Curriculum Vitae

PERSONAL INFORMATION

József Konczer

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Date of birth 21/02/1989

Nationality Hungarian

Citizenship Slovak

WORK EXPERIENCE

2020- Consultant

Wolfram Research, Inc. https://www.wolfram.com/

- Developing Game Theory functionality
- As a member of the Machine Learning Group
- Related public materials:
  - Language Design in Wolfram Language [Game Theory] Part 1 and Part 2
  - Introducing Game Theory (WTC 2021 presentation)

Business or sector Computer Software

2020- Researcher

HELORO s.r.o. https://www.heloro.sk/en

- Research and development in the field of Energetics
- Innovating waste heat recovery methods using Thermoelectric Generators (TEG)

Business or sector Energy Sector

2020 June, July Teaching Assistant

2020 Wolfram Summer School https://education.wolfram.com/summer-school/

- Helping for students in various computational based projects
- Answering questions regarding Theoretical Physics

Business or sector Education

2018-2020 Module leader

Milestone Institute http://milestone-institute.org

- Teaching and preparing course material for
- Thermodynamics, Mechanics, PAT-ENGAA test preparation, Chaos and Order

Business or sector Education

2017-2020 Mentor

Milestone Institute http://milestone-institute.org

- Interdisciplinary education

Business or sector Education

2013-2016 **Assistant research fellow**

Institute for Particle and Nuclear Physics, Wigner Research Centre for Physics, Hungarian Academy of Sciences http://www.rmki.kfki.hu/en/home

- Performing numerical simulations in integrable quantum field theories
- Understanding AdS/CFT

Business or sector Research

2012, 2009 fall **Demonstrator**

Budapest University of Technology and Economics (BME), Hungary; Faculty of Natural Sciences http://www.bme.hu/

- Teaching Physics II (electrodynamics and modern physics) for 3rd year BSc students of BME Faculty of Electrical Engineering and Informatics

Business or sector Education

EDUCATION AND TRAINING

2013- **PhD**

Eötvös Loránd University (ELTE), Hungary; Institute for Theoretical Physics

- Theme: Integrable methods in the AdS/CFT correspondence
- Supervisor: Dr. Zoltán Bajnok
- Principal subjects: Particle physics, Integrable (quantum field) theories, conformal field theories, AdS/CFT duality
- The Doctoral Pre-Degree Certificate (Absolutorium) gained in 2017

2010-2013 **MSc in Theoretical Physics** Excellent with highest honours

Budapest University of Technology and Economics (BME), Hungary; Faculty of Natural Sciences

- Thesis: Integrable methods in gauge and string theories
- Supervisor: Dr. Zoltán Bajnok
- Principal subjects: Statistical physics, Particle physics

2007-2010 **BSc in Physics** Excellent

Budapest University of Technology and Economics (BME), Hungary Faculty of Natural Sciences

- Thesis: Fisher information in quantum mechanics
- Supervisor: Prof. Dénes Petz
- Principal subjects: Theoretical Physics, Information Theory

1999-2007 **Final examination** Excellent

Selye János Gimnázium, Slovakia

PERSONAL SKILLS

Mother tongue: Hungarian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C1
	IELTS Academic, 2020 June: Listening 8.5, Reading 8.0, Writing 6.5, Speaking 7.0, Overall Band Score 7.5				
Slovak	C1	C1	B2	B2	C1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

- grew up in multicultural environment
- good in international communication
- able to work in team
- open to new challenges and new knowledge

Organisational / managerial skills

- leadership (for two years president of Eugene Wigner College for Advanced Studies)
- member of student government on the faculty of natural sciences for one year in 2010
- experience in organisation (organiser in Hungarian Nuclear Societies Young Generation Network in 2010)

Technical skills and competences

- experience in measuring with scientific instruments

Computer skills

- Programming skills: C, C++, Python, bash, HTML, Matlab, Mathematica
- Development tools: GIT, CVS
- Intermediate level user of office applications: Word, Excel, PowerPoint and LibreOffice
- Advanced level user of typesetting application: LaTeX
- Intermediate level user of photo editor applications: Inkscape, gimp
- Linux, Mac OS and Windows user skills

Other skills

- diving (one ★ diver since 2013 at CMAS), paragliding, waveboarding, roller skating,
- Hobby drawing

Driving licence

- Category B since 2008

ADDITIONAL INFORMATION

Publications

- A. Hegedus, J. Konczer. Strong coupling results from the numerical solution of the quantum spectral curve. arXiv:1604.02346 **JHEP 1608 (2016) 061**, 2016
- Z. Bajnok, F. Buccheri, L. Holló, J. Konczer and G. Takacs. Finite volume form factors in the presence of integrable defect. hep-th 1312.5576 ***Nucl.Phys. B882 (2014) 501-531***, 2014

Conferences and Internacional courses

- *Wolfram Virtual Technology Conference*, Virtual Champaign IL, 18 – 21 October 2021
- *Eastern European Machine Learning Summer School*, Virtual Budapest Hungary, 7-15 July 2021
- *2020 Wolfram Summer School,* Virtual, June , July, 2020
- *Crunch Conference* (data engineering & data analytics), Budapest, Hungary 29-31 October, 2018 (as technological representative of Wolfram Research)
- *2016 Wolfram Summer School,* Waltham, MA, 19 June-8 July, 2016
- *Young Researchers Integrability School* Durham, United Kingdom 6-10 July, 2015
- *Gauge-string duality and its application bilateral project* Krakow, Poland 4-24 May, 2015
- *Summer School on String Theory and Holography* Lisbon/Porto, Portugal 14 - 26 July, 2014
- *Integrability in Low Dimensional Quantum Systems* Tihany, Hungary 30 June - 4 July 2014
- *Finite-size Technology in Low Dimensional Quantum Systems (VII)* Budapest, Hungary 16 – 27, June 2014
- *Japanese-Hungarian bilateral exchange project* Tokyo, Japan 29 November – 16 December 2013
- *Wigner 111 Scientific Symposium* Budapest, Hungary 11-13 November 2013
- *Spring School on Superstring Theory and Related Topics* held at ICTP-Trieste, Italy 18-26 March 2013
- *Mathematica School in Theoretical Physics: Advanced Topics in Conformal Field Theory* held at ICTP-Trieste, Italy 11-16 March 2013
- *Theoretical Physics School on Quantum Gravity* University of Szeged, Hungary 27-31 August 2012
- One week course *Introduction to Symbolic Computation for Engineers* in Universidad Politecnica de Madrid (ATHENS programme 2012)
- One week course *On Quanta, Chaos and Daemons* in Ecole des Ponts ParisTech (ATHENS programme 2011)
- *Mini-Workshop on "Spin and Quantum Transport"* Humboldt-Universität, Berlin 25-26 May 2011
- *Information Geometry and its Applications III* University of Leipzig, Germany 2-6 August 2010

Honours and awards

- 1st place on NYIFFF physics team competition as a member of "*TBA...*" team in 2013
- 3rd place on Rudolf Ortvay Competition in Physics in 2010
- Bronze Medal at the 38th International Physics Olympiad in Isfahan, Iran in 2007
- Honourable Mention at the 37th International Physics Olympiad in Singapore in 2006

Memberships

- 2013-2017 Member of MTA Lendület Holographic Quantum Field Theory Group
- 2011- Member and for two years president of BME Eugene Wigner College for Advanced Studies
- 2009- Member of Hungarian Nuclear Societies Young Generation Network

Presentations

- *Introducing Game Theory* on *Wolfram Virtual Technology Conference*, Virtual Champaign IL, 18 – 21 October 2021
- *Finite volume form factors of the defect scaling Lee-Yang model* on *Integrability in Low Dimensional Quantum Systems* Tihany, Hungary 30 June - 4 July 2014
- *Egzaktul megoldható kvantumtérelméletek* on DOFFI Balatonfenyves, Hungary 12-15 June 2014
- *Form factors of the defect scaling Lee-Yang model* on ELFT Részecskefizikai Szeminárium Budapest, Hungary 9. October 2013
- Participation on a workshop about Communicating with young people on PIME conference in Brussels, Belgium in 2011.