

# Emanuel-Attila Kokovics

*Ph.D. student*

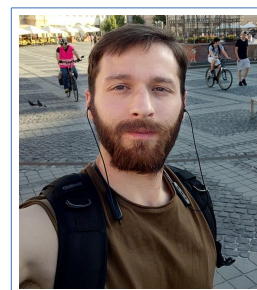
West University of Timisoara

Department of Mathematics

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<https://github.com/Professor-Emanuel>

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## Academic & Work Experience

- Sep 2023 - Present **Junior Software Programmer**, Vitesco, Timisoara, Romania.
  - C, C Embedded
- Feb 2023 - Present **External Assistant Professor**, West University of Timisoara, Faculty of Mathematics and Computer Science.
  - Numerical Simulations with applications in Python.
- Jan 2023 - Apr 2023 **Junior Software Programmer**, Wenglor, Sibiu, Romania (remote).
  - C++, Qt.
- Apr 2022 - Dec 2022 **Analyst Programmer**, TimeLine Business Systems, Sibiu, Romania (remote).
  - C#, Visual Basic, Stochastic Processes.
- Oct 2021 - Jan 2022 **Software Programmer**, Accenture Industrial Software Solutions, Cluj-Napoca, Romania (remote).
  - C/C++, Visual Basic, Manual Testing, Automated Testing.
- Oct 2017 - Oct 2020 **External Assistant Professor**, West University of Timisoara, Faculty of Mathematics and Computer Science.
  - Calculus, Differential Equations, Programming in C, Microsoft Office Suite Lectures.
- Oct 2017 - Jun 2018 **Freelancer**, Math & Programming Private Lessons.
  - Calculus & Programming in C Lectures.
- Oct 2014 - Jun 2016 **Freelancer**, Math Private Lessons.
  - Calculus, Algebra, Geometry, Middle School & High School Level Lectures.

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## List of Programming Projects

- My Youtube channel where I create programming and math tutorials:  
<https://www.youtube.com/channel/UChULjyQTjrmhK07E1aaq9A>
- C/C++ Applications, Front-End Web development games, Python games, SQL/PLSQL:  
<https://github.com/Professor-Emanuel>
- Mathematica 11 codes for the paper: E. Kaslik, E-A. Kokovics, A. Rădulescu - **Stability and bifurcations in Wilson-Cowan systems with distributed delays, and an application to basal ganglia interactions**, Commun Nonlinear Sci Numer Simulat, Elsevier, vol. 104, January 2022, 105984. (available in electronic format).  
<https://github.com/ekokovics/wilson-cowan-simulations>

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## List of attended Programming Udemy Courses

- C Programming For Beginners - Master the C Language:  
<https://www.udemy.com/course/c-programming-for-beginners-/>

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## Education

- Sep 2018 - Nov 2020 **West University of Timisoara, Romania, B.Sc. in Computer Science (dropped out, last year).**
- Oct 2017 - present **West University of Timisoara, Romania, Ph.D. in Applied Mathematics, Thesis: Dynamical Systems with Delays and Applications in Epidemiology, under supervision of Conf. Dr. Eva Kaslik.**
- Oct 2016 - Jun 2017 **High School "S.A. De Castro", Oristano, Italy, Italian Language Certification.**
- Oct 2014 - Jun 2016 **West University of Timisoara, Romania, M.Sc. Analytical and Geometrical Modeling of Systems.**
- Oct 2014 - Jul 2015 **West University of Timisoara, Romania, High School Certified Professor Degree.**
  - 1 semester of pedagogical practice at the "Francesco Saverio Nitti" Economic College, Timisoara.

- Oct 2012 - Jul 2014 **West University of Timisoara, Romania, Middle School Certified Professor Degree.**  
 ◦ 1 year of pedagogical practice at the "General School no.13", Timisoara, under the supervision of Mathematics Professor Buse Gabriela.
- Oct 2011 - Jul 2014 **West University of Timisoara, Romania, B.Sc. in Mathematics & Computer Science.**
- Sep 2007 - Jun 2011 **Traian Lalescu Theoretical High School, Mathematics & Computer Science class, valedictorian.**

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## Research Experiences

- Jul 2019 - Sep 2019 **Early-Stage Researcher**, ACMIT, Wiener Neustadt, Austria, under supervision of Associate Professor Dr. Gheorghe Tigan.  
 ◦ **Project:** Dynamics H2020-MSCA-RISE-2017 - 777911.  
 ◦ first presentation title: Obtaining polar forms for Chenciner bifurcation, July 9th, 2019.  
 ◦ second presentation title: Studying a normal form for double-Hopf bifurcation, August 21st, 2019.  
 ◦ third presentation title: On analysis of a normal form in degenerate double-Hopf bifurcation, September 9th, 2019.
- Jul 2018 - Aug 2018 **Early-Stage Researcher**, ACMIT, Wiener Neustadt, Austria, under supervision of Associate Professor Dr. Gheorghe Tigan.  
 ◦ **Project:** Dynamics H2020-MSCA-RISE-2017 - 777911.  
 ◦ presentation title: Neimark-Sacker bifurcation of fixed points in discrete-time dynamical systems, August 9th, 2019.

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## Research Interests

- *Delay Differential Equations, Neuroscience Mathematical Modeling, Dynamical Systems, Neuron modeling, Artificial neurons.*

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## Publications

- Eva Kaslik, Emanuel-Attila Kokovics, and Anca Radulescu. Wilson–Cowan neuronal interaction models with distributed delays. In *New Trends in Nonlinear Dynamics*, pages 203–211. Springer, 2020.
- Tigan, G.; Brandibur, O.; Kokovics, E.; Vesa, L.F. Degenerate Chenciner Bifurcation Revisited. *Int. J. Bifurcation Chaos* 2021, 10, 2150160.
- E. Kaslik, E. A. Kokovics, and A. Rădulescu, Stability and bifurcations in Wilson-Cowan systems with distributed delays, and an application to basal ganglia interactions, *Commun. Nonlinear Sci. Numer. Simul.* 104 (2022), 105984.
- Eva Kaslik, Emanuel-Attila Kokovics, Stability and bifurcations in scalar differential equations with a general distributed delay, *Applied Mathematics and Computation*, Volume 454, 2023, 128100
- E. Kaslik, E. A. Kokovics, and A. Rădulescu, Stability of coupled Wilson-Cowan systems with distributed delays (submitted paper).

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## Grants & Projects

- grant for participating as a trainee at the Training School on “Computational methods for fractional-order problems” organized by the Cost Action CA 15225 in Bari, Italy, July 22-26, 2019.
- grant within the mobility project for researchers PN-III-P1-1.1-MC-2019-0924, for participation at the conference "International Conference on Mathematical NeuroScience" (ICMNS) 2019, held at University of Copenhagen, Denmark, June 24-26, 2019.
- research grant for PhD students within the project "High-level research in West University of Timisoara by supporting and developing the research centers of the University", November 2018.
- grant within the mobility project for researchers PN-III-P1-1.1-MC2018-1021, for participation at the conference "Emerging Trends in Applied Mathematics and Mechanics" (ETAMM) 2018, organized by the Jagiellonian University in Krakow, June 18-22, 2018.

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## Conferences & Presentations

- 11 - 15 Sep 2023 **International Association for Mathematics and Computers in Simulations (IMACS2023), Rome, Italy.**  
 ◦ section: Delay differential equations and applications.  
 ◦ title: Stability of coupled Wilson-Cowan systems with distributed delays.
- 27 - 30 Jun 2023 **Mathematical Problems in Engineering, Aerospace and Sciences(ICNPAA2023), Prague, Czech Republic.**

- section: Mathematics domain.
  - title: A generalized approach on the stability and bifurcations in a differential equation with a general distributed delay.
- 22 - 24 Oct 2020 **3rd Conference of Doctoral Schools of the University Consortium (CSDCU-MIF2020), Iasi, Romania.**
  - section: Mathematics domain.
  - title: A generalized approach on the stability and bifurcations in a differential equation with a general distributed delay.
- 24 - 26 Jun 2019 **5th International Conference on Mathematical Neuroscience (ICMNS 2019), Copenhagen, Denmark.**
  - section: Poster Session.
  - title: Wilson-Cowan Neuronal Interaction Models with Distributed Delays.
- 17 - 20 Feb 2019 **1st International Nonlinear Dynamics Conference (NODYCON 2019), Rome, Italy.**
  - section: Recent trends in nonlinear dynamics - BIOLOGICAL SYSTEMS DYNAMICS I.
  - title: Wilson-Cowan Neuronal Interaction Models with Distributed Delays.
- 03 - 06 Feb 2019 **10th International Conference on Dynamical Systems Applied to Biology and Natural Sciences (DSABNS 2019), Napoli, Italy.**
  - section: Poster section.
  - title: Wilson-Cowan Neuronal Interaction Models with Distributed Delays.
- 18 - 22 Jun 2018 **Emerging Trends in Applied Mathematics and Mechanics (ETAMM 2018), Krakow, Poland.**
  - section: Dynamical Systems in Medicine and Biology.
  - title: Stability of two-dimensional systems with distributed delays and applications to a SIR model.

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## Workshops & Presentations

- 22 - 26 Jun 2019 **attended the Training School "Computational Methods for Fractional-Order Problems" within COST Action CA15225, Bari, Italy.**
- 10 - 14 Jun 2019 **attended the Summer School "Smooth Dynamical Systems Theory", organized within the project H2020-MSCA-RISE-2017 - 777911-Dynamics, Timisoara, Romania.**
- 10 - 11 Jan 2019 **attended the ECI workshop and CG and WG meeting within the COST action CA15225, Dublin, Ireland.**
- 07 - 09 Feb 2018 **attended the Ninth Workshop Dynamical Systems Applied to Biology and Natural Sciences (DSABNS 2018), Torino, Italy.**

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## Skills & Driving Licence

- **Language skills.**  
Romanian (native), English (advanced), Italian (intermediate high), German (learning).
- **Digital Skills.**  
C/C++ program (intermediate), Python program (intermediate), LUA/LOVE2D program (intermediate), Front-end Technologies (intermediate), Microsoft Office Suite (advanced), R Statistics Program (intermediate), LaTeX/Overleaf software (advanced), SQL/PLSQL (advanced).
- **Driving Licence: B Category (expired).**