

# Curriculum Vitae

Dimitrios-Lavrentios Prousalis

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## Personal Information

First name: Dimitris  
Family name: Prousalis  
Profession: *Physicist, expert in dynamical systems*  
Date of birth: February 8th, 1986  
Place of birth: Thessaloniki, Greece  
Work address: Biological Physics,  
Max Planck Institute  
for the Physics of Complex Systems,  
Germany  
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### Languages

*Greek*: Native speaker, *English*, *German*(B1), *Russian* (B1)

### Computer Skills

*Operating Systems*: UNIX/Linux, Windows

*Programming Languages*: FORTRAN 77 & 90/95 (experience),  
C/C++ (advance), python (intermediate)

*Markup Languages*: L<sup>A</sup>T<sub>E</sub>X, HTML

*Scientific Software*: Mathematica, Gnuplot, Matlab

## Experience

2019-today **Post Doctoral Researcher**  
*VIP+ validation project “PLL-synchronisation”* ▶  
Biological Physics, Max Planck Institute for the Physics of Complex Systems ▶

## Education

2015-2019 **Phd Student**  
*“Study of the dynamical behavior of nonlinear circuits with memory elements” PhD thesis*  
*Supervisors*: Stoumboulos Ioannis, Kyprianidis Ioannis,  
Lab of Nonlinear Circuits -Systems & Complexity (LaNSCoM)  
Department of Physics, Faculty of Science,  
*Aristotle University of Thessaloniki*, Greece ▶

2013-2015 **Graduate studies** – M.Sc. in Computational Physics (2015),  
*Master thesis*: “Study of the behavior of a neuron with the Hindmarsh-Rose neuron model”  
*Supervisors*: Meletlidoy Eythymia, Kyprianidis Ioannis  
Theoretical Mechanics Division and Lab of Nonlinear Circuits -Systems & Complexity (LaNSCoM)  
Department of Physics, Faculty of Science  
*Aristotle University of Thessaloniki*, Greece

2013 **Undergraduate studies**  
– B.Sc. in Physics (2013), 4-year degree  
*Major*: Theoretical Physics  
Department of Physics, School of Sciences  
*Aristotle University of Thessaloniki*, Greece

# Publications

## Articles in Journals

1. **D.A. Prousalis**, C.K. Volos, I. Stouboulos, I.M. Kyprianidis.: “Extreme Multistability in Hyperjerk Memristive System with Hidden Attractors and Its Adaptive Synchronization Scheme”, *International Journal of Simulation and Process Modelling*, vol. 13, No. 5, pp. 433-445, 2018.
2. **D.A. Prousalis**, C.K. Volos, I. Stouboulos, I.M. Kyprianidis.: “Hyperchaotic Memristive System with Hidden Attractors and Its Adaptive Control Scheme”, *Nonlinear Dynamics*, vol. 90, pp. 1681–1694, 2017.
3. C.K. Volos, **D.A. Prousalis**, I.M. Kyprianidis, I. Stouboulos, S. Vaidyanathan, V.-T Pham.: “Synchronization and anti-synchronization of coupled Hindmarsh-Rose neuron models”, *International Journal of Control Theory and Applications* Volume 9, Issue 1, pp. 101-114, 2016.

## Chapters in Books

1. **D.A. Prousalis**, Ch.K. Volos, Bocheng Bao, Efthymia Meletlidou, Ioannis N. Stouboulos, Ioannis M. Kyprianidis, “Extreme Multistability in a Hyperjerk Memristive System with Hidden Attractors”, *Recent Advances in Chaotic Systems and Synchronization: From Theory to Real World Applications*, (Elsevier), pp. 89-103, 2019.
2. **D.A. Prousalis**, Ch.K. Volos, V-T. Pham, I.N. Stouboulos, and I.M. Kyprianidis, “4-D Memristive Chaotic System with Different Families of Hidden Attractors”, *Nonlinear Dynamical Systems with Self-Excited and Hidden Attractors. Studies in Systems, Decision and Control*, vol 133. Springer, 2018.
3. Ch.K. Volos, **D.A. Prousalis**, S. Vaidyanathan, V.-T. Pham, J.M. Munoz-Pacheco and E. Tlelo-Cuautle, “Kinematic Control of a Robot by Using a Non-autonomous Chaotic System”, *Studies in Computational Intelligence* 635, pp. 1-17, 2015.

## International Conferences

1. R. F. Riaz, **D. Prousalis**, Ch. Hoyer ; J. Wagner, F. Ellinger, F. Jlicher, L. Wetzel , “Stability and Transient Dynamics of PLLs in Theory and Experiments”, 2020 European Conference on Circuit Theory and Design (ECCTD), Sofia, Bulgaria, 2020
2. **D.A. Prousalis**, C. K. Volos, I. N. Stouboulos, I. M. Kyprianidis, “Study of the behavior of a Chaotic Oscillator with memory elements(memristor, memcapacitor)”, 26th Nonlinear Dynamics of Electronic Systems conference (NDES 2018), Acireale, 2018.
3. **D.A. Prousalis**, C. K. Volos, I. N. Stouboulos, I. M. Kyprianidis, H. E. Nistazakis and G. S. Tombras, “Chaotic synchronization in coupled neuronal circuits via a memristor,” 2017 Panhellenic Conference on Electronics and Telecommunications (PACET), Xanthi, 2017, pp. 1-4.
4. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis and D. J. Frantzeskakis, “An extended study of extreme multistability in a memristive circuit,” 2017 Panhellenic Conference on Electronics and Telecommunications (PACET), Xanthi, 2017, pp. 1-4.
5. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis “A 4D Hyperjerk Memristive System with Hidden Attractors”, 6th International Conference on Modern Circuits and Systems Technologies (MOCASST), 4-6 May 2017.
6. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis “A Hyperjerk Memristive System with Infinite Equilibrium Points”, International Conference on Mathematical Methods and Computational Techniques in Science and Engineering (MMCTSE), 24-26 February 2017.
7. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis “Synchronization and Antisynchronization Phenomena in Coupled Non-identical Hindmarsh Rose Neurons”, *Physical Biology of Tissue Morphogenesis Mechanics, Metabolism and Signaling*, Max Planck Institute for the Physics of Complex Systems, October 2016.
8. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis “A Hyperchaotic Memristive Dynamical System”, 20th International Conference on Circuits, Systems, Communications and Computers (CSCC 2016), 14-17 July 2016.
9. **D.A. Prousalis**, Ch. K. Volos, I. N. Stouboulos, I. M. Kyprianidis, “A Novel 4-D Hyperchaotic Four-Wing Memristive System”, 5th International Conference on Modern Circuits and Systems Technologies (MOCASST), 12-14 May 2016.
10. Ch. K. Volos, **D.A. Prousalis**, I. M. Kyprianidis, I. N. Stouboulos, H. E. Nistazakis, G. S. Tombras, “Synchronization Phenomena in Coupled Hindmarsh Rose Neuron Models”, 2015.