Minh Tuan Pham

Curriculum Vitae

Education

2017–2021 **Phd thesis "Understanding collapse of social systems through co-evolutionary network dynamics"**, Medical University of Vienna.
doi.org/10.13140/RG.2.2.22500.50561

2016–2017 **ICFP program in Theoretical Physics**, *Ecole Normale Superieure*, Paris.

2014–2016 **Master's thesis "Noise-induced phase transition in autocatalytic reactions"**, *Belgorod State University*, Russia.

2010–2014 **B. Sc in Theoretical Physics**, *Belgorod State University*, Russia.

Interships

05.07–31.07/2017 **Stability of ecosystems with a core-periphery structure**, *Supervisors: Jacopo Grilli and Fernando L. Metz in "London Mathematical Laboratory Summer School".*

04–07/2017 **Macdonald Polynomial & Q Matrix**, *Supervisor: Prof. Vincent Pasquier.*
Institut de Physique Theorique, CEA/Saclay.

07–09/2015 **Ergodicity Breaking in Anomalous Diffusion**, *Supervisor: Prof. G. Pagnini.*
Basque Centre for Applied Mathematics (BCAM), Bilbao, Spain.

Invited Talks

2021 in the CSH's working group "Measuring institutional integrity with the judiciary"

2021 seminal talk at Institute for Condensed Matter Physics of NAS of Ukraine

2021 "Models of social fragmentation" at CSH – ICS Meeting Complexity theory meets the observation on complex systems: From microstructures to societies, CSH, Austria.

2015 "Physical characterisation of the generalised gray Brownian motion" at the 3rd Fractional Calculus, Probability and Non-Local Operators, BCAM Bilbao.

Posters

2021 WE-Heraeus Seminar on Interacting Tipping Elements in the Natural and Social Components of the Earth System.

2021 Conferences of the Middle European Cooperation in Statistical Physics MECO46.

2021 The virtual Workshop on Limits to Diversity Assembly, Abdus Salam ICTP, Trieste.

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Contributed Talks

2021 "Balanced Triad Formation explained by Dyadic Interactions" at the Physik sozio-okonomischer Systeme section, Annual meeting of DPG, Germany.

2021 "The effect of social balance on social fragmentation" at Joint Annual Meeting of the Austrian and Swiss Physical Societies, University of Innsbruck, Austria.

2021 "Balanced and fragmented phases in societies with homophily and social balance" at the Networks 2021, Indiana University, USA.

2019 "Co-evolutionary Opinion Dynamics on Adaptive Social Networks: the role of Social Balance " at the Complex Network Conference 2019, Lisbon

2018 "Macroprediction of Critical Transitions in Adaptive Networks" at CCS2018.

2015 "Bifurcation in a Markov model of autocatalytic reactions" at Yu.V.Linnik Centennial Conference, Steklov Mathematics Institute of Russian Academy of Sciences.

Summer Schools

2021 Complex Networks Winter Workshop, Vermont Complex Systems Center, Burlington

2020 Quantitative Approaches in Ecosystem Ecology Winter School, ICTP, Trieste.

2019 "Prospects in Theoretical Physics" School, Institute for Advanced Study, Princeton.

2019 Complexity Science Hub Vienna Winter School, Obergurgl University Center.

2018 Oxford Summer School in Economic Networks, Mathematical Institute, Oxford.

2018 Workshop Complexity 72h, IMT School, Lucca, Italy.

2016 Spring College on the Physics of Complex Systems, Abdus Salam ICTP, Trieste.

2015 Hands-on Research in Complex Systems School, Abdus Salam ICTP, Trieste.

Publications

2021 Empirical social triad statistics can be explained with dyadic homophylic interactions, Tuan Minh Pham, Jan Korbel, Rudolf Hanel and Stefan Thurner, submitted (2021).

2021 Balance and fragmentation in societies with homophily and social balance, T. M Pham, A. C. Alexander, J. Korbel, R. Hanel and S. Thurner, Scientific Reports 11, 17188 (2021).

2020 The effect of social balance on social fragmentation, T. M. Pham, I. Kondor, R. Hanel and S. Thurner, Journal of the Royal Society Interface, 17: 20200752 (2020).

2020 Predicting collapse of adaptive networked systems without knowing the networks, L. Horstmeyer, T. M. Pham, J. Korbel and S. Thurner, Scientific Reports 10, 1223 (2020).

2016 Exhaustive study of the noise-induced phase transition in a stochastic model of self-catalyzed reactions, T. M. Pham, Yu. P. Virchenko, Theoretical and Mathematical Physics, 188:2, 1236-1252.

2016 Fractional kinetics emerging from ergodicity breaking in random media, D. Molina-Garcia, T. M. Pham, P. Paradisi, C. Manzo, G. Pagnini, Phys. Rev. E. 94, 052147.

2016 Phase diagram analysis of noise-induced transition in an autocatalytic reaction, Tuan Minh Pham, Yu. P. Virchenko, J. Phys.: Conf. Ser. 769 012026.

Awards, Grants

2021 Best poster prize at the WE-Heraeus Seminar on Interacting Tipping Elements in the Natural and Social Components of the Earth System.

2021 Outstanding poster award at the 46-th Conference of the Middle European Cooperation in Statistical Physics.

2016-2017 ICFP Scholarship of Ecole Normale Superieure Paris.

2010-2016 Master's and Undergraduate Scholarships of Russian and Vietnamese governments.

Computer skills

Python, RStudio, Matlab, Mathematica, LATEX.

Languages

English	Advanced	*IELTS: B2*
Russian	Fluent	*B. Sc in Russian*
German	Basic	

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