Dr. **Csiszár,** Gábor

Field of research

Using tools from artificial intelligence and mathematical modeling, I study nonlinear systems, with particular focus on their dynamics and stability. I analyze the behavior and predictability of chaotic systems through simulations. My research is primarily aimed at understanding the fundamental properties of these systems. The methods I apply are widely applicable, including in fields such as biology, engineering, weather forecasting, and economics. My goal is to develop computational approaches that contribute to a deeper understanding of the complex behavior of nonlinear systems.

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github.com/Applied-Math-Lab/uninorm_based_activation

Academic Degrees

Habilitation (Applied Mathematics, Information Science), *Óbuda University (Budapest)* **2024**

◇ Interpretable neural networks based on continuous-valued logic and multicriteria decision operators; parametric activation functions for human-understandable neural models

PhD (Physical Sciences), *Eötvös Loránd University (Budapest)* **2013**

◇ Characterization of 1D and 2D defect structures in confined geometry through Fourier Analysis

Professional Positions

Associate Professor, *Tecnun, University of Navarra, Science Department, (Spain)* **2025–**

◇ Physics-Informed Neural Networks, Non-Linear Dynamics, eXplainable AI

Associate Professor, *Óbuda University, John von Neumann Faculty of Informatics, Institute of Biomatics and Applied Artificial Intelligence, Research Center for Physiological Control, (Hungary)* **2024–**

◇ Large Language Models, Dimensional Reduction, Physics-Informed Neural Networks, Non-Linear Dynamics, eXplainable AI, Interpretable Neural Networks

Assistant Professor, *Óbuda University, John von Neumann Faculty of Informatics, Institute of Biomatics and Applied Artificial Intelligence, Research Center for Physiological Control, (Hungary)* **2022–2024**

◇ Large Language Models, Dimensional Reduction, Physics-Informed Neural Networks, Non-Linear Dynamics, eXplainable AI, Interpretable Neural Networks

Scientific Group Leader, University Lecturer, *University of Stuttgart (Germany)* **2018–2022**

◇ Non-Linear Dynamics in Immiscible Systems, Machine Learning, Interpretable Neural Networks based on Continuous-Valued Logic and Multicriteria Decision Operators; Parametric Activation Functions for Human-Understandable Neural Models; Squashing Function in Multi-Layer Neural Networks: Benchmark Tests towards a more eXplainable AI, Dimensional Reduction

Research Fellow, *Karlsruhe Institute of Technology (Germany)* **2017–2017**

◇ Extensive Research on Atomic Transport

Scientifc Group Leader, University Lecturer, *Max Planck Institute for Intelligent Systems, Stuttgart (Germany)* **2015–2017**

◇ Developing and Implementing Methods for Analysing Rapid Redistribution of Atomic Constituents

Max Planck Research Fellow, University Lecturer, *Max Planck Institute for Intelligent Systems, Stuttgart (Germany)* **2014–2015**

◇ Non-linear Dynamics in Immiscible Systems, Atomic Transport Analysis

Research Fellow, *Department of Complex Systems, Eötvös Loránd University (Hungary)* **2012–2014**

◇ Dephasing Time Analysis of Qubits

PhD Student, University Lecturer, *Eötvös Loránd University (Hungary)* **2008–2012**

◇ Fourier Analysis in Confined Geometries

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Education

Solid State Physics and Materials Science PhD Program, *Eötvös Loránd University, Doctoral School of Physics (PhD), Solid State Physics and Materials Science PhD Program, Summa cum Laude with Distinction* **2008–2011**

◇ Thesis topic: *Characterization of 1D and 2D Defect Structures in Confined Geometry through Fourier Analysis*

◇ Supervisor: Prof. Dr. Tamás Ungár, Doctor of the Hungarian Academy of Sciences

Mathematics & Physics, MSc, *Eötvös Loránd University, Faculty of Science* **2006–2008**

◇ Thesis title: *1D defect Structures in Immiscible Systems*

◇ Supervisor: Prof. Dr. Tamás Ungár, Doctor of the Hungarian Academy of Sciences

Mathematics & Physics, BSc, *Eötvös Loránd University, Faculty of Science* **2003–2006**

Economic Sciences, BSc & MSc, *Budapest University of Economic Sciences and Public Administration* **1997–2002**

Interests

Data Compression, Machine learning, Computational Mathematics, Information Theory, Non-linear Dynamics, Chaos

Scholarships & Awards

Scientific Student Award, *Eötvös Loránd University, Faculty of Natural Science* **2007**

◇ Topic: *1D defect Structures in Immiscible Systems*

◇ Supervisor: Prof. Dr. Tamás Ungár, Doctor of the Hungarian Academy of Sciences

XRD Poster Award, *ICDD, 61th Annual Conference* **2012**

◇ Poster Title: *Fourier Analysis of 1D Defects at Immiscble Interfaces*

◇ Co-authors: Prof. Dr. Ungár Tamás, *ELTE*; Dr. Donald Brown, *Los Alamos National Laboratory*; Prof. Dr. Amit Misra, *Michigan State University*

Max Planck Fellowship, *Max Planck Institute for Intelligent Systems, Stuttgart, Germany* **2014-2017**

◇ Topic: *Nonlinear Dynamics in Immiscible Systems*

◇ Advisor: Prof. Dr. Eric Jan Mittemeijer, Doctor of the German Academy of Sciences, Former President of Max Planck Institute of Intelligent Systems

Dr. **Csiszár,** Gábor

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Research Grants

Scientific Research Fund, No.5.5.13./DF-09/1/KKF-2011-001, Scientific Group Leader: Gábor Csiszár, Prof. Dr. Ungár Tamás
University of Dunaújváros, Hungary **2011**
◇ Project: "Solutions to the challenges found at nanoscale in physical systems at the University of Dunaújváros"

Scientific Research Fund, No. 3413/SCH-IMW-0001-2018, Scientific Group Leader: Dr. Gábor Csiszár
Universität Stuttgart, Stuttgart, Germany **2018**
◇ Project: Fundamental Research at the Nanoscale with Ultra-Sensitive Nano-Manipulator

Industrial-Academic Fund, No. 031420-28-06-2018, Scientific Group Leader: Dr. Gábor Csiszár
Universität Stuttgart, Stuttgart; Walter AG, Tübingen **2018**
◇ Project: "Enhancing physical properties of 2D objects of Titanium"

Journal Papers

- Csiszár, O., **Csiszár, G.**, Kosheleva, O., Kreinovich, V., Phuong, N.H., *We Can Always Reduce a Non-Linear Dynamical System to Linear-at Least Locally-But Does It Help?*, Machine Learning and Other Soft Computing Techniques: Biomedical and Related Applications, Studies in Systems, Decision and Control, Springer, 543: 15–22 (2024)
- Gulyás, Sz., Katona, G.L., **Csiszár, G.**., Tomán, J.J., Cserháti, Cs., Erdélyi, Z., *The effect of self-organization during deposition on the segregation behaviour of Au in the Si-Ge-Au nano-multilayer thermoelectric generator system*, Materials Characterization, 209: 113699 (2024)
- Csiszár, O., **Csiszár, G.**., Kosheleva, O., Ceberio, M., Kreinovich, V., *Why Fuzzy Control Is Often More Robust (and Smoother): A Theoretical Explanation*, IEEE Symposium Series on Computational Intelligence, Mexico City, Mexico: 501–505 (2023)
- **Csiszár, G.**, Erdélyi, G., Langer, G.A., Erdélyi, Z., *Atomic transport in amorphous Mo-Cu and Ta-Cu immiscible systems*, Journal of Alloys and Compounds 951: 169982 (2023)
- Csiszár, O., Pusztaházi, L.S., Dénes-Fazakas, L., Gashler, M.S., Kreinovich, V., **Csiszár, G.**, *Uninorm-like parametric activation functions for human-understandable neural models*, Knowledge-Based Systems 260: 110095 (2023)
- Pusztaházi, L.S., **Csiszár, G.**, Gashler, M.S., Csiszár, O., *Parametric activation functions modelling fuzzy connectives for better explainability of neural models*, IEEE 20th Jubilee International Symposium on Intelligent Systems and Informatics (SISY 2022): 457, 77–82 (2022)
- Banifarsi, S., Joshi, Y., Lawitzki, R., **Csiszár, G.**, Schmitz, G., *Optical Modulation and Phase Distribution in $LiCoO_2$ upon Li-Ion De/Intercalation*, J. Electrochem. Soc., 169, 046509 (2022)
- **Csiszár, G.**, Lawitzki, R., Csiszár, O., *Extreme elastic deformable ceramics on the nanoscale: $Cr_xB_yO_z$ nanowire as an example*, Nano Express, 2, 040001 (2021)

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- **Csiszár, G.**, Lawitzki, R., Everett, C., Schmitz, G., *Elastic Behavior of Nb_2O_5/Al_2O_3 Core–Shell Nanowires in Terms of Short-Range-Order Structures*, ACS Appl. Mater. Interfaces 2021, 13, 24238–24249 (2021)
- Urenda, J., Csiszár, O., **Csiszár, G.**, Dombi, J., Eigner, Gy., Kosheleva, O., Kreinovich, V., *Why Kappa Regression?*, Studies in Uncertainty Modelling, Proceedings of the 19th World Congress of the International Fuzzy Systems Association, IFSA-EUSFLAT, Bratislava, Vol. 3, pp. 478–485 (2021)
- Zeltner, D., Schmid, B., **Csiszár, G.**, Csiszár, O., *Squashing activation functions in benchmark tests: towards eXplainable Artificial Intelligence using continuous-valued logic*, Knowledge-Based Systems, 218, 106779 (2021)
- Alvarez, K., Urenda, J., Csiszár, O., **Csiszár, G.**, Dombi, J., Eigner, Gy., Kreinovich, V., *Towards Fast and Understandable Computations: Which "And"- and "Or"-Operations Can Be Represented by the Fastest (i.e., 1-Layer) Neural Networks? Which Activation Functions Allow Such Representations?*, Acta Polytechnica Hungarica, 18, 2, 27–45 (2021)
- Urenda, J., Csiszár, O., **Csiszár, G.**, Dombi, J., Kosheleva, O., Kreinovich, V., Eigner, Gy., *Why Squashing Functions in Multi-Layer Neural Networks*, 2020 IEEE International Conference On Systems, Man, and Cybernetics (SMC), Toronto, ON, Canada, pp. 1705–1711
- Urenda, J., Csiszár, O., **Csiszár, G.**, Dombi, J., Eigner, Gy., Kreinovich, V., *Natural Invariance Explains Empirical Success of Specific Membership Functions, Hedge Operations, and Negation Operations*, Advances in Intelligent Systems and Computing, Fuzzy Information Processing, NAFIPS (2020); Fuzzy Information Processing 2020, Proceedings of the 2020 Annual Conference of the North American Fuzzy Information Processing Society, NAFIPS (2020)
- **Csiszár, G.**, Solodenko, H., Lawitzki, R., Ma, W., Everett, C., Csiszár, O., *Nonlinear elastic aspects of multi-component iron oxide core-shell nanowires by means of atom probe tomography, analytical microscopy, and nonlinear mechanics*, Nanoscale Advances, 2, 5710–5727 (2020)
- Csiszár, O., **Csiszár, G.**, Dombi, J., *How to implement MCDM tools and continuous logic into neural computation? Towards better interpretability of neural networks*, Knowledge-Based Systems 210, 106530 (2020)
- Jacob, M., Lawitzki, R., Ma, W., Everett, C., Schmitz, G., **Csiszár, G.**, *Beyond linearity: Bent crystalline copper nanowires in the small-to-moderate regime*, Nanoscale Advances, 2, 3002–3016 (2020)
- Csiszár, O., **Csiszár, G.**, Dombi, J., *Interpretable neural networks based on continuous-valued logic and multicriteria decision operators*, Knowledge-Based Systems, 199, 8, 105972 (2020)
- Müller, H.A., Joshi, Y., Hadjixenophontos, E., Peter, C., **Csiszár, G.**, Richter, G., Schmitz, G., *High Capacity Rock Salt Type $Li_2MnO_{3-\delta}$ Thin Film Battery Electrodes*, RSC Advances, 10, 3636–3645 (2020)
- **Csiszár, G.**, Schellenberger, M., Schmitz, G., *Synthesis and thermal reaction of stainless steel nanowires*, Nanoscale, 12, 731–745 (2020)
- Langer, G., Erdélyi, G., Erdélyi, Z., **Csiszár, G.**, *Determination of diffusion coefficients in immiscible systems: Cu-W as an example*, Materialia, 6, 100342 (2019)
- **Csiszár, G.**, Ardavan, M., Mittemeijer, E.J., *Nano-scale stability of 2D and 3D defects in Cu/Ag-Mo thin films*, Journal of Applied Crystallography, 50, 152–171. (2017)

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- Gubicza, J., Farbaniec, L., **Csiszár, G.**, Sadat, T., Couque, H., Dirras, G., *Microstructure and strength of nickel subjected to large plastic deformation at very high strain rate*, Materials Science and Engineering A, 662, 9–15. (2016)
- **Csiszár, G.**, Kurz, S.J.B., Mittemeijer, E.J., *Stability of nanosized alloy thin films: faulting and phase separation in metastable Ni/Cu/Ag-W films*, Acta Materialia, 110, 324–340. (2016)
- Chen, Y.Z., **Csiszár, G.**, Cizek, J., Shi, X.H., Borchers, C., Li, Y.J., Liu, F., Kirchheim, R., *Defect recovery in severely deformed ferrite lamellae during annealing and its impact on the softening of cold-drawn pearlitic steel wires*, Metallurgical and Materials Transactions A, 47A, 726–738. (2016)
- Máthis, M., Gubicza, J., **Csiszár, G.**, Capek, J., Clausen, B., Sima, V., Lukás, P., *Effect of loading mode on the evolution of the dislocation structure in magnesium*, Acta Physica Polonica A, No. 4, 128, 700–703. (2015)
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- Ungár, T., Holden, T. M., Jóni, B., Clausen, B., Balogh, L., **Csiszár, G.**, Brown, D. W., *Dislocation structure in different texture components determined by neutron diffraction line profile analysis in a highly textured Zircaloy-2 rolled plate*, Journal of Applied Crystallography, 48, 1–9. (2015)
- **Csiszár, G.**, Pályi, A., *Orbital hyperfine interaction and qubit dephasing in carbon nanotube quantum dots*, Physical Review B, 90, 245413. (2014)
- **Csiszár, G.**, *Evolution of the Burgers-vector population of Cu-Nb multilayers with 7 at.% He-implantation determined by X-ray diffraction*, Materials Science and Engineering A, 609, 185–194. (2014)
- Dirras, G., Tingaud, D., **Csiszár, G.**, Gubicza, J., Couque, H., Mompiou, F., *Characterization of bulk bimodal polycrystalline nickel deformed by direct impact loadings*, Materials Science and Engineering A, 601, 48–57. (2014)
- Chen, Y.Z., **Csiszár, G.**, Cizek, J., Borchers, C., Ungár, T., Goto, S., Kirchheim, R., *Defects in carbon-rich ferrite of cold-drawn pearlitic steel wires*, Metallurgical and Materials Transactions A, 44, 8, 3882–3889. (2013)
- **Csiszár, G.**, Zilahi, Gy., Li, X., Balogh, L., Ungár, T., *Planar defects, dislocations, and coherently scattering-size in $GdBa_2Cu_3O_{7-x}$ high-T_c thin films determined by high resolution X-ray diffraction*, Journal of Applied Physics, 113, 033903. (2013)
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- **Csiszár, G.**, Járó, M., Ungár, T., *Correlation between the sub-structure parameters and the manufacturing technologies of metal threads in historical textiles using X-ray line profile analysis*, Applied Physics A, 111, 897–906. (2013)
- **Csiszár, G.**, Fábián, E.R., Ungár, T., Dévényi, L., *Hydrogen permeability with dislocations in low carbon, aluminum-killed, enamel-grade steels*, International Journal of Materials Research, 103, 6, 673–679. (2012)

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- Huang, E. W., **Csiszár, G.**, Lo, Y., Clausen, B., Huang, Y., Lee, W., Ungár, T., Liaw, P. K., *Plastic deformation of a nano-precipitate strengthened Ni-based alloy investigated by complementary in situ neutron diffraction measurements and molecular-dynamics simulations*, Advanced Engineering Materials, 14, 10, 902–908. (2012)
- **Csiszár, G.**, Pantleon, K., Alimadadi, H., Ribárik, G., Ungár, T., *Dislocation density and Burgers vector population in fiber-textured Ni thin films determined by high-resolution X-ray line profile analysis*, Journal of Applied Crystallography, 45, 61–70. (2012)
- Chen, Y.Z., **Csiszár, G.**, Cizek, J., Borchers, C., Ungár, T., Goto, S., Kirchheim, R., *On the formation of vacancies in α-ferrite of a heavily cold-drawn pearlitic steel wire*, Scripta Materialia, 64, 390–393. (2011)
- **Csiszár, G.**, Balogh, L., Misra, A., Zhang, X., Ungár, T., *The dislocation density and twin-boundary frequency determined by X-ray peak profile analysis in cold rolled magnetron-sputter deposited nanotwinned copper*, Journal of Applied Physics, 110, 043502. (2011)
- **Csiszár, G.**, Misra, A., Ungár, T., *Burgers vector types and the dislocation structures in sputter-deposited Cu–Nb multilayers*, Materials Science and Engineering A, 528, 6887–6895. (2011)
- Qiao, J. W., Huang, E. W., Jiang, F., Ungár, T., **Csiszár, G.**, Li, L., Ren, Y., Liaw, P. K., Zhang, Y., *Resolving ensembled microstructural information of bulk-metallic-glass-matrix composites using synchrotron X-ray diffraction*, Applied Physics Letters, 97, 171910. (2010)

Curriculum development

Computational Methods in Data Science, MSc Course
(Contributor: Dr. Gábor Csiszár) **2023**

Probability Theory & Mathematical Statistics, MSc Course
(Contributor: Dr. Gábor Csiszár) **2023**

Supervisions

Zharkynai Dzhenalieva, BSc thesis, Institute of Biomatics and Applied Artificial Intelligence, **Obuda University** **2025**
◇ Thesis: Model Order Reduction Methods to Real-World Challenges: A Focus on Turbulence Modeling

Luca Rátki, MSc thesis, Institute of Biomatics and Applied Artificial Intelligence, **Obuda University** **2025**
◇ Thesis: Optimizing Word Embeddings: Tackling the Curse of Dimensionality and Compression Challenges

Moritz Karcher, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2022**
◇ Thesis: Microstructural dependence of Li-intercalation of segmented Cu-Cr nanowires

Nadine Kerner, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2022**
◇ Thesis: Influence of the stacking sequence on the nucleation of Cu_3Ge

Monica Mead, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2021**
◇ Thesis: In-situ observation of hydrogen storage in titanium thin films

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Ralf Wurster, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2021**
◇ Thesis: Li intercalation of segmented Cu-Cr nanowires

Okan Güney, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2021**
◇ Thesis: Elastic/plastic behavior of multiple-charged micro-sized Cesium-Closo-Borane and Cesium-Carborane ionic crystals

Joonhwan Kim, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2021**
◇ Thesis: Microstructural features of Cr/Fe NWs investigated by using Atom Probe Tomography

Stelios Tokatlidis, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2021**
◇ Thesis: Elastic stress-strain relation in core/shell nanowires made of Nb_2O_5 cores with Al_2O_3 shell formation

Christopher Everett, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2020**
◇ Thesis: Shell thickness dependence of Nb_2O_5/Al_2O_3 core/shell nanowires beyond surface effect and non-local elasticity

Wenhao Ma, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2020**
◇ Thesis: Mechanical and chemical characterization of metallic nanowires

Martine Jacob, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2019**
◇ Thesis: Mechanical properties of Cu nanowires in the small-to-moderate regime

Tobias Kleinhanns, MSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2019**
◇ Thesis: Physical properties of sharply segmented Fe/Cu magnetic nanowires

Jonathan Link, BSc thesis, Faculty of Natural Sciences, Materials Physics Institute, **Universität Stuttgart** **2018**
◇ Thesis: Stability of nanocrystalline Cr-Fe alloys in terms of grain boundary segregation

Ardavan Makvandi, MSc thesis, Intelligent Systems, **Max Planck Institute for Intelligent Systems** **2016**
◇ Thesis: Stability of nanosized alloy thin films: faulting and phase separation in metastable Cu/Ag-Mo films

Gyula Zilahi, MSc thesis, Faculty of Natural Sciences, Solid State Physics Program, **Eötvös Loránd University** **2011**
◇ Thesis: Relationship between conductive properties and the microstructural parameters of high T_C superconducting thin films

Teaching Experience

Computer Programming (NIXIRoEBNE) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Computer Engineering BSc Program

Advanced Linear Algebra (NMXAM1HMNE) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Computer Engineering MSc Program

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Number Theory (NMXAM1HMNE) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Computer Engineering MSc Program

Differential Calculus (NMXAM1HMNE) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Computer Engineering MSc Program

Probabilty Theory (NMXVS1HMLF) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Data Science MSc Program

Mathematical Statistics (NMXVS1HMLF) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Data Science MSc Program

Computational Methods in Data Science (NMXAM1HMLF) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Data Science MSc Program

Application Areas of Artificial Intelligence (NBXMA1HMLF) *Obuda University, John von Neumann Faculty of Informatics* **2022–2025**
Data Science MSc Program

Fourier Analysis (CMIMWSS1718) *Universität Stuttgart, Institute of Physics* **2018–2022**
Materials Physics MSc Program

Advanced Thermodynamics (ADIMWSS1718) *Universität Stuttgart, Institute of Physics* **2018–2022**
Materials Physics MSc Program

Advanced Quantum Mechanics (NMIMWSS1819) *Universität Stuttgart, Institute of Physics* **2018–2022**
Materials Physics MSc Program

Invited Talks

- International Ph.D. Conference, Prague, Czech Republic **2009**
- International Ph.D. Conference, Vienna, Austria **2011**
- Fourier Analysis of 1D Defect Structure of Cu-Nb Interfaces, TMS 2011, San Diego, US **2011**
- 1D and 2D-type defect density analysis determined by Fourier Analysis, TMS 2011, San Diego, US **2011**
- Special 1D Defect Structure of Immiscible Interfaces, DXC 2012, Denver, CO, US **2012**
- Faulting and phase separation in metastable Ni/Cu/Ag-W films, Size and Strain VII, Oxford, UK **2015**
- Atomic Redistribution in Immiscible Systems, EMN, Cancun, Mexico **2016**

Service Activities

- ***Journal Reviewing - Physical Sciences***
  - Nanoscale
  - Journal of Alloys and Compounds
  - ACS Applied Materials & Interfaces
  - Materials Science & Engineering A
  - Acta Materialia
  - RSC Advances

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- ***Journal Reviewing - Pure/Applied Mathematics***
  - Knowledge-Based Systems
  - Acta Polytechnica Hungarica
  - IEEE Access
- ***Workshop Organization Committees***
  - SMC (IEEE International Conference on Systems, Man, and Cybernetics)
- ***Professional Organizations***
  - **Scholar of the Hungarian Academy of Science**, Field: Data Science and its Applications, Section of Mathematical Sciences (2023 –)
  - **IEEE** (Institute of Electrical and Electronics Engineers) **Scholar** (Membership number: 98978269)
    * **IEEE** Scholar (2023 –)
    * **IEEE Systems, Man, and Cybernetics** (SMC) Society (2024 –)
    * **IEEE SMC Hungary Section** (2023 –)

Language Skills

English – proficiency level extended with professional content

Italian – intermediate level extended with professional content

German – advanced level

Hungarian – native

Computer Skills

OS Level - Linux, Unix
Application Level - Wolfram, Mathematica
Programming Language Level - Python, MatLab, Mathematica
Script-type Programming Level - LAMMPS, Quantum Espresso

References

Available upon Request