



## Kajántó Sándor

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### WORK EXPERIENCE

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#### Lecturer

*Babeş-Bolyai University (BBU), Faculty of Mathematics and Computer Science (FMCS)* [ 2025 – Current ]

City: Cluj-Napoca | Country: Romania

#### Assistant Professor

*BBU, FMCS* [ 2019 – 2025 ]

City: Cluj-Napoca | Country: Romania

#### Graduate Teaching Assistant

*BBU, FMCS* [ 2017 – 2019 ]

City: Cluj-Napoca | Country: Romania

### EDUCATION AND TRAINING

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#### PhD Degree

*BBU, FMCS, Doctoral School in Mathematics and Computer Science* [ 2018 – 2024 ]

Thesis: New approach for Hardy–Rellich inequalities

#### MSc Degree

*BBU, FMCS, Data Analysis and Modelling* [ 2015 – 2018 ]

#### MSc Degree

*BBU, FMCS, Computational Mathematics* [ 2015 – 2018 ]

#### BSc Degree

*BBU, Faculty of Physics, Physics and Computer Science* [ 2012 – 2016 ]

#### BSc Degree

*BBU, FMCS, Mathematics and Computer Science* [ 2012 – 2016 ]

### LANGUAGE SKILLS

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**Mother tongue(s):** Hungarian

**Other language(s):** English | German | Romanian

### DIGITAL SKILLS

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Latex Software / Mathematical Computing

## PUBLICATIONS

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[2024]

[\*\*A generic functional inequality and Riccati pairs: an alternative approach to Hardy-type inequalities\*\*](#)

Kajántó S., Kristály A., Peter I.R., Zhao W. - Math. Ann., 390, 3621–3663

[2024]

[\*\*Sharp spectral gap estimates for higher-order operators on Cartan–Hadamard manifolds\*\*](#)

Farkas Cs., Kajántó S., Kristály A. - Commun. Contemp. Math., accepted

[2024]

[\*\*Rellich inequalities via Riccati pairs on model space forms\*\*](#)

Kajántó S. - J. Math. Anal. Appl. 531(2), 127870.

[2023]

[\*\*Saturation phenomena of a nonlocal eigenvalue problem: the Riemannian case\*\*](#)

Kajántó S., Kristály A. - Optimization, 1-24

[2023]

[\*\*Lower semicontinuity of Kirchhoff-type energy functionals and spectral gaps on \(sub\) Riemannian manifolds\*\*](#)

Farkas C., Kajántó S., Varga C. - Topol. Methods Nonlinear Anal. 61(2), 743-760.

[2022]

[\*\*On possible generalisations of quasi-contractions\*\*](#)

Cseh T., Kajántó S., Lukács A. - Stud. Univ. Babeş-Bolyai Math. 67 (3), 615–619

[2021]

[\*\*Unexpected Behaviour of Flag and S-Curvatures on the Interpolated Poincaré Metric\*\*](#)

Kajántó S., Kristály A. - J. Geom. Anal. 31, 10246–10262

[2018]

[\*\*Universality in the coarse-grained fluctuations for a class of linear dynamical systems\*\*](#)

Kajántó S., Néda Z. - Phys. A: Stat. Mech. Appl. 503 pp. 215-220. , 6 p

[2018]

[\*\*On the Conditions of Fixed-Point Theorems Concerning F-Contractions\*\*](#)

Kajántó S., Lukács A. - Results Math. 73 : 2 p. 73

[2018]

[\*\*Fixed point theorems for various types of F-contractions in complete b-metric spaces\*\*](#)

Lukács A., Kajántó S. - Fixed Point Theory 19. pp. 321-334.

[2018]

[\*\*A note on the paper “Contraction mappings in b-metric spaces” by Czerwik\*\*](#)

Kajántó S., Lukács A. - Acta Univ. Sapientiae Math. 10 : 1 pp. 85-89. , 5 p.

[2018]

**Ordinary Differential Equations (Lecture Notes)**

Andrász Sz., Kajántó S., Lukács A. - STATUS, Miercurea-Ciuc, ISBN 978-606-661-086-5

## CONFERENCES AND SEMINARS

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[ 16/12/2024 – 20/12/2024 ] Abu Dhabi, United Arab Emirates

**The 14th AIMS Conference at NYU**

Title of the talk: Riccati pairs: an alternative approach to Hardy inequalities

[ 02/09/2024 – 06/09/2024 ] Brasov, Romania

**New Methods in Finsler geometry IV**

Title of the talk: Hardy inequalities via Riccati pairs  
on Finsler manifolds

[ 30/06/2024 – 03/07/2024 ] Copenhagen, Denmark

**33rd European Conference on Operational Research**

Title of the talk: Hardy inequalities via Riccati pairs

[ 23/08/2023 – 25/08/2023 ] Budapest, Hungary

**20th Workshop on Advances in Continuous Optimization**

Title of the talk: Saturation of a nonlocal eigenvalue problem on Riemannian manifolds

[ 12/06/2023 – 16/06/2023 ] Debrecen, Hungary

**Colloquium on Finsler Geometry and its Applications**

Title of the talk: The flag and S-curvatures of the interpolated Poincaré metric: unexpected behaviours

[ 23/05/2023 – 26/05/2023 ] Timișoara, Romania

**IEEE 17th International Symposium on Applied Computational Intelligence and Informatics**

Title of the talk: Saturation phenomena of a Riemannian non-local eigenvalue problem

[ 18/05/2023 – 19/05/2023 ] Iași, Romania

**Workshop for Young Researchers in Mathematics – 12th Edition**

Title of the talk: On the flag and S-curvatures of the interpolated Poincaré metric

## PROJECTS

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[ 2020 – 2023 ]

**UEFISCDI/CNCS PCE grant**

PN-III-P4-ID-PCE2020-1001 – PhD student