

## PERSONAL INFORMATION

**András Horváth, PhD.** +36 96 613554  +36 20 5914589 [horvatha@sze.hu](mailto:horvatha@sze.hu) <http://www.sze.hu/~horvatha>

Gender Male | Date of birth 14/09/1968 | Nationality Hungarian

Marital status Married, 5 children

## PROFESSIONAL EXPERIENCES

Sept. 1992 – **Teacher, assistant professor from 2002**

Széchenyi István University ;Hungary, Győr, Egyetem tér 1., H-9026

Teaching subjects: different courses on elementary physics (in Hungarian and English), Physical Optics, History of Physics, Popular Science, Digital Image processing.

Sep. 2002 – Aug. 2013 **Head of Department**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Manage Department of Physics, later Dept. of Physics and Chemistry.

Jan. 2005 – Dec. 2005 **Head of Institution**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Organise the work of the departments of the Institute of Natural Sciences.

Sept. 2006 – Aug. 2009 **Vice Dean for Science and International Connection**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Support scientific activity of the Faculty of Engineering Sciences. Preparing regulations related to research activity and Doctoral School. Administrative tasks related to international connections.

Sept. 2009 – Dec. 2014. **Vice Dean for Education Affairs**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Organisation task related to the educational activity of the Faculty of Engineering Sciences. Revision and update regulations. Coordinate the initiation and modification of course curricula. Quality management of the educational activity.

Jan. 2018 – May 2019 **Coordinator of Rector in Quality Management**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Perform statistical analysis of teaching activity, communication with faculties, and departments.

Jun. 2019 – Jun. 2021 **Vice Rector for Quality Management**

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Perform statistical analysis of teaching activity, communication with faculties, and departments. Organise quality management system of Széchenyi István University.

Jul. 2021 – Dec. 2022

### Director for Quality Management

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Perform statistical analysis of teaching activity, communication with faculties, and departments.  
Organise and develop quality management system of Széchenyi István University.

Jan. 2023 – Jun. 2024

### Head of Quality Management

Széchenyi István University ; Hungary, Győr, Egyetem tér 1., H-9026

Perform statistical analysis of teaching activity, communication with faculties, and departments.  
Organise and develop quality management system of Széchenyi István University.

## EDUCATION AND TRAINING

### 2015 Habilitation

Széchenyi István University; Doctoral School of Multidisciplinary Engineering Sciences

### 1999 Candidate of Physical Sciences (PhD equivalent qualification)

Hungarian Academy of Sciences

Eötvös Loránd University, Dept. of Astronomy

### 1986–1994 MSc degree on Physics, Astronomy and Physics Teacher

Eötvös Loránd University, Faculty of Natural Sciences

Experimental Physics, Theoretical Physics (Mechanics, Electrodynamics, Quantum Mechanics),  
Statistical Physics, Electronics, Atomic Physics, Nuclear Physics; Astrophysics, Celestial Me-  
chanics; Calculus, Probability Theory, Numerical Analysis; Psychology, Pedagogy, Teaching of  
Physics

## PERSONAL SKILLS

Mother tongue Hungarian

### Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	B2	B2	C1
Russian	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user  
[Common European Framework of Reference for Languages](#)

### Communication skills

- Excellent communication with students.
- Experienced presenter of popular science for public audience.

### Organizational/managerial skills

- 19 years of experience in middle-level tasks of higher education.

### Computer skills

- Office applications (Word, Excel, Power Point).
- Desktop publishing (LaTeX, Inkscape, GIMP).
- Programming skills (Python, C, C++, Pascal, Basic, assembly).
- Administration of Linux systems.
- Digital image processing. (OpenCV).

### Driving license

A, B

## RESEARCH FIELDS

Digitail image processing in  
medical diagnostics. (2011–)

Processing colonoscopy images of polyps, image enhancement, classification of polyps based  
on image processing.

Simulation of image formation in human retina. (2010–)	Human retina is a source of several limitations in human visual perception. A software is developed in our team is capable of simulating direction-dependent acuity, photopic, scotopic and mesopic vision, basic photochemical processes in sensor cells. Application fields: ergonomics, simulation of special eye diseases, traffic safety applications.
Colorimetry. (2013–)	Photometry and colorimetry based on digital camera images. Reconstruction of the spectrum of light sources and reflective surfaces.
Computational Fluid Dynamics. (1999–2007)	Development of 3D fluid dynamics software and application to industrial problems. (Diesel engine intake port, high-voltage current breakers.) Effective methods for non-ideal gas dynamics problems.
Simulation of interstellar matter. (1990–2000)	Development of computational fluid dynamics software for interstellar matter simulation. Study the effect of thermodynamics of H <sub>2</sub> molecules to the dynamics of molecular clouds. Comparison of simulations and observations.
Publication activity	<p><i>MTMT</i> (Hungarian Scientific Bibliography) : <a href="https://m2.mtmt.hu/gui2/?type=authors&amp;mode=browse&amp;sel=10001936">https://m2.mtmt.hu/gui2/?type=authors&amp;mode=browse&amp;sel=10001936</a></p> <ul style="list-style-type: none"><li>– 25 scientific journal articles, 15 conference in journal or conference paper, 1 book chapter, 4 higher education books, 22 other scientific works.</li><li>– Hirsch-index: 6.</li><li>– Independent citations: 76</li></ul> <p><i>Google Scholar</i>: <a href="https://scholar.google.hu/citations?user=5YsHUE8AAAAJ">https://scholar.google.hu/citations?user=5YsHUE8AAAAJ</a></p> <p><i>Research Gate</i>: <a href="https://www.researchgate.net/profile/Andras_Horvath5">https://www.researchgate.net/profile/Andras_Horvath5</a></p>
Finished PhD supervisor	<p>Total number: 3.5</p> <ul style="list-style-type: none"><li>– 2012: Miklós Berta</li><li>– 2013: Ferenc Miklós Hatwágner</li><li>– 2018: Zsolt Sávoli (50%)</li><li>– 2023: Lőrinc Garai</li></ul>