

# 张潇竹

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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 (*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

## 论文成果

被引指标 | 被引 226 次, Google scholar h-index 指数: 8

- [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, 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\***, Christian Kuehn\*, and Sarah Hallerberg\*. Predictability of critical transitions. *Physical Review E*, 92(5):052905, 2015.
- [5] **Xiaozhu Zhang\***, Kristian Hantke, Cornelius Fischer\*, and Matthias Schröter\*. Performance of polarization-based stereoscopy screens. *3D Research*, 3(4):4, 2012.
- [6] 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.
- [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] 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.
- [11] 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.
- [12] 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.

## 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 <i>Physics of Sustainability</i>          |
| 2015 | 德国哥廷根大学    | 组织、讲授 <i>Seminar on Network Science</i>          |
| 2015 | 德国哥廷根大学    | 组织、讲授 <i>Practical Course on Network Science</i> |
| 2014 | 德国哥廷根大学    | 助教课程 <i>Network Dynamics</i>                     |

## 语言技能

### 编程

熟练掌握: C • C++ • Mathematica • L<sup>A</sup>T<sub>E</sub>X • 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

- 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*”