase-field crystal modeling of homogeneous and heterogeneous crystal nucleation.* TMS Annual Meeting, 28 February - 3 March 2011, San Diego, California, USA.

47. L. Gránásy, G. I. Tóth, T. Pusztai, G. Tóth, G. Tegze:
*Structural aspects of homogeneous and heterogeneous crystal nucleation in the phase-field crystal models.* ICASP-3, 7-11 June, 2011, Rolduc Abbey, Kerkraade, The Netherlands. (Plenary Talk)

48. L. Gránásy:
*From needle crystals to spherulites: Phase-field modeling of complex solidification morphologies.* CRYO-2011, 24-27 July, 2011, Oregon State University, Corvallis, Oregon, USA. (Keynote Presentation.)

49. L. Gránásy, G. I. Tóth, T. Pusztai, G. Tegze:
*Dynamical density functional theory of homogeneous and heterogeneous crystal nucleation.* Int. Workshop on Complex Systems, 2 November 2011, Eötvös University, Budapest, Hungary.

50. L. Gránásy, T. Pusztai, G. I. Tóth, G. Tegze:
*Towards a new class of metamaterials: Multi-scale phase-field modeling of eutectic self-organization.* META'12 (3rd Int. Conf. on Metamaterials, Photonic Crystals and Plasmonics) Satellite: Bottom-up approach towards metamaterials and plasmonics, 19-22 April, 2012, Paris, France.

51. L. Gránásy:
*From needle crystals to spherulites: Phase-field modeling of complex solidification morphologies.* ECCG4 (European Conf. on Crystal Growth 4), 17-20 June, 2012, University of Strathclyde, Glasgow, U.K. (Keynote Presentation)

52. L. Gránásy, G. I. Tóth, G. Tegze, T. Pusztai:
*Structural aspects of homogeneous and heterogeneous crystal nucleation in a simple dynamical density functional theory (PFC).* ECCS 2012 (European Conf. on Complex Systems, 2012), Satellite: Complex Multiphase Systems, 3-7 September, 2012, Brussels, Belgium (Keynote Presentation)

53. L. Gránásy, T. Pusztai, G. I. Tóth, G. Tegze, L. Rátkai, A. Szállás:
*Phase-field approach to eutectic self-organization.* DSEC IV (4th Int. Conf. on Directionally Solidificed Eutectic Ceramics) 14-17 October, 2012, Washington D.C., USA.

54. L. Gránásy, G. I. Tóth, G. Tegze, T. Pusztai,:
*Homogeneous and heterogeneous crystal nucleation in the phase-field crystal models.* IWMCG-7 (7th Int. Workshop on Modeling in Crystal Growth) 28-31 October, 2012, Taipei, Taiwan.

55. L. Gránásy:
*Phase-field modeling of polycrystalline solidification: From needle crystals to spherulites.* Int. Workshop on Materials Design Process: Thermodynamics, Kinetics and Microstructure Control. IMDEA Materials Institute, Tecnogetafe (Madrid), June 3-4, 2013**,** Spain (Keynote Presentation)

56. L. Gránásy, G.I. Tóth, G. Tegze, T. Pusztai:
*Phase-field crystal modeling of homogeneous and heterogeneous crystal nucleation.* DFG SPP1296 "Heterogeneous Nucleation and Microstructure Formation", Final Colloquium, 15-19 July, 2013, Frankfurt, Germany

57. L. Gránásy, G.I. Tóth, G. Tegze, T. Pusztai:
*Nucleation and pattern formation in a simple dynamical density functional theory.* Computational Materials Research Initiative – Topical Symposium: "Large Scale numerical calculations on the evolution of Dendritic structure – for the high precision control of solidification structure", July 30, 2013, Tohoku University, Sendai, Japan.

58. L. Gránásy, G.I. Tóth, G. Tegze, T. Pusztai:
*Advances in phase-field modeling and the associated numerical difficulties.* 2013 International Symposium on Phase Field: Models, Applications, Software, University of Leicester, Multidisciplinary Modelling Centre (MMC), UK, 9-11 September 2013. (Plenary Talk.)

59. L. Gránásy, B. Korbuly, T. Pusztai:
*Phase-field modeling of complex polycrystalline morphologies: From needle crystals to spherulites.* ASME 2013 Congress & Exposition, Advanced Manufacturing, Computational Modeling of Microstructure Evolution, 15-21 November 2013, San Diego, USA.

FUTURE INVITED TALKS:

60. L. Gránásy, F. Podmaniczky, G.I. Tóth, G. Tegze, T. Pusztai:
*Phase-Field Crystal modeling of heterogeneous crystal nucleation.* CECAM workshop on "Multiscale modeling of materials with atomic scale resolution using phase-field-crystal methods (MULTIMAT)", 21-23 May 2014, Lausanne, Switzerland

61. L. Gránásy, F. Podmaniczky, G.I. Tóth, T. Pusztai:
*Nucleation – at the boundary between discrete and continuum models.* 1st International Workshop on Software Solutions for ICME, 24-27 June 2014, Aachen/Rolduc, The Netherlands.

62. L. Gránásy, F. Podmaniczky, G.I. Tóth, G. Tegze, T. Pusztai:
*Recent developments in modeling heterogeneous crystal nucleation by dynamical density functional theory.* 4th Int. Conf. on Advances in Solidification Processes (ICASP-4), 8-11 July 2014, Beaumont Estate, Old Windsor, UK. (Plenary)

64. L. Gránásy, F. Podmaniczky, G.I. Tóth, G. Tegze, T. Pusztai:
*Recent advances in Phase-Field Crystal modeling of heterogeneous crystal nucleation.* Int. Symposium on Phase-field Method 2014 (PFM2014), 26-29 August 2014, State College, PA, USA.