张潇竹

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邮箱：xiaozhu_zhang@tongji.edu.cn | 电话：021-65982141
出生年月：1985 年 3 月 | 籍贯：上海

科研经历

同济大学 | 预聘副教授 (TENURE TRACK)
2022.2 – 至今 | 中国，上海

德累斯顿工业大学 | 博士后
2018.02 – 2021.12 | 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 (*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 – 2013.11 | 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 – 2011.09 | 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 | 光信息科学与技术专业，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

⋆ 经历不连续原因说明：
2013.12 – 2014.04　在德国哥廷根等待博士入学；　2007.07 – 2008.09　在同济大学留德预备部学习德语

论文成果

被引指标 | 被引 293 次, Google scholar h-index 指数: 9

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

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

[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*** and Marc Timme. Fluctuation response patterns of network dynamics –an introduction. *European Journal of Applied Mathematics*, page 1–38, 2022.

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

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

[7] 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.

[8] 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.

[9] 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.

[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] 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.

[12] 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.

[13] 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.

[14] Moritz Thümler, **Xiaozhu Zhang**, and Marc Timme. Absence of pure voltage instabilities in the third-order model of power grid dynamics. *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 32(4):043105, 2022.

[15] Zhiyi Lv, Na Zhang, **Xiaozhu Zhang**, Jörg Großhans, and Deqing Kong. The Lateral Epidermis Actively Counteracts Pulling by the Amnioserosa During Dorsal Closure. *Front. Cell Dev. Biol.*, 10:865397, may 2022.

学术兼职

兼职编辑

- **Guest Editor** of 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

2014　马克斯 • 普朗克学会生物和复杂系统物理国际研究生院卓越奖学金
资助博士课题“复杂流网络中的扰动和不稳定性”, 金额约 30 万元人民币

科研项目

2014-2017　参与德国联邦教育及研究部 “复杂电网的集体动力学研究 1”, 金额约 170 万人民币
2019-2021　参与德国联邦教育及研究部 “复杂电网的集体动力学研究 2”, 金额约 370 万人民币

学术会议

2022　**NetSci2022** | 线上
- **“Dynamics I” 分会场主持**
- **口头报告** *“Emerging Complexity in Collective Dynamic Responses of Networked Systems”*

2022　**NetSci2022 Satellite-PowerNet2022** | 线上
- **参与会议组织、主持**

2022　**Workshop “Intelligent Machines? –Self-Organized Nonlinear Dynamics of Machines across Scales”** | 线上
- **口头报告** *“Self-organized Collective Dynamics of Power Grids”*

2021　**The 10th International Scientific Conference on Physics and Control** | 线上
- **口头报告** *“Predicting Risks in Fluctuation Driven Power Grids”*

2021　**同绘蓝图 • 济托未来 同济大学第六届国际青年学者论坛 物理分论坛** | 线上
- **学术报告** “复杂网络的动态响应理论及在电力系统中的应用”

2021　**华东师范大学 2021 年度青年科学家 (学者) 国际论坛 暨第二届前沿物理、电子与精密光谱国际青年论坛** | 线上
- **学术报告** “复杂网络的动态响应”

2020　**华侨大学系统科学系列讲座 第十一讲** | 线上
- **受邀报告** *“Dynamic Response Patterns of Complex Networks and Power Grids”*

2020　**“Complexity in Energy Systems” - Conference on Complex Systems 2020 Satellite** | 线上
- **受邀报告** *“Topological Determinants of Perturbation Spreading in Networks and Power Grids”*

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"*