

## Curriculum Vitae for Imre Pázsit

### Employment, positions

Professor  
Division of Subatomic, High Energy and Plasma Physics  
Department of Physics  
Chalmers University of Technology  
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Sweden  
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### Education

M.Sc in Physics, Roland Eötvös University, Budapest, Hungary, 1971

### Degrees

Ph.D. in nuclear reactor physics, Roland Eötvös University, Budapest, Hungary, 1975  
D.Sc. ("Candidate's degree") in nuclear physics, Hungarian Academy of Sciences, Budapest, 1985

### Present position

1991 - Professor, Chalmers University of Technology, Department of Subatomic, High Energy and Plasma Physics (formerly: Nuclear Engineering, and before that: Reactor Physics)  
Since 2015, working in part-time

### Previous positions

#### Studsvik Energiteknik AB, later Studsvik AB

1988 - 91 Deputy Head of the Reactor Physics Group at the R2 reactor  
1983 - 88 Project leader, reactor diagnostics group

#### Visiting periods, leave of absence

Nagoya, Japan, JSPS research fellow, 1990, 3 months  
Odense University, 1986, 1 month

#### Central Research Institute for Physics, Budapest

1980 - 83 Senior Researcher, Head of Theoretical Group,  
1975 - 80 Research Associate  
1972 - 75 PhD Fellow

#### Visiting period, leave of absence:

Queen Mary College, London, England, Dept. of Nucl. Engng, 11 months. IAEA research fellow, 1979

#### Geophysical Institute Roland Eötvös, Budapest

1971 - 72 Assistant researcher

### Fields of research

Theory and application of space-dependent reactor dynamics, neutron noise and reactor diagnostics; elaboration of inverse methods in neutron noise diagnostics; applications at operating plants in Sweden;

Deterministic and stochastic theory of linear particle transport with applications in neutron, electron and positron transport, radiation damage and atomic collision cascades; neutron fluctuations in accelerator driven subcritical systems; theory of multiplicity and coincidence measurements in nuclear safeguards applications;

Theory and application of pattern recognition methods, neural networks and wavelet techniques for

unfolding noise sources, positron lifetime spectra, and for fault detection.

## **Publications:**

### *Books*

Imre Pázsit and Lénárd Pál: Neutron Fluctuations - a Treatise on the Physics of Branching Processes. Elsevier Science Ltd, London, New York, Tokyo 2008, ISBN: 978-0-08-045064-3

Nhu-Tarnawska Hoa Kim-Ngan and Imre Pázsit: The Discovery of Nuclear Fission - Woman Scientists in Highlight. First published in July 2007. Second edition October 2008. ISBN 978-91-633-1047-8

Swedish Edition: by Imre Pázsit and Nhu-Tarnawska Hoa Kim-Ngan, 2018.

Japanese edition: by Imre Pázsit and Nhu-Tarnawska Hoa Kim-Ngan, 2018.

### *Book chapters*

I. Pázsit and C. Demazière: “Noise Techniques in Nuclear Systems”, in: Handbook of Nuclear Engineering, Ed. Dan G. Cacuci, Vol. 3, pp 1629 – 1737, Springer (2010)

I. Pázsit I. and V. Dykin, Kinetics, dynamics, and neutron noise in stationary MSR, in: Molten Salt Reactors and Thorium Energy, Ed. Thomas Dolan, pp 111 – 166, Woodhead Publishing Series in Energy, Elsevier (2017)

### *Lecture notes:*

I. Pázsit: Transport theory and stochastic processes. Chalmers University of Technology (2007)

I. Pázsit and A. Enqvist: Neutron noise in zero power systems. Lecture notes at the IAEA Workshop on "Neutron Fluctuations, Reactor Noise, and their Applications in Nuclear Reactors. 22-26 September 2008 ICTP, Trieste, Italy

I. Pázsit: Noise Techniques in Nuclear Systems I: Zero Power Reactor Noise. Chalmers University of Technology (2018)

I. Pázsit I. and C. Demazière: Noise Techniques in Nuclear Systems II: Power Reactor Noise. Chalmers University of Technology (2018)

### *Journal publications:*

Over 210 papers in refereed international journals, including 6 book chapters (not listed above).

Numerous reports, conference lectures, proceedings etc.

Full list of journal papers is accessible on my home page under:

<http://www.nephy.chalmers.se/staff-pages/imre/papers.html>

## **Teaching**

Lectured in 3 undergraduate courses

Lectured in the master course TIF245 – Noise Techniques in Nuclear Systems

Lecturer in a PhD course in advanced reactor theory

## **Main adviser of 13 PhD students with degrees**

4 of these students received the national Sigvard Eklund prize for best thesis (out of a total of 11 cases so far).; further student prizes include the "Gunnar Engströms ABB-stiftelse" prize, the ENS High Scientific Council 2018 PhD Award; further, 2 Best Poster Awards and 2 Best Student Paper awards at international conferences.

## **Current PhD students:**

2016-09-01 - Lajos Nagy (double degree student with BME Budapest)

2020-03-01 - Moad Al-dbissi (Joint project with SCK CEN, Belgium)

Number of MSc thesis degrees supervised: 15. One student (Petty Bernitt-Cartemo) received the national

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Sigvard Eklund prize for best MSc Thesis.

Number of Licentiate degrees supervised: 16

Member in PhD committees: 16

External Examiner at foreign PhD exams: 5

**Past Executive Editor (currently Honorary Editor):**

Annals of Nuclear Energy

**Editorial board memberships:**

Journal of Nuclear Science and Technology

Int. Journal of Nuclear Energy Science and Technology

Nuclear Technology & Radiation Protection

Progress in Nuclear Energy (Guest Editor of two special issues)

Transport Theory and Statistical Physics (Guest Editor of three special issues)

**Referee services**

Annals of Nuclear Energy

Progress in Nuclear Energy

Nuclear Science and Engineering

Proc. Roy. Soc., Physical Sciences

Transport Theory and Statistical Physics

Nuclear Instruments and Methods A and B

Surface Science

Applied Radiation and Isotopes

**Committees and offices held**

Board member, Japan Society for the Promotion of Science Stockholm Office Alumni Club

Member, Institution of Nuclear Material Management

Member, Swedish Physical Society

Member, Swedish Nuclear Society

Supporting Member, Hungarian Physical Society

Past board memberships:

- Board member, Executive Committee of the Mathematics and Computation Division of the American Nuclear Society, 2008 - 2012
- Board Member, Program Committee of the Reactor Physics Division of the American Nuclear Society, from 2011- 2015
- Board member of the Research Council of the Swedish Radiation Safety Authority (2009);
- Head, Section for Mathematical Physics of the Swedish Physical Society 2001-2009;
- Board member, Swedish Centre for Nuclear Technology 1997-2009;
- OECD/NEA Data Bank Liaison Officer for Chalmers Univ of Technology;
- Past Director, Centre for Nuclear Techniques, Chalmers Univ of Technology.

**Distinctions**

Fourth recipient of the Leo Szilard Medal of the Hungarian Nuclear Society (2016). Previous recipients: E. Teller (1993), E.P. Wigner (1994) and F. Mezei (1996).

Order of the Rising Sun, Gold Rays with Neck Ribbon from the Government of Japan (2016)

Recipient of the 1st MVM Energy National Award (Hungary), 2014

Visiting Professor, University of South Carolina, Department of Mechanical Engineering, 2012 - 2014

Adjunct Professor, Department of Nuclear Engineering and Radiological Sciences, University of Michigan, Ann Arbor, USA, from 2009

Member, Royal Swedish Academy of the Engineering Sciences, from 2008

Fellow of the American Nuclear Society, from 2006

Member, Royal Academy of the Sciences and Arts in Göteborg, since 2004

Prize for outstanding research performance, Central Res. Inst. Physics, Budapest, 1981

2020-05-22

Fund raising

Total career grants in academic research as main applicant: about 250 MSEK

**Personal**

Born: 1948-02-14, Budapest, Hungary

Nationality: Swedish and Hungarian (double citizenship).

Further information: <http://www.nephy.chalmers.se/staff-pages/imre>.

Resume, research areas and a full list of published papers, with links to several of the papers, is available.