

# Professional Curriculum Vitae

## Dr. Zsolt Gulácsi

### Personal Data:

- Place and date of birth: Cluj, 14 January 1955,
- Marital status: Widow [Married (1984-2018)], father of two children (1984, 1991).
- Citizenship: Hungarian,
- Home Address: H-4034 Debrecen, Budai Nagy Antal street, Nr. 67, Hungary
- Job Address: University of Debrecen, Faculty of Natural Sciences, Institute of Physics, Department of Theoretical Physics, H-4010 Debrecen, Egyetem ter 1.; Tel:+36-52-509201/ext.11194; Fax: +36-52-509258; E-mail: gulacsi@phys.unideb.hu; URL: <http://www.phys.unideb.hu/~gulacsi/>

### Education:

- 1979 MsC in Physics, Condensed Matter Physics Specialization, and Teacher of Physics (University Babes-Bolyai Cluj)
- 1985 PhD in Physics, (University Babes-Bolyai Cluj) (Naturalized in Hungary: Budapest, 1993)
- 1991-1992 Alexander von Humboldt Research Fellow in Germany at R.W.T.H. Aachen, Institute of Theoretical Physics III.
- 1987-2000 Yearly grantee for 2-8 weeks period of the Abdus Salam International Centre of Theoretical Physics Trieste, Italy.
- 1995 Habilitation at Lajos Kossuth University Debrecen.
- 2016 Doctor of the Hungarian Academy of Sciences.

### Positions held:

- 1984-1990: Institute of Isotopic and Molecular Technology Cluj (Physicist and Researcher, starting from 1988: Principal Researcher in Physics, 1989-1990 external teaching member of University Babes-Bolyai Cluj, Faculty of Physics)
- 1991-1992: Alexander von Humboldt research fellow, RWTH-Aachen, Insti-

tute of Theoretical Physics III, Adviser: Prof. Dr. Dieter Vollhardt.

– 1993- today: University of Debrecen, Faculty of Natural Sciences, Department of Theoretical Physics (1993-1996: Associate Professor of Physics, today: Professor of Theoretical Physics).

**Awards and honours:**

– 1984: Physics Award for 1984 of the Roumanian Academy of Sciences (Constantin Niculescu Prize for 10 published scientific papers in West Europe and in the US in the field of random systems).

– 1987: Coopted as a member of the American Physical Society by the APS Matching Membership Programme (till today I am a member of this society, member number: MGU-380621).

– 1987-2000: Yearly supported as a grantee for short periods (2-8 weeks period/year) by the Abdus Salam International Centre of Theoretical Physics Trieste, Italy.

– 1991-1992: Alexander von Humboldt Research Fellowship Award in Germany (RWTH-Aachen, Institute of Theoretical Physics III.). Subject: Variational description of strongly correlated systems.

– 1997-2000: Prof. Szécsenyi Fellowship Award of Hungarian Ministry of Education and Culture.

– 2001-2004: István Szécsenyi Fellowship Award of Hungarian Ministry of Education and Culture.

– 2001: Fellow Up Alexander von Humboldt research Fellowship in Germany (4 months research at University of Augsburg, Institute of Theoretical Physics III.). Subject: Exact description of the three dimensional periodic Anderson model.

– 2005: Resumption of the Alexander von Humboldt Research Fellowship in Germany (3 months research directed towards the exact characterization of many-body systems, University of Augsburg, Institute of Theoretical Physics III.)

– 2009: Second resumption of the Alexander von Humboldt Research Fellowship in Germany (3 months research directed towards the exact description of ground states in correlated polymer chains, University of Augsburg, Institute of Theoretical Physics III.)

– 2016: Invitation for 3 months of the Shenyang National Laboratory, Institute of Metal Research Shenyang, China. Besides the research collaborations, I presented a one semester lecture on Phase Transitions and Critical Phenomena (March 1, 2016 - 15 May, 2016, 3 hours/week).

– 1997-today, professional bibliographical details yearly and cost-free published by the Marquist Who's Who Publishing Company, USA.

### **Other professional details:**

– Referee of the following scientific professional journals: Phys. Rev. Letters (USA), Phys. Rev. B,E (USA), Jour. Low Temp. Phys. (USA), Physica B-C (Netherlands), Phil.Mag. and Phil.Mag.Lett. (U.K.), Jour. of Phys. A,C. (U.K.), Ann. Phys. (Germany), Physics Letters (Netherlands), Central European Journal of Physics (Poland), main subjects: non-traditional exact solutions, ordering, disorder, strongly correlated systems, phase transitions.

– Referee of Hungarian Scientific Fund (OTKA) in evaluating in 2006 the common OTKA-DFG (Deutsche Forschungsgemeinschaft) research project „Graduiertenkolleg GRK 790/3 „Elektron-Elektron Wechselwirkung in Festkörpern”, and its extension to the period 2007-2011.

– 1996-2005: Three times organizer of International Summer Schools in Debrecen for PhD students and young researchers in the field of condensed matter theory and strong electron correlations. The entire scientific material of these schools has been published in U.K. by the Phil. Mag. scientific journal (supported by Francis & Taylor Ltd) in special issues, see Phil.Mag.B76, no.5, (1997); Phil.Mag. B81, no.10, (2001); Phil.Mag. 86, no.13-14, (2006).

– 1978-today, 123 published papers in scientific journal in the US and West Europe, 30 % of these published in different Phys. Rev. series of the American Institute of Physics. Total published impact-factors till 2014: 207.924; The published three papers with highest impact-factors: Adv.in Phys. 47,1,(1998): 12.733; Phys.Rev.Lett. 91,186401,(2003): 7.035; Phys.Rev.Lett. 105,266403,(2010): 7.621 . Number of scientific citations: 888, H-index: 19, I-10 index: 24 (see the name Zsolt Gulacsi at the Google Scholar web page at: [scholar.google.hu](http://scholar.google.hu))

– Several invitations abroad: Invited Conference Section Chairman (Int. Conf. on Low Temp. Phys. 21, Prague, Sect.D5,(1996); Int. Conf. on Mathematical Sciences, Nagpur, India, Sect. Invited talks/30.12.2012 Hall 1, (2012)); Invited Conference oral presentations (Hvar-99, Strong Electron Correlations, Croatia, 1999; Int. Workshop on „Localized excitations in flat-band models”, Göttingen, 2012; 2nd Annual World Congress on Nano Science and Technology, Qingdao, China, 2012; Int. Conf. on Mathematical Sciences, Nagpur, India, 2012; International Focus Workshop on “Flat Bands: Design, Topology, and Correlations” , Max-Planck Institut PKS, Dresden, Germany, 2013; International Conference on Nanoscale Magnetism, Istanbul, Turkey, 2013; 3rd Annual World Congress of Nanoscience and Nanotechnology-2013, organized under the auspices of Euro-Asia Economic Forum-2013, Xian, China, 2013; International Conference on Recent Advances in Mathe-

matics, Nagpur, India, 2014; International Energy Material Nanotechnology East Meeting, Beijing, China, 2014; 4th Annual World Congress of Nano Science and Technology, Qingdao, China, 2014; International Conference on Emerging Trends in Applied Science and Mathematics TechSciencia-15, Nagpur, India, 2015; 4th Annual World Congress of Advanced Materials, Chongqing, China; Shenyang National Laboratory for Material Sciences Workshop, Institute of Metal Research, Shenyang, China, 2015; 6th International Conference on Applied Informatics and Computing Theory, Salerno, Italy, 2015; Energy Materials and Nanotechnology International Meeting EMN Spain, Donostia - San Sebastian, Spain, 2015); Invitations for oral seminar presentations (Univ. Notre Dame USA, March 2005; Tech. Univ. Wien, Austria, June 2005; University Magdeburg, Germany, 2012, Univ. Augsburg, Germany, 2009, 2005, 2003, 2001; Tech. Univ. Dresden, Germany, 2000; Univ. Amsterdam, The Netherlands, 1992, 1998; Univ. Cologne, Germany, 1999); Contributing oral presentations at international Conferences of the American Physical Society („APS March Meetings”): St. Louis 1996; Los Angeles 1998; Atlanta 1999; Austin 2003; Montreal 2004; Los Angeles 2005; Baltimore 2006; New Orleans 2008; Pittsburgh 2009; Lecturer invitation at the International Summer School on Low Dimensional Quantum Structures, Ankara, Turkey, 2016.

– 1993-2016: principal investigator of 12 research contracts in Hungary (MKM, AMFK, FKFP, AKP, OTKA). The total gained research support in these contracts: 31 millions HUF, subjects related to condensed matter physics. In the period 2000-2016 also coopted as researcher in 4 research contracts in Hungary (OTKA, TAMOP).

– Strong International Collaborations leading to several scientific papers published in common (University Augsburg, Institute of Physics; National Australian University of Canberra, Department of Theoretical Physics; University Amsterdam, Institute of Physics; Loughborough University, U.K., Magdeburg University Germany, Uzhgorod University Ukraine, Ain Sham University Cairo, Egypt, etc.).

### **Teaching, Education, Others:**

– In the period 1990-2018 I presented the following University lectures (at both undergraduate and graduate levels): Statistical Physics I. and II., Quantum Mechanics I. and II., Quantum Information, Theory of Phase Transitions I. and II., Theory of Condensed Matter, Theory of Magnetism, Theory of Many-body Systems, Green-function Techniques, Polarization Effects, Superconductivity

– Adviser of PhD students who after obtaining the PhD title became members of teaching staff of Hungarian Universities, or researchers at Hungarian Research Institutions: Peter Gurin (University of Veszprém), Endre Kovács (University Miskolc), Réka Trencsényi (Institute for Nuclear Research of Hungarian Academy of Sciences

ATOMKI-Debrecen).

– Adviser for student research work activity: two student winners at Hungarian National Research Student Competitions (Mátyás Hunyadi, Gödöllő 1995; Peter Gurin, Nyíregyháza 1997.), two students III. place at the same National competition (Endre Kovács, Debrecen 2006; Réka Trencsényi, Nyíregyháza 2014.).

– Since 1996, 35 scientific papers published in international scientific journals together with students in physics at University of Debrecen.

– 1995-today: Responsible for teaching problems of the Department of Theoretical Physics, University of Debrecen.

– 1993-today: leader of the Solid State Theory group at Department of Theoretical Physics, University of Debrecen.

– 2000-2003: Scientific Secretary of DAB (Debrecen Districts of the Hungarian Academy of Sciences).

– 2005-2007 Member of the Committee for Habilitation of the Faculty of Natural Sciences at University of Debrecen.

– 2008-today Member of the Disciplinary Committee of the Faculty of Natural Sciences at University of Debrecen.

– 2010-2016: Debrecen district secretary of Hungarian Association of Alexander von Humboldt Fellows.