

# George Datseris

## Curriculum Vitae

### Academic Background

- 01/2020 - **Postdoc**, *Max Planck Institute for Meteorology*, Department of Atmosphere in the Earth System (dir. Bjorn Stevens), Hamburg, Germany.
- 04/2016 - **PhD in physics: Ballistic electron transport in graphene nanodevices and billiards (awarded “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 - **Research Assistant**, *Max Planck Institute for Dynamics and Self-Organization*, Department of Nonlinear Dynamics (dir. Theo Geisel).  
04/2016 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 Diakonou)

### Fellowships, Awards, Highlights

- 2021 **Publication highlight in Eos.org**.  
Our paper *Earth’s albedo and its symmetry* (Datseris & Stevens 2021, AGU Advances) was selected as an Editor’s Highlight in Eos.org (fewer than 2% of AGU journal articles are featured in this way).
- 2020 **70<sup>th</sup> Lindau Nobel Laureate Meeting**.  
Selected to participate in the (online due to COVID-19) meeting.
- 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 (IMPRS) 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

### Textbooks

- 2021 **Nonlinear Dynamics: An introduction interlaced with code**, *G. Datsis & U. Parlitz*, Springer-Nature, Undergraduate Lecture Notes In Physics Series (in press).

### Journal articles

All published journal articles are available on my manually curated Google Scholar page.

[https://scholar.google.com/citations?hl=en&user=5U\\_1lXcAAAAJ](https://scholar.google.com/citations?hl=en&user=5U_1lXcAAAAJ)

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## Teaching

- 2020-2021 **A practical introduction to nonlinear dynamics**, *University of Hamburg*. Full semester course for PhD and Master students where I was the only lecturer, and a tutor helped me by giving exercises. The course is based on our aforementioned book published by Springer.
- 2021 **Agent based modelling with Agents.jl**, *SGH Warsaw School of Economics*. One-day guest lecture for a course on Agent based modelling taught by B. Kaminski.
- 2016, 2017 **Introduction to the Physics of Complex Systems**, *University of Göttingen*. Tutoring for the course (total amount of around 48 hours) taught by R. Fleischmann, U. Parlitz, K. Alim and A. Gholami. I tutored this course twice.
- 04/2014 - **Chaos in 1D and 2D Maps**, *University of Athens*.
- 06/2014 Total of 9 hours guest lecture for the course “Non-linear dynamical systems” taught by T. Apostolatos and P. Ioannou.

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## Supervision

- 2021 **Model Serialization and Pathfinding for Agents.jl**, *A. Sabharwal*, Google Summer of Code project, co-supervised with T. DuBois.
- 2021 **Albedo hemispheric symmetry as a result of static asymmetries**, *I. Baffour*, Master thesis co-supervised with H. Schmidt.
- 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.

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## Workshops, Videos, Outreach

- 2021 **Open Science Panel Discussion.**  
Participated as one of the four panelists of the “Open Science” Panel Discussion which took place during the 70<sup>th</sup> Lindau Nobel meeting. I co-hosted the panel with Dr. Jex and Nobel Laureates Prof. Blackburn and Prof. Schekman. The panel discussion was video-streamed live globally. This workshop was also performed in Göttingen two years prior.
- 2021 **Good scientific code, Hamburg / online.**  
Two-day long workshop on writing good scientific code and scientific project reproducibility.
- 2020 **Julia: Zero-To-Hero, Göttingen / online.**  
Intensive workshop about the programming language Julia and how can one start using it in scientific work. Also available on YouTube with currently ~10,000 views.
- 2017 - **Software video tutorials, Online.**  
Multiple videos uploaded (or livestreamed) on YouTube explaining the use of software I have created (see *Software* section of the CV).

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## Developed and Published Software

I have developed, or had significant contributions to, numerous scientific software packages for the Julia language, all of which are open source and hosted on GitHub. Notable software is DrWatson, which was created to help scientific project reproducibility and management. Software having \* have already been used in published scientific research (not only by myself).

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|--------------------------|----------------------------|
| ○ InteractiveDynamics.jl | ○ DynamicalSystems.jl*     |
| ○ DynamicalBilliards.jl* | ○ TimeseriesPrediction.jl* |
| ○ DrWatson*              | ○ MusicManipulations.jl*   |
| ○ MIDI.jl*               | ○ TimeseriesSurrogates.jl* |
| ○ Agents.jl*             | ○ ClimateBase.jl*          |

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## Invited Talks

This section lists invited talks, not contributed conference talks. I contribute on average 3 conference talks per year.

- 11/2019 **Earth’s albedo symmetry and cloudiness, 35<sup>th</sup> CERES-NASA Science Team Meeting**, invited by Norman Loeb.
- 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<sup>th</sup> 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.

## Additional Qualifications

- Community Service Reviewed publications for the following journals: Journal of Open Source Software, European Physics Journal B, Chaos, PLoS ONE Applied Mathematics.
- Soft Skills Attended courses on networking, negotiation, conflict management, grant writing, career development, and a semester-long course on project management and productivity.
- Professional Drummer Degree on modern drumset and Jazz music theory. Graduated from Philippos Nakas school of music in association with Berklee college of music with diploma grade: "Very Good" on July 2015.
- Event Organizing Hacktoberfest at the Max Planck Institute for Dynamics and Self-Organization, Göttingen GGNB PhD School Debate club, Bi-annual retreat of the PhD school for the Physics of Biological and Complex Systems.

## Languages

- Mother tongue **Greek**
- Expert **English** *Proficiency degree from the University of Michigan*
- Intermediate **Spanish** *B2 National degree*