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**Current position(s):**

Professor of Physics

Director of the Institute of Physics Faculty of Science P. J. Šafárik Univerzity in Košice

**Profile:**

A. Feher is specialist in the ultralow temperature physics and his long-term interests are in the investigation of transport, thermodynamic and magnetic properties of low-dimensional systems and macroscopic quantum fluids. A. Feher has published the results of his work in 268 scientific publications in journals covered by Current Contents, some of which appeared in the most prestigious scientific journals, such as PRL, PRB, Journal of Physics: Cond. Matter and other, and were cited more than 1 600 times. His results were also presented in the form of ten invited lectures at international conferences, including the most prestigious conference in the field of low temperature physics, ie at the International Conference on Low Temperature Physics. He is a member of the American Physical Society and regularly actively attends its annual conferences. He has a rich and fruitful cooperation with University of Florida, Gainesville, Kapitza Institute for Physical Problems, RAS, Moscow, Verkin Institute for Low Temperature Physics and Engineering, UAS, Kharkov, University of Bayreuth, National Tsing Hua University, Hsinchu, CNRS Grenoble and others. A. Feher has experience with managing science and research activities on international level. He has served two terms as a member of the C5 Low Temperature Physics commission of IUPAP (1993 - 1999, 2008 - 2014) and from 1995 he is a member of the A1 commission of the IIR with the seat in Paris, and in 1999-2007 served as a deputy chairman of this commission. He was member of organizing committees of important international conferences, such as *LT'21* (Praha), *LT'22* (Helsinki), *LT'23* (Hiroshima), *LT'24* (Orlando), *LT'25* (Amsterdam), *LT'26* (Beijing), *ULT'99* (St. Peterburg), *ULT'08* (London), *QFS 2010* (Grenoble) etc., and was chairman of organizing committees of *ULT'96* and *Cryoconference 2010 Marie-Curie, EU Program*. He was a member of the team which was in 2000 awarded the Slovak Academy of Science (SAS) Prize for “establishing a common experimental base for the ultralow temperature physics and for the results obtained in the physics of superfluid Helium-3” and in 2008 the SAS Prize for “establishing cryogenic infrastructure and introducing unique experimental methods for the study of fundamental properties of condensed matter in the temperature range from 100 microkelvins to room temperature”. In 2005 he received the prize of the Ukrainian minister for education and science for his noticeable personal contribution to the development of cooperation in education and science. In 2009 the Charkov Karazin National University conferred him the *doctor honoris causa* title. A. Feher is guarantor of the 2<sup>nd</sup> and 3<sup>rd</sup> degree study programs Physics of condensed matter, and he is chairman of the commission for the defense of doctoral theses in the field of condensed matter physics and acoustics and is a member of Slovak committee for scientific degrees.

Significant results of research:

- obtaining of the lowest temperature in former Czechoslovakia and cooling of liquid helium-3 down to 280 microkelvins;
- observation of the magnon contribution to the thermal conductivity of the light rare earth metals;
- observation of the linear term in the magnetic relaxation of the homogeneously precessing domain;
- observation of the ballistic resonance and quantum phonon transport in point contacts;
- experimental observation of spin modes (excitons and so-called single ion bound states), which were theoretically predicted in S=1 Heisenberg planar antiferromagnets with subcritical exchange interaction.

**Experience:**

1971 - present	P.J. Šafárik University in Košice, Faculty of Science
1990 – 1997	Head of the Department of Experimental Physics
1997 – 2003	Dean, Faculty of Science, P.J. Šafárik University
2003 – 2007	Vice-rector for Research and Information Technology, P.J. Šafárik University
1995 and 1997	Visiting professor at the Department of Physics, National Tsing Hua University, Hsinchu, Taiwan
2011	Visiting professor at the University Joseph - Fourier and CRTBT CNR Grenoble, France

**Organisation of Scientific Meetings:**

1996 –	Member of the Scientific Committee, 21st International conference on low temperature physics (LT21), Prague, 8 – 14 August , Czech Republic
1996 –	Chairman of the Ultralow Temperature Physics, 15 – 19 August Stará Lesna, Slovakia
1999 –	Member of the Scientific Committee, 22st International conference on low temperature physics (LT22), Helsinki, 4 - 11 August, Finland
2002 –	Member of the Scientific Committee, 23st International conference on low temperature physics (LT23), Hiroshima, 20 - 27 August , Japan
2005 –	Member of the Scientific Committee, 24st International conference on low temperature physics (LT24), Orlando, 10 – 17 August , USA
2007 –	Member of the Scientific Committee International Conference on Quantum Fluids and Solids QFS07, Kazan 1 -6 August, Russia
2008 –	Member of the Scientific Committee, 25st International conference on low temperature physics (LT25), Amsterdam, 6 – 13 August , The Netherlands
2010 –	Chairman of the Cryoconference 2010, Myto pod Ďubierom, 9 – 15 September, Slovakia
2010 —	Member of the Scientific Committee International Conference on Quantum Fluids and Solids QFS10, Grenoble 1 - 7 August, France
2010 –	Member of the Scientific Committee of the IIR International Conference 11th Cryogenics 2010, Bratislava, 26 - 29 April, Slovakia
2011 –	Member of the Scientific Committee, 26st International conference on low temperature physics (LT26), Beijing 10 – 17 August , China

2011 –	Member of the Scientific Committee of the 23th International Congress of Refrigeration, Prague, 21 - 26 August, Czech Republic
2012 –	Member of the Scientific Committee of the IIR International Conference 12th Cryogenics 2012, Dresden, 11 - 14 September, Germany
2018 –	Member of the Scientific Committee of the VIII Ukrainian Scientific Conference on Semiconductor Physics, Uzhhorod, 2 – 5 October, Uzhhorod Ukraine.

**Projects:**

1. Physics and Technology at Ultralow Temperatures, (1995 - 1998), PECO ERB 3563 PL 935002, principal investigator for Slovakia
2. Characterization of Novel Low Dimensional Magnetic Systems (2001 - 2004), NSF IN 0089140, principal investigator for Slovakia
3. Magnetism of Molecule-based Thin Films, Nanoparticles and Frustration systems (2007 - 2010), NSF DMR – 0701400, principal investigator for Slovakia
4. EXTREM II, - Completion of the Centre of advanced physical studies of materials in extreme conditions (2009 - 2011), ASFEU, Structural Funds, OPVaV-2009/2.1/02-SORO, principal investigator
5. Novel Quantum states in nanoscopic magnetic systems NEMESYS (2012 - 2015), APVV-0132-11, principal investigator

**Five representative publications:**

Researcher ID (in SCOPUS): **7004801843**

1. **FEHER A.**, Jánoš Š., Petrovič P., Flachbart K., Reiffers M., Thermal conductivity of rare earth metals of the cerium subgroup at low temperatures, *Low Temp. Phys.* **41** 305-1315, 1978.
2. Stefányi P., **FEHER A.**, Orendáčová A., Point-contact spectroscopy of dielectrics. Experimental evidence, *Phys. Lett.* **143** 259-263, 1990.
3. Skyba P., Harakály R., Lokner L., **FEHER A.**: Experimental Evidence of the Wetting-Nonwetting Crossover for Coherent Quantum Precession in Superfluid  $^3\text{He-B}$ , *Phys. Rev. Lett* **75** 477-480, 1995.
4. **FEHER A.**, Orendáč M., Orendáčová A., Čižmár E., Specific heat study of magnetic excitations in a one-dimensional S=1 Heisenberg magnet with strong planar anisotropy, *Low Temp. Phys.* **28** 551-555, 2002.
5. Carretta P., Mariani M., Azzoni C.B., Mozatti M.C., Bradaric I., Savic I., **FEHER A.**, Šebek J., Mesoscopic phase separation in  $\text{Na}_x\text{CoO}_2$  ( $0.65 \leq x \leq 0.75$ ), *Phys. Rev.* **B70** 024409-1-9, 2004.

**Fellowships / Awards / Memberships of Scientific Societies:**

- 1994 Prize of the Mayor of Košice for the physical research at ultra-low temperatures and for establishing for research laboratory
- 1999 Honors for an excellent pedagogic work (JSMF 99)
- 1999 Silver honorary certificate of Dionýz Ilkovič for the accomplishments in physical and chemical sciences
- 2000 Prize Slovak Academy of Sciences for the foundation of the common experimental base of ultra-low temperature physics & for the achievements in the field of physics of superfluid He3
- 2002 Medal of the Slovak Academy of Sciences for the contribution to the development of Science

- 2003 Prize of Faculty of Mathematics and Physics Charles University in Prague
- 2004 Award of the dean for scientific research
- 2005 Award of Ministry of Education and Science of the Ukraine for significant personal asset to the development of collaboration in the science and education
- 2008 Gold medal of the Faculty of Science P. J. Šafárik University for contribution to the development of the faculty
- 2008 The honorary title of Doctor honoris causa of Transcarpathian State University, Uzhhorod, Ukraine
- 2009 The honorary title of Doctor honoris causa of V.N. Karazin Kharkiv National University, Kharkiv, Ukraine
- 2009 Award of the dean of Faculty of Science P.J. Šafárik University in Košice for scientific research
- 2009 Gold medal of the P.J. Šafárik University in Košice
- 2012 Award of the rector of the P.J. Šafárik University in Košice for scientific research
- 2013 Award of the dean of the Faculty of Science UPJS for pedagogical activities
- 2014 Gold medal of the Institute of Experimental Physics SAS
- 2016 Member of Academy of Sciences of the Higher School of Ukraine.