# CURRICULUM VITAE

## CSILLA RUDAS

### PERSONAL INFORMATION


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| Date of birth | 30 August 1991. |
| E-mail | rudas.csilla@ek.hun-ren.hu |
| | csillasadur@gmail.com |
| Phone number | +36 30 3311 749 |
| Address | 38, Zsolt fejedelem Street, Budapest, 1029, Hungary |


### EDUCATION

**2017 - Doctoral School of Physical Sciences, PhD**

Budapest University of Technology and Economics, Faculty of Science

*Thesis: Uncertainties in Modelling Atmospheric Dispersion of Radioactive Contaminants*

**2015 - 2017 Physisc, MSc**

Budapest University of Technology and Economics, Faculty of Science

*Thesis: Modeling the migration of radionuclides in food chain*

**2011 - 2015 Physics, BSc**

Budapest University of Technology and Economics, Faculty of Science

*Thesis: Consensus and Conflict in Cooperative Value Production - the Role of Banning*

### WORK EXPERIENCE

**September 2015 Centre for Energy Research, Radiation Protection Department**

Assistant Research Fellow (from Sept. 2017.)

**1-31 July 2010 Hungarian Electric Power Transmission Operator Company Ltd., MAVIR Zrt., Department of Process Control and Informatics**

Intern

## SELECTED PROJECTS

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| 2022 - | Improving Personal Neutron Dosimetry Services (HUN9023, IAEA Technical Cooperation Project) |
| 2022 - | Training and tutoring for experts of the NRAs and their TSOs for developing or strengthening their regulatory and technical capabilities – MC3.01/20 (INSC/2021/428-417, European Commission) |
| 2020 - 2022 | Update of the input data for environmental consequence assessments (4000469067, Part 1-4., MVM Paks Nuclear Power Plant Ltd) |
| 2019 - 2022 | Coordinated Research Project J15002, Effective use of dose projection tools in the preparedness and response to nuclear and radiological emergencies (Research Contract No: 23885, IAEA) |
| 2019 - 2021 | Development of the CARC code capable of calculating environmental radiation conditions (4000416192, Part 1-4., MVM Paks Nuclear Power Plant Ltd) |
| 2019 - 2022 | Development of the dose map calculation method (4000398941, Part 1-4., MVM Paks Nuclear Power Plant Ltd) |
| 2018-2020 | Establishing the Methodology of Level 3 Probabilistic Safety Assessment, (OAH-ABA-51/17-M, Part 1 – OAH-ABA-01/20-M, Part 4, Hungarian Atomic Energy Authority) |
| 2017 - 2019 | CONFIDENCE Project, Coping with uncertainties for improved modelling and decision making in nuclear emergencies (HORIZON 2020 EJP-CONCERT, EC GA 662287) |
| 2017 | The uncertainty of meteorological data necessary for atmospheric dispersion calculations and its consequences (EK-G-1102/2017, MVM Paks Nuclear Power Plant Ltd) |

## *SCIENTIFIC ACTIVITY*

### RESEARCH TOPICS

Development of nuclear safety assessment methods (in particular deterministic and environmental dose calculation methods) and decision support systems for emergency preparedness and response. Modelling the environmental transport of radioactive materials (atmospheric dispersion and food chain modelling).

### *SCIENTIFIC JOURNAL ARTICLES*

**Cs. Rudas,** T. Pázmándi, P. Zagyvai, *Evaluation of an improved method and software tool for confirming compliance with release criteria for nuclear facilities*, Annals of Nuclear Energy, 159, 2021, https://doi.org/10.1016/j.anucene.2021.108332

**Cs. Rudas,** T. Pázmándi, *Consequences of selecting different subsets of meteorological data to utilize in deterministic safety analysis*, Journal of Environmental Radioactivity, 225, 2020, https://doi.org/10.1016/j.jenvrad.2020.106428

S. J. Leadbetter, S. Andronopoulos, P Bedwell, K. Chevalier-Jabet, I. Korsakissok, A. Mathieu, R. Périllat, J. Wellings, G. Geertesma, F. Gering, T. Hamburger, A. R. Jones, H. Klein, T. Pázmándi, **Cs. Rudas,** A. Sogachev, P. Szanto, J. Tomas, C. Twenhöfel, H. de Vries, *Ranking Uncertainties in Atmospheric Dispersion Modelling Following the Accidental Release of Radioactive Material,* Radioprotection, 55, 2020, https://doi.org/10.1051/radiopro/2020012

I. Korsakissok, S. Andronopoulos, P. Astrup, P. Bedwell, E.Berge, T. Charnock, H. De Vries, G.Geertsema, F.Gering, T. Hamburger, I. Ievdin, H. Klein, S. Leadbetter, O. C. Lind, T. Pázmándi, R. Périllat, **Cs. Rudas**, B. Salbu, S. Schantz, R. Scheele, A. Sogachev, N. Syed, J. Tomas, M. Ulimoen, J. Wellings, *Uncertainty propagation in atmospheric dispersion models for radiological emergencies in the pre- and early release phase:*

*summary of case studies*, Radioprotection 55, 2020. https://doi.org/10.1051/radiopro/2020013

P. Bedwell, I. Korsakissok, S. Leadbetter, R. Périllat, **Cs. Rudas**, J. Tomas and J. Wellings: *Operationalising an ensemble approach in the description of uncertainty in atmospheric dispersion modelling and an emergency response,* Radioprotection, 55, 2020, https://doi.org/10.1051/radiopro/2020015

**Cs. Rudas**, J. Török, *Modeling the Wikipedia to understand the dynamics of long disputes and biased articles*, Historical Social Research, 43, 2018, https://doi.org/10.12759/hsr.43.2018.1.72-88

**Cs. Rudas**, O. Surányi, T. Yasseri, J. Török, *Understanding and coping with extremism in an online collaborative environment*, PloS ONE, 2017. https://doi.org/10.1371/journal.pone.0173561

## *Conference Publications, Presentations and Posters*

**Cs. Rudas,** D. Jakab, E. Hann, L. Beck, A. Názer, D. Róna, E. Galgóczi, L. Kósa, O. Bajnay, A. Jécsai, T. Pázmándi, *New method for calculating release criteria for nuclear safety analysis and survey of habit and consumption data of the public*, **Poster:** 8th International Conference VVER 2022, Řež, The Czech Republic, 2022.

**Cs. Rudas,** T. Pázmándi, *Case Study with CARC software for Verifying Compliance with Atmospheric Release Criteria of Nuclear Installations*, **Poster**: 9th International Conference on Radiation in Various Fields of Research, Herceg Novi, Montenegro, 14-18 June 2021, https://doi.org/10.21175/rad.abstr.book.2021.28.10

**Cs. Rudas,** P. Szántó, T. Pázmándi, P. Zagyvai, *Efficiency savings in model setup for an ensemble approach used to describe atmospheric dispersion model uncertainty*, **Poster**: CONFIDENCE Dissemination workshop, Bratislava, Slovakia, 5-9 December 2019. https://eu-neris.net/library/archives/concert/confidence/confidence-dissemination-workshop-2-5-december-2019/posters.html

D. Jakab, T. Pázmándi, **Cs. Rudas**, P. Zagyvai, *Input values for model validation of dry and wet deposition models based on the environmental measurements after the Ru-106 release in the fall of 2017*, **Poster and full paper**: In Proceedings of the 19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Bruges, Belgium, 3-6 June 2019 https://www.harmo.org/Conferences/Proceedings/_Bruges/publishedSections/H19-092%20Csilla%20Rudas.pdf

**Cs. Rudas Cs.**, P. Szántó, O. Várady-B., M. Szűcs, B. Szintai, T. Pázmándi, *The application of meteorological ensembles in the SINAC decision support system* (in Hungarian), **Poster:** 44th Annual Meeting on Radiation Protection, Hajdúszoboszló, Hungary, 16-18 April 2019 https://elftsv.hu/svonline/docs/kulonsz/HSZOB2019_Book_of_abstract.pdf#page=28

I. Korsakissok, S. Andronopoulos, P. Astrup, P. Bedwell, K. Chevalier-Jabet, H. De Vries, G. Geertsema, F. Gering, T. Hamburger, H. Klein, S. Leadbetter, A. Mathieu, T. Pazmandi, R. Périllat, **Cs. Rudas**, A. Sogachev, P. Szanto, J. Tomas, C. Twenhöfel, J. Wellings, *Comparison of ensembles of atmospheric dispersion simulations: Lessons learnt from the confidence project about uncertainty quantification,* **Full paper**: In Proceedings of the 19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Bruges, Belgium, 3-6 June 2019 https://www.harmo.org/Conferences/Proceedings/_Bruges/publishedSections/H19-081%20Irene%20Korsakissok.pdf

**Cs. Rudas,** T. Pázmándi, P. Szántó, M. Szűcs, B. Szintai, *The application of meteorological ensembles in the SINAC decision support system*, **Presentation and full paper:** In Proceedings of the 19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Bruges, Belgium, 3-6 June 2019

https://www.harmo.org/Conferences/Proceedings/_Bruges/publishedSections/H19-095%20Csilla%20Rudas.pdf

B. Brockhauser, S. Deme, T. Pázmándi, **Cs. Rudas**, P. Szántó, *A site specific accidental aquatic transport model for radioactive release in the danube under the NPP of Paks*, **Poster and full paper**: In the 5th European IRPA Congress Proceedings (ed. Ronald Smetsers), The Hague, The Netherlands, 4-8 June 2018 https://irpa2018europe.com/wp-content/uploads/2019/08/IRPA2018-Proceedings-v2sec.pdf#page=279

T. Pázmándi, D. Jakab, **Cs. Rudas**, P. Szántó, *Availability and reliability of meteorological data for atmospheric dispersion models,* **Poster and full paper:** In the 5th European IRPA Congress Proceedings (ed. Ronald Smetsers), The Hague, The Netherlands, 4-8 June 2018

Zábori, B ; Hirn, A ; Gerecs, A ; Hurtony, T ; Pántya, A ; **Rudas, Cs** ; Jakab, D, *ESEO-TRITEL experiment to measure the cosmic radiation*, **Full paper:** In Proceedings of the 2nd Symposium on Space Educational Activities (ed.: Bacsárdi, L) Budapest University of Technology and Economics, Budapest, Hungary, 2018.

**Cs. Rudas**, *International practices of Level 3 Probabilistic Safety Assessment,* **Full paper:** In Proceedings of the PhD workshop of the Physics Doctoral School at the Faculty of Science Budapest University of Technology and Economics (ed. F. Simon) Budapest, Hungary, 6 July 2018

P. Szántó, S. Deme, A. László, T. Pázmándi, **Cs. Rudas**, *Comparing Different Methods of Calculating Atmospheric Dispersion in SINAC*. **Poster and full paper**: HARMO18: 18th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes Proceedings (ed. Silvana Di Sabatino, Silvia Trini Castelli, Erika Brattich) Bologna, Italy, 9-12 October 2017

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| WORKSHOP AND TRAINIG COURSE PARTICIPATIONS | Training Course: Assessment of long-term radiological risks from environmental releases: modelling and measurements, Roskilde, Denmark, 23 April - 5 May 2019<br>NERIS Workshop, Dublin, Ireland, 25-27 April 2018 https://eu-neris.net/activities/workshops/dublin-2018.html<br>CONFIDENCE Workshop, Dublin, Ireland, 23-25 April 2018 https://eu-neris.net/home/newsletters/154-first-confidence-workshop-23-24-april-2018-dublin-ireland.html |

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| NUMBER OF PUBLICATIONS | >10 | INDEPENDENT CITATIONS | >20 | HIRSCH INDEX | 4 |

## QUALIFICATIONS

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| LANGUAGES | Hungarian | Mother tongue |
| | English | Advances (C1), complex (C) language exam (2011) |
| | French | Threshold (B1), complex (C) language exam (2021) |
| OTHER SKILLS | Drivers license | B type (2019) |