张潇竹

http://zhangxiaozhu.me

邮箱：xiaozhu.zhang@tu-dresden.de | 电话：+49 351 463 43975
出生年月：1985 年 3 月 | 籍贯：上海

科研经历

德累斯顿工业大学 | 博士后
2018.02 – 至今 | 德国，德累斯顿

- **研究方向**：非线性耦合复杂网络动力学，包括受驱动网络中的模式形成，复杂网络中的扰动传播过程等。

教育背景

马克斯 • 普朗克动力学与自组织研究所 | 物理学博士 (Dr. rer. nat.)
2014.05 – 2018.01 | 德国，哥廷根

- 以优异成绩毕业 (graduated with *Magna Cum Laude*)
- 导师: **Prof. Dr. Marc Timme**
- 论文: Dynamic Responses of Networks under Perturbations: Solutions, Patterns, and Predictions

哥廷根大学 | 物理学硕士
2011.10 – 2013.09 | 德国，哥廷根

- 以优异成绩毕业 (graduated with *Distinction*)
- 导师：**Prof. Dr. Sarah Hallerberg**
- 论文: Statistics, Predictability and Dynamics of Critical Transitions

哥廷根大学 | 物理学学士
2008.10 – 2011.07 | 德国，哥廷根

- 导师：**Prof. Dr. Jan Nagler**
- 论文: Impact of Stochastic Delays in Extremal Evolutionary Dynamics

复旦大学 | 光通信科学与技术专业，理学学士
2003.09 – 2007.06 | 中国，上海

- 导师：**庄军 教授**
- 论文: Ag(001) 表面吸附原子自扩散动力学行为的进一步研究

论文成果

代表论文

[1] **Xiaozhu Zhang**, Dirk Witthaut, and Marc Timme. Topological determinants of perturbation spreading in networks. *Physical Review Letters*, 125:218301, 2020.

[2] **Xiaozhu Zhang**, Sarah Hallerberg, Moritz Matthiae, Dirk Witthaut, and Marc Timme. Fluctuation-induced distributed resonances in oscillatory networks. *Science Advances*, 5(7):eaav1027, 2019.

[3] **Xiaozhu Zhang**, Cheng Ma, and Marc Timme. Vulnerability in dynamically driven oscillatory networks and power grids. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 30(6):063111, 2020.

[4] **Xiaozhu Zhang**, Christian Kuehn, and Sarah Hallerberg. Predictability of critical transitions. *Physical Review E*, 92(5):052905, 2015.

其他论文

[5] Malte Schroeder, **Xiaozhu Zhang**, Justine Wolter, and Marc Timme. Dynamic perturbation spreading in networks. *IEEE Transactions on Network Science and Engineering*, pages 1–1, 2019.

[6] Dirk Witthaut, Martin Rohden, **Xiaozhu Zhang**, Sarah Hallerberg, and Marc Timme. Critical links and nonlocal rerouting in complex supply networks. *Physical Review Letters*, 116(13):138701, 2016.

[7] Benjamin Schäfer, Moritz Matthiae, **Xiaozhu Zhang**, Martin Rohden, Marc Timme, and Dirk Witthaut. Escape routes, weak links, and desynchronization in fluctuation-driven networks. *Physical Review E*, 95(6):060203, 2017.

[8] Debsankha Manik, Martin Rohden, Henrik Ronellenfitsch, **Xiaozhu Zhang**, Sarah Hallerberg, Dirk Witthaut, and Marc Timme. Network susceptibilities: Theory and applications. *Physical Review E*, 95(1):012319, 2017.

[9] Mehrnaz Anvari, Frank Hellmann, and **Xiaozhu Zhang**. Introduction to focus issue: Dynamics of modern power grids. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 30(6):063140, 2020.

[10] Justine Wolter, Benedict Lünsmann, **Xiaozhu Zhang**, Malte Schröder, and Marc Timme. Quantifying transient spreading dynamics on networks. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 28(6):063122, 2018.

[11] Zhiyi Lv, Jan Rosenbaum, Stephan Mohr, **Xiaozhu Zhang**, Deqing Kong, Helen Preiß, Sebastian Kruss, Karen Alim, Timo Aspelmeier, and Jörg Großhans. The emergent yo-yo movement of nuclei driven by cytoskeletal remodeling in pseudo-synchronous mitotic cycles. *Current Biology*, 30(13):2564 – 2573.e5, 2020.

[12] **Xiaozhu Zhang**. *Dynamic Responses of Networks under Perturbations*. PhD thesis, Georg-August University, 2017.

[13] **Xiaozhu Zhang**, Kristian Hantke, Cornelius Fischer, and Matthias Schröter. Performance of polarization-based stereoscopy screens. *3D Research*, 3(4):4, 2012.

学术兼职

兼职编辑

- Focus Issue *"Dynamics of Modern Power Grids"* of Chaos: An Interdisciplinary Journal of Nonlinear Science

期刊、会议审稿

- Chaos: An Interdisciplinary Journal of Nonlinear Science
- NetSciCom 2017: 9th IEEE International Workshop on Network Science for Communication Network
- APVC 2019: The 18th Asia-Pacific Vibration Conference

授课经历

全英文授课

2019	德国德累斯顿工业大学	讲授选修课程 *Physics of Sustainability*
2015	德国哥廷根大学	组织、讲授 *Seminar on Network Science*
2015	德国哥廷根大学	组织、讲授 *Practical Course on Network Science*
2014	德国哥廷根大学	助教课程 *Network Dynamics*

语言技能

编程

熟练掌握：C • C++ • Mathematica • LaTeX • Gnuplot
基本掌握：Matlab • Python

外语

英语：精通学术写作、口头表达（2010 年雅思 7.0）
德语：学术阅读（2008 年 TestDaF 5544, DSH 3）

获奖经历

2018 马克斯 • 普朗克生物和复杂系统物理研究生院优秀研究生
2014 马克斯 • 普朗克学会博士研究生奖学金

学术会议

2020 **Satellite conference of LT29 "Localisation 2020: Anderson Localisation and Related Topics"** | 线上
- 学术海报 *"Localized vs. Delocalized Responses in Fluctuation-driven Networks"*

2019 **Focus-workshop "Collective Nonlinear Dynamics of Complex Power Grid Networks"** | 德国，德累斯顿
- **参与会议组织**
- **受邀报告** *"Predictability of Frequency Excursions in Fluctuation-driven Power Grids"*

2019 **Workshop "Inverter Technology"** | 德国，戈斯拉尔

2019 **jDPG Symposium "Theoretical Physics of Complex Systems und Networks"** | 德国，德累斯顿
- **受邀报告** *"Power Grids as complex networks"*

2018 **Colloquium "Irregular Engineering Oscillations and Signal Processing"** | 德国，汉堡
- **口头报告** *"Localization and Distributed Dynamic Resonances in Oscillatory Networks and Power Grids"*

2018 **Dynamic Days Europe** | 英国，拉夫堡
- **参与组织分会场** minisymposium "Structure and dynamics of future energy systems: power grids as complex dynamical systems"
- **口头报告** *"Transient Dynamics of Perturbation Spreading in Oscillatory Networks and Power Grids"*

2018 **德国物理学会年会** | 德国，柏林
- **口头报告** *"Perturbation spreading in Diffusively-coupled Networks and Power Grids"*

2017 **Conference "Dynamics in Power Systems –from Science to Industry"** | 德国，波兹坦
- **学术海报** *"Perturbation Spreading in Oscillatory Networks and Power Grids"*

2017 **第一届中国系统科学大会 CSSC 2017** | 中国，北京
- **口头报告** *"Dynamic Response Patterns of Oscillatory Networks and Power Grids"*

2017 **德国物理学会年会** | 德国德累斯顿
- **口头报告** *"Response Patterns for Fluctuations in Complex Oscillator Networks"*

2016 **Conference "Complex Networks: from Theory to Interdisciplinary Applications"** | 法国，马赛
- **学术海报** *"Dynamic Response Pattern in Oscillatory Networks and Power Grids"*

2016 **Lake Como School of Advanced Studies "Complex Networks: Theory, Methods and Applications"** | 意大利，科莫

2015 **Workshop "Energy Scenario and Secure Electricity Supply - Role of Electricity Grid"** | 德国，于利希
- **口头报告** *"Steady Response Patterns to Perturbations in Power Grids"*

2015 **德国物理学会年会** | 德国，柏林
- **口头报告** *"Predicting Critical Links in Complex Supply Networks"*

2014 **Symposium "Future Energy Systems: Collective Dynamics and Self-Organization of Power Grids"** | 德国，哥廷根
- **口头报告** *"From Perturbations to Instabilities in Power Grids"*

2013 **德国物理学会年会** | 德国，雷根斯堡
- **口头报告** *"Statistics, Predictability and Dynamics of Critical Transitions"*