



地震学与地球内部动力学国际前沿讲座

International Lectures on Seismology and the Earth's Interior Dynamics Frontiers

为了促进地球科学领域的国际交流与合作，提升地震学与深地科学的研究与教育水平，北京大学将于 2024 年 7 月 11-13 日在北大英杰交流中心组织召开“地震学与地球内部动力学国际前沿讲座”。本次讲座将邀请国际知名专家和年青学者提供深入浅出的系列讲座，旨在搭建开放、高水平的国际学术交流平台，深入交流该领域的最新科学进展及基础理论，并为领域指引方向。讲座将采用线下和线上形式。

一、讲座内容

讲座涉及地核、岩石圈、地震、火山等地震学和地球内部动力学的重要前沿科学和技术问题，包括其目标和意义、基础理论、最新成果、以及下一步举措。讲座适合广大地球物理学生、研究人员、以及感兴趣的人员。

二、参加人员范围

1. 讲座报告专家及特邀专家
2. 青年科学家及研究生
3. 其他对地震学和地球内部动力学感兴趣人员（线上）

三、讲座时间地点

讲座时间：2024 年 7 月 12 日

讲座地点：北京大学英杰交流中心星光厅（限50人）

腾讯会议号：583-038-775（限300人）

蔻享直播链接: <https://www.koushare.com/live/details/35834>

四、讲座日程

7 月 11 日下午: 到达和报到

7 月 12 日全天: 讲座特邀报告与讨论总结

7 月 13 日上午: 闭会和离开

五、讲座主办与承办

讲座主办:

北京大学地球与空间科学学院

自然资源部深地科学与探测技术实验室

中国地震学会地震学专业委员会

EQS(Earthquake Science)期刊

讲座承办:

北京大学地球与空间科学学院

六、讲座召集与联系人

召集人:

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北京大学地球与空间科学学院

2024 年 7 月 8 日

Attachment 附件

Lecture Schedule
讲座日程

Starlight Hall, Yingjie Overseas Exchange Center, Peking University
北京大学英杰交流中心星光厅

Thursday July 11, 2024 2024 年 7 月 11 日 周四			
12:00-18:00	Arrival & Registration 到达 & 报到		
Friday July 12, 2024 2024 年 7 月 12 日 周五			
Time 时间	Speakers 报告人	Institutions 单位	Oral 报告
9:00-9:10	Xiaodong Song 宋晓东	Peking University 北京大学	Opening Remarks 开幕式
9:10-9:30	Group Photo 合影		
9:30-10:10	Zhigang Peng 彭志刚	Georgia Institute of Technology, USA 美国佐治亚理工学院	High-Resolution Fault Zone Imaging with Microearthquakes and Fault Zone Waves
10:10-10:50	Lupei Zhu 朱露培	Saint Louis University, USA 美国圣路易斯大学	Joint inversion for crustal velocity structure with interfaces and its application to the Wabash Valley Seismic Zone
10:50-11:30	Xiaotao Yang 杨晓涛	Purdue University, USA 美国普渡大学	Lithospheric modification of the North American craton revealed by full-wave ambient noise tomography

11:30-13:30	Lunch Break (Boya Hall, Yi Yuan Restaurant) 午餐（艺园餐厅-博雅厅）		
13:30-14:10	Nikolai Shapiro	University Grenoble Alpes, France 法国格勒诺布尔-阿尔卑斯大学	Toward understanding seismo-volcanic tremors
14:10-14:50	John Vidale	University of Southern California, USA 美国南加利福尼亚大学	The rotation and perhaps also deformation of Earth’s inner core
14:50-15:20	Coffee Break 茶歇		
15:20-16:00	Heidi Houston	University of Southern California, USA 美国南加利福尼亚大学	Low absolute amplitudes of shear stress in two tectonic settings: a subducting slab and continental crust
16:00-16:40	Sylvain Barbot	University of Southern California, USA 美国南加利福尼亚大学	Constitutive behavior of faults during the seismic cycle
16:40-17:30	Free Discussions 自由讨论与交流		
17:30-20:00	Dinner (Chunhe Hall, Shao Yuan Chinese Restaurant) 晚餐（勺园中餐厅-春和厅）		
Saturday July 13, 2024 2024 年 7 月 13 日 周六			
9:00-12:00	Closing Ceremony & Departure 闭会 & 离开		

Introduction of the Invited Speakers

特邀报告人简介

Sylvain Barbot

Associate Professor

University of Southern California, USA

Invited Speech: Constitutive behavior of faults during the seismic cycle

Time: 17:00-18:00, July 12



Sylvain studied earthquake physics and tectonic geodesy at the Institut de Physique du Globe de Paris, the Institute of Geophysics and Planetary Physics at the Scripps Institution of Oceanography (University of California at San Diego), and, as a postdoc, at the California Institute of Technology. He was a Nanyang Assistant Professor and National Research Fellow at the Earth Observatory of Singapore and the Asian School of the Environment. He is now an Associate Professor at the University of Southern California where he conducts research on the physics of friction, fault dynamics, and lithospheric deformation during the seismic cycle.

Heidi Houston

Professor

University of Southern California, USA



Invited Speech: Low absolute amplitudes of shear stress in two tectonic settings: a subducting slab and continental crust

Time: 16:00-17:00, July 12

Heidi Houston is currently Professor of Geophysics at the University of Southern California. She received her Ph.D. from the California Institute of Technology under the mentorship of Professor Hiroo Kanamori. She then held research and teaching positions at the University of California Santa Cruz and University of California Los Angeles. Following that she was a Professor at the University of Washington, before moving to her current position. Her research focuses on earthquake sources, physical mechanisms of deep earthquakes, slow slip and tremor behavior, and most recently, determining stress levels in continental crust and subducting slabs.

Zhigang Peng (彭志刚)

Professor

Georgia Institute of Technology, USA



Invited Speech: High-Resolution Fault Zone Imaging with Microearthquakes and Fault Zone Waves

Time: 9:00-10:00, July 12

彭志刚,美国佐治亚理工学院地球和大气系教授。主要研究方向为震源和环境地震学。2010年至2013年任美国地震学会学报副编辑,2011年至2013年任地球物理研究期刊副编辑,2013年至2019年担任地震研究快报主编,2021年起任地震研究进展杂志执行主编。目前为美国地震学会董事会成员,国际华人地球科学家协会前主席。2010年获美国国家自然科学基金职业成就奖,美国地震学会里氏青年科学家奖,和所在的地球和大气系年轻教授奖。2020年获美国地震学会杰出贡献奖。

Nikolai Shapiro

Professor

University Grenoble Alpes, France

Invited Speech: Toward understanding seismo-volcanic tremors

Time: 14:30-15:30, July 12



Dr. Nikolai Shapiro is a professor at the Institut des Sciences de la Terre (ISTerre), CNRS, Université Grenoble Alpes, France. He is also the Directeur de Recherche (Research Director) of the CNRS. He received his B.S and M.S. degree at Moscow Institute of Physics and Technology, Russia in 1991, and Ph.D. degree at Université Joseph Fourier in 1996. He worked at IPGP (France), University of Colorado at Boulder (USA), UNAM (Mexico), Université Joseph Fourier (France), Institute of Mathematical Geophysics (Russia), and Institute of Spectroscopy (Russia) before joining ISTerre. His research interests are Seismology, Seismic Tomography, Seismic Noise Interferometry. His most recent interest is Volcano Seismology, leading French volcano observatories in 2011-2016 and running field experiments in Kamchatka, Russia in 2013-2021. He received many honors and awards, including Fellow of the American Geophysical Union in 2018, European Research Council Advanced Grant laureate in 2018.

John Vidale

Professor

University of Southern California, USA



Invited Speech: The rotation and perhaps also deformation of Earth's inner core

Time: 13:30-14:30, July 12

John Vidale is currently professor of seismology and dean's chair at the University of Southern California. His research involves earthquakes, earthquake hazard, and Earth structure. After majoring in physics and geology at Yale, he completed his Ph.D. at Caltech in 1986 with Profs. Helmberger and Clayton as advisors. Next, he became a research scientist at UC Santa Cruz and then the US Geological Survey. He subsequently spent a decade each at UCLA and the University of Washington, running the Institute of Geophysics and Planetary Physics and the Pacific Northwest Seismic Network. At USC, he ran the Southern California Earthquake Center for a very short while. He is a recipient of the Macelwane Medal of the American Geophysical Union, and is a member of the U.S. National Academy of Science.

Xiaotao Yang (杨晓涛)

Asistant Professor

Purdue University, USA



Invited Speech: Lithospheric modification of the North American craton revealed by full-wave ambient noise tomography

Time: 11:00-12:00, July 12

Dr. Xiaotao Yang is a seismologist at Purdue University, using seismological methods to solve geological and tectonic problems and to understand earthquake and volcano hazards. Dr. Yang and his group at Purdue University conduct research on a wide range of topics, including intraplate seismicity, structure and evolution of cratonic lithosphere, structure and dynamics of subduction systems, and seismic imaging and monitoring of active volcanoes. As a long-term interest, by collaborating with colleagues, Dr. Yang seeks to integrate multidisciplinary results, including geology, geophysics, geochemistry, and geodynamics in understanding the evolution of the Earth's lithosphere system.

Lupei Zhu (朱露培)

Professor

Saint Louis University, USA



Invited Speech: Joint inversion for crustal velocity structure with interfaces and its application to the Wabash Valley Seismic Zone

Time: 10:00-11:00, July 12

Dr. Lupei Zhu is currently a Professor of Geophysics at the Department of Earth, Environmental, and Geospatial Sciences of Saint Louis University (SLU) in Missouri, USA. He got his BS degree from University of Science and Technology of China in 1985, MS degree in geophysics from the Institute of Geophysics of State Seismological Bureau in Beijing, China in 1988, and Ph.D. in seismology with a minor in computer sciences at Caltech in 1998. He did his post-doctoral research at University of Southern California before joining SLU as an assistant professor in 2001. He received the F. Beach Leighton Fellowship in geophysics at Caltech in 1996 and Citation of the SLU President and Dean of the Graduate School for excellence in research in 2005 and was appointed a fellow of Research Institute of SLU in 2022.