George Datseris

Curriculum Vitae

Academic Background

01/2020 - 01/2022 **Postdoc**, *Max Planck Institute for Meteorology*, Department of Atmosphere in the Earth System (dir. Bjorn Stevens), Hamburg, Germany.

10/2019 - 12/2019 **Postdoc**, *Max Planck Institute for Dynamics and Self-organization*, Department of Living Matter Physics (dir. Ramin Golestanian), Göttingen, Germany.

04/2016 - 09/2019 **PhD in physics: Ballistic electron transport in graphene nanodevices and billiards (awareded "summa cum laude")**, *Max Planck Institute for Dynamics and Self-organization*, Department of Nonlinear Dynamics (dir. Theo Geisel), Göttingen, Germany.
PhD supervisors: Prof. Theo Geisel, Dr. Ragnar Fleischmann

10/2015 - 04/2016 **Research Assistant**, *Max Planck Institute for Dynamics and Self-Organization*, Department of Nonlinear Dynamics (dir. Theo Geisel).
6-month funded period that constituted my MSc Thesis.

2014 - 2016 **Master's Degree in the specialty of "Physics of Materials" (120 ECTS)**, *National and Kapodistrian University of Athens, Faculty of Physics*, Athens, Grade 9.28/10.0.
Thesis: Quasi-classical Magneto-transport in Graphene Antidot Super-lattices (supervised by Prof. Theo Geisel & Prof. Georgios Triberis)

2009 - 2014 **Bachelor in Physics (240 ECTS), Majored in Solid State Physics**, *National and Kapodistrian University of Athens, Faculty of Physics*, Athens, Grade 8.06/10.0.
Thesis: Auto- and Cross- Correlations in the Standard Map: Structure and Origin (supervised by Prof. Fotios Diakonos)

Fellowships & Awards

2018 **DSWeb 2018 Dynamical System Software Competition by SIAM**.
First place winner using the software **DynamicalSystems.jl** as a submission. For more details please see the official statement.

2018 **IMPRS Travel Grants**.
For travelling to London, U.K. and participating in the conference JuliaCon 2018 as well as travelling to Potsdam, Germany and participating in the conference deRSE19.

2016 - 2019 **International Max Planck Research School Scholarship**.
This 3-years scholarship covers a full PhD project and was awarded to me on July/2016 for my PhD project.

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Publications

2019 **Phase space analysis of quantum transport in electronic nanodevices**, *G. Datseris & R. Fleischmann*, submitted (https://arxiv.org/abs/1905.06637).

2019 **Estimating Lyapunov exponents in billiards**, *G. Datseris, L. Hupe & R. Fleischmann*, Chaos (doi.org/10.1063/1.5099446).

2019 **Does it Swing? Microtiming Deviations and Swing Feeling in Jazz**, *G. Datseris, A. Zieries, T. Albrecht, V. Priesemann, Y. Hagmayer & T. Geisel*, accepted in Scientific Reports (arxiv.org/abs/1904.03442).

2019 **Predicting Spatio-Temporal Time Series Using Dimension Reduced Local States**, *J. Isensee, G. Datseris & U. Parlitz*, accepted in J. Nonlin. Sci..

2019 **Robustness of ballistic transport in antidot superlattices**, *G. Datseris, T. Geisel & R. Fleischmann*, New J. Phys. (doi.org/10.1088/1367-2630/ab19cc).

2019 **MIDI.jl: Simple and intuitive handling of MIDI data**, *G. Datseris & J. Hobson*, Journal of Open Source Software, 4(35), 1166, https://doi.org/10.21105/joss.01166.

2018 **DynamicalSystems.jl: A Julia software library for chaos and nonlinear dynamics**, *G. Datseris*, Journal of Open Source Software, 3(23), 598, https://doi.org/10.21105/joss.00598.

2017 **DynamicalBilliards.jl: An easy-to-use, modular and extendable Julia package for Dynamical Billiard systems in two dimensions**, *G. Datseris*, Journal of Open Source Software, 2(19), 458, doi:10.21105/joss.00458.

2015 **Effective intermittency and cross correlations in the standard map**, *G. Datseris, P. Schmelcher & F. Diakonos*, Phys. Rev. E **92**, 012914 (2015).

Developed and Published Software

- **InteractiveChaos.jl**
- **DynamicalBilliards.jl**
- **DrWatson**
- **MIDI.jl**
- **DynamicalSystems.jl**
- **TimeseriesPrediction.jl**
- **MusicManipulations.jl**
- **MotifSequenceGenerator.jl**

Additional Qualifications

Programming	Python, Julia, LaTeX, Microsoft Office, Cubase, Mathematica, Adobe Photoshop, Adobe Illustrator, C.
Soft Skills	Attended courses on networking, negotiation, conflict management, grant writing, career development.
Projects	Attended a 7-weeks course on project planning, integration, management and productivity.
Professional Drummer	Graduated from Philippos Nakas school of music in association with Berklee college of music with diploma grade: "Very Good". During my drumming career I have been leading numerous groups of amateur and professional musicians, obtaining skills in leadership and teamwork. The diploma in modern drumset and theory of jazz music was awarded to me on July 2015.

Invited Talks

11/2019 **Phase space analysis of quantum transport in graphene**, *Technical University Vienna*, invited by Stefan Rotter.

09/2019 **Music timeseries analysis: universal structure and its impact on the listening experience**, *University of Nottingham*, invited by Philip Moriarty.

08/2019 **Fresh approach to dynamical systems software**, *8^{th} Recurrence Plot Symposium - Zhenjiang, China*, invited by Norbert Marwan.

07/2019 **Software to make your scientific life easier**, *New trends in biomedical imaging and data analysis (Conference)*, invited by Ulrich Parlitz.

05/2019 **Music timeseries analysis: universal structure and its impact on the listening experience**, *Max Planck Institute for the Physics of Complex Systems*, invited by Holger Kantz.

04/2019 **Spatiotemporal Timeseries prediction using locally reconstructed states**, *Potsdam Institute for Climate Impact Research*, invited by Norbert Marwan.

07/2018 **Fresh approach to dynamical systems software**, *TU Munich*, invited by Oliver Junge.

04/2018 **Nonlinear Resonances and phase-space volume conservation lead to robust ballistic transport in antidot superlattices**, *Uni. Regensburg*, invited by Jonathan Eroms.

Supervised Theses

2018 **Statistical properties of musical time series**, *L. Jahn*, Bachelor thesis co-supervised with T. Geisel.

2018 **Observing and predicting complex dynamics using local modelling**, *J. Isensee*, Bachelor thesis co-supervised with U. Parlitz.

2018 **Lyapunov exponents vs. phase space restrictions in dynamical billiards**, *L. Hupe*, Bachelor thesis co-supervised with R. Fleischmann.

Teaching

Lectures

2017 **Introduction to the Physics of Complex Systems**, *University of Göttingen.*
Tutoring for the course (total amount of around 48 hours) with lecturers R. Fleischmann, U. Parlit and A. Gholami.

2016 **Introduction to the Physics of Complex Systems**, *University of Göttingen.*
Tutoring for the course (total amount of around 48 hours) with lecturers R. Fleischmann, U. Parlit and K. Alim.

04/2014 - 06/2014 **Chaos in 1D and 2D Maps**, *University of Athens.*
Total of 9 hours lecture for the course called "Non-linear dynamical systems". The units I taught undergraduate students were 1D Chaotic Maps, 2D Hamiltonian Maps, Lyapunov exponents and Invariant measures.

Workshops, Videos, Other

2017-2019 **Software video tutorials**, *Online.*
Multiple videos uploaded (or livestreamed) on YouTube explaining the use of software described in the *Software* section of the CV.

2017 **Jumping into Julia**, *Max Planck Institute for Dynamics and Self-Organization.*
Single day workshop about the programming language Julia and how can one start using it in scientific work.

Event Organizing

10/2019 Hacktoberfest at the Max Planck Institute for Dynamics and Self-Organization

2018 - 2019 Göttingen GGNB Debate club.

2018 Bi-annual retreat of the PhD school for the Physics of Biological and Complex Systems.

Community Service

I have reviewed publications for the Journal of Open Source Software (JOSS).

Languages

Mothertongue	**Greek**	
Expert	**English**	*Proficiency degree from the University of Michigan*
Intermediate	**Spanish**	*B2 National degree*