

The Max Planck Lecture at Stuttgart

The Max Planck lecture is given by outstanding scientists and internationally recognized leaders in their field. The talks are designed to be accessible to a wide audience including scientists, industry practitioners, government decision makers, and the general public interested in science and technology. Stuttgart's Max Planck campus hosts two institutes, the Max Planck Institute for Intelligent Systems (MPI-IS) and the Max Planck Institute for Solid State Research (MPI-FKF). Since 2003, they have alternately organized the MP Lecture once a year.

Speakers of the Max Planck Lecture since 2008:

July 22, 2008/MF

Prof. Dr. A. Paul Alivisatos
Lawrence Berkeley National Laboratory, USA
Nanocrystals as Model Systems for Understanding Structural and Chemical Transformations in the Solid State

October 15, 2008/FKF

Prof. Dr. Moty Heiblum
Weizmann Institute of Science, Israel
Electron Interference in two Dimensions: Phase Measurements, Controlled Dephasing and Phase Recovery

June 8, 2009/MF

Prof. Dr. Yves Bréchet
Grenoble Institute of Technology, France
Architected Materials and Multifunctional Designs: Foams, Wools and Interlocked Materials

November 23, 2009/FKF

Prof. Dr. Harold Y. Hwang
University of Tokyo, Japan
Atomic Engineering Oxide Heterointerfaces

May 27, 2010/MF

Prof. Dr. Subra Suresh
Massachusetts Institute of Technology, USA
Materials Science Approaches for Life Sciences and Human Health

March 3, 2011/FKF

Prof. Dr. Michael Grätzel
EPFL, Lausanne, Schweiz

The advent of mesoscopic solar cells

October 14, 2011/IS

Prof. Dr. Martin Nowak
Harvard University, USA
Evolution of cooperation

September 26, 2012/IS

Prof. Dr. Robert Wood
School of Engineering and Applied Sciences
Harvard University
Progress on biologically-inspired microrobots

December 5, 2012/FKF

Prof. Dr. Clare P. Grey
Department of Chemistry, University of Cambridge, UK & Department of Chemistry, Stony Brook University, USA
Following Function in Real Time: New NMR, MRI and Diffraction Methods for Studying Structure and Dynamics in Batteries and Supercapacitors

May 8, 2013/ FKF

Dr. Ivan Božovi
Brookhaven National Laboratory, USA
Interface Science

October 10, 2013/IS

Prof. Dr. Paul Chaikin
Department of Physics, New York University
Some Small Steps toward Artificial Life

May 22, 2014/IS

Professor A. L. Greer
Department of Materials Science & Metallurgy

University of Cambridge
The Glassy State properties and applications exploiting non-crystallinity: golf, frozen frogs, memory

March 5, 2015/IS

Vijay Kumar, Ph.D.
UPS Foundation Professor
School of Engineering and Applied Science
University of Pennsylvania
Aerial Robot Swarms

May 20, 2015/FKF

Professor Wolfgang Ketterle, Massachusetts Institute of Technology, Cambridge
Ultracold atoms as quantum simulators for new materials – synthetic magnetic fields and topological phases

June 6, 2016/IS

Naomi Ehrich Leonard, Princeton University, Princeton, NJ USA
On the Nonlinear Dynamics of Collective Decision-Making in Nature and Design

May 18, 2017/FKF

Prof. Robert J. Birgeneau
University of California at Berkeley
Superconductors Old and New

Design: www.machwerk.com

1.100/07.2017/mw

Max Planck Lecture

The Three Pillars of Fully Autonomous Driving

Prof. Amnon Shashua

Co-founder, CTO, and Chairman of Mobileye Vision Technologies Ltd.
Sachs Professor of Computer Science at Hebrew University

September 18th, 2017, 11:00 am

Lecture Hall 2D5, Entrance Heisenbergstraße 1
70569 Stuttgart

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www.is.mpg.de/direction_stuttgart

Max-Planck-Institute
Stuttgart



MAX-PLANCK-GESellschaft

The Three Pillars of Fully Autonomous Driving



September 18th, 2017

10:30 am **Coffee**
(in front of Lecture Hall 2D5)

11:00 am **Lecture in room 2D5**

Host:
Max Planck Institute for Intelligent Systems,
Heisenbergstr. 3, 70569 Stuttgart

The field of transportation is undergoing a seismic change with the coming introduction of autonomous driving. The technologies required to enable computer driven cars involves the latest cutting edge artificial intelligence algorithms along three major thrusts: Sensing, Planning and Mapping. Prof. Amnon Shashua, Co-founder and Chairman of Mobileye, will describe the challenges and the kind of machine learning algorithms involved, but will do that through the perspective of Mobileye's activity in this domain.

Prof. Amnon Shashua

Co-founder, CTO, and Chairman of Mobileye Vision Technologies Ltd.
Sachs Professor of Computer Science at Hebrew University

Prof. Amnon Shashua holds the Sachs chair in computer science at the Hebrew University of Jerusalem. His field of expertise is computer vision and machine learning. For his academic achievements he received the MARR prize Honorable Mention in 2001, the Kaye innovation award in 2004, and the Landau award in exact sciences in 2005.

In 1999 Prof. Shashua co-founded Mobileye, an Israeli company developing a system-on-chip and computer vision algorithms for a driving assistance system, providing a full range of active safety features using a single camera. Today, approximately 17 million cars from 25 automobile manufacturers rely on Mobileye technology to make their vehicles safer to drive. In August 2014, Mobileye claimed the title for largest Israeli IPO ever, by raising \$1B at a market cap of \$5.3B. In addition, Mobileye is developing autonomous driving technology with more than a dozen car manufacturers. An early version of Mobileye's autonomous driving technology was deployed in series as an "autopilot" feature in October, 2015, and will evolve to support more autonomous features in 2016 and beyond. The introduction of autonomous driving capabilities is of a transformative nature and has the potential of changing the way cars are built, driven and owned in the future. In March 2017 the computing company Intel has announced the acquisition of Mobileye for \$15.3 billion — the biggest-ever acquisition of an Israeli tech company.

In 2010 Prof. Shashua co-founded OrCam which harnesses computer vision artificial intelligence to assist people who are visually impaired or blind. The OrCam MyEye device is unique in its ability to provide visual aid to hundreds of millions of people, through a discreet wearable platform. Within its wide-ranging scope of capabilities, OrCam's device can read most texts (both indoors and outdoors) and learn to recognize thousands of new items and faces.