

# 学术讲座



同济大学  
TONGJI UNIVERSITY

物理科学与工程学院  
声子学与热能科学中心

报告人: Prof. Sebastian Volz  
National Scientific Research Center (CNRS),  
and Ecole Centrale Paris

地点: 南校区第一实验楼423会议室



共4次讲课, 每次1小时, 时间安排

	时间	主题
第1场	3月7日 星期二 下午16:00	Basics of phonon thermal transport
第2场	3月8日 星期三 下午16:00	Heat in low-dimensionnal systems
第3场	3月9日 星期四 下午16:00	Basics on atomic thermal transport
第4场	3月10日 星期五 上午10:30	Scattering: Transmission, mean free path and interfaces

## Introduction to Nanoscale Heat Conduction: from Fluctuations to Atomic motion

### 报告摘要:

This series of seminars is proposed to introduce both basics and advanced concept in nanoscale heat transfer. Each course will remain within 30 to 40 minutes and is intended to open for questions and discussions. Starting from conventional definitions of heat flux as yielded by Boltzmann equation (course 1), statistical approaches will be presented within the frame of linear response theory to reach general behaviors of heat conduction in low-dimensionnal systems (course 2). The atomic description of heat transport will then be tackled revealing the limits of conventional phonon approaches (course 3). Theoretical developments and illustrations leading to the definition and the computation of key thermal quantities, i.e. transmission, interfacial thermal resistance and mean free path, will finally be proposed (course 4).

### 个人简介:

Professor Volz obtained his Ph.D. from University of Poitiers in 1996. After working at University of California Los Angeles as a postdoctoral fellow with Professor Gang Chen (now at MIT), he became an associate Professor at the National Engineering School of Mechanics and Aerotechnics (ENSMA) in 1998. He joined CNRS in 2002 as a research fellow at Ecole Centrale Paris, and became senior research fellow in 2010. He is the winner of the Bronze Medal of CNRS in 2004, and International Thermoelectric Society Scientific Award in 2009. He is the head of the CNRS European Network "Thermal Nanosciences and Nanoengineering". In addition, he has served as the chairman in numerous international conferences related to nanoscale heat transport, the active reviewer in more than 20 journals, and the editor of three books. So far, he has published over 300 communications, including 9 chapters, 113 articles in peer-reviewer journals, and 38 invited conferences. His publications have over 3000 citations and his current H-index is 31.

