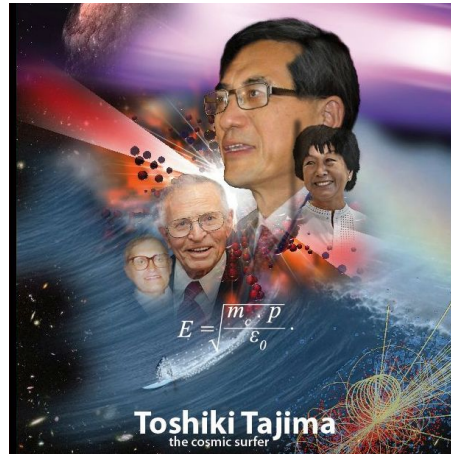


A Scientific Journey from Wakefields to Astrophysics and Fusion: A Symposium in Honor of Toshiki Tajima



Thursday 25 January 2018 - Friday 26 January 2018

January 25

08:30am Shuttle Irvine Marriott - UCI Campus

09:00am Opening Session (30 min):

G. Mourou, M. Binderbauer

Greetings: Ken Janda, Dean, School of Physical Sciences

09:30am Laser I (Chairman : Pisin Chen)

- 09:30am Gerard Mourou** (Ecole Polytechnique)
Overview of Toshiki Tajima's accomplishments
- 09:50am Mike Downer** (Univ. Texas at Austin)
Corrupted by Toshi : confessions of a former condensed matter physicist
- 10:10am Eric Esarey** (Lawrence Berkeley National Lab)
A Path to Laser Wakefield Accelerators 10:40am Nathaniel Fisch (Princeton) - Pushing particles with waves
- 11:00am Donald Umstadter** (Univ. Nebraska at Lincoln)
Extremely high-order-multiphoton scattering : A novel mechanism to generate x-rays with laser light

11:20am - Break

11:40am Plasma and space physics (Chairman : James Bullock)

- 11:40am Wendell Horton** (Univ. Texas at Austin)
Title not available yet
- 12:00pm Richard Sydora** (U. Alberta)
Chaotic particles and drift wave turbulent transport
- 12:20pm James Koga** (movie, 5min) (QST)
From the Kansai Photon Science Institute (QST) to Toshi

12:40am - Lunch

01:50pm Astrophysics and laser (Chairman : Christopher Barty)

- 01:50pm Herbert Berk** (Univ. Texas at Austin)
Theory for onset of the Whistler Chorus in the magnetosphere
- 02:10pm James Benford** (Microwave Sciences)
Starshot Project Update
- 02:20pm Xueqing Yan** (Peking U.)
A real laser accelerator for 70th birthday
- 02:30pm Pisin Chen** (Nat. Taiwan U.)
Moving Plasma Mirrors to Investigate Black Hole Information Loss Paradox
- 02:50pm Toshikazu Ebisuzaki** (RIKEN)
Wakefield acceleration in an accreting blackhole system:M82 starburst galaxy, possible origin of the northern hot spot
- 03:10pm Toshiki Tajima** (UCI)
A Journey: from Wakefields to Astrophysics and Fusion

03:40pm - Break

- 4:00pm** Joint Symposium and Physics Colloquium lecture (Chairman: Toshiki Tajima)
Venue: Calit2 Auditorium & Rowland Hall - Room 101, for extra audience.
Barry Barish (Caltech) - Einstein, Gravitational Waves and a New Science

05:00pm Colloquium Reception

06:00pm Shuttle UCI - Irvine Marriott

06:30pm Cash bar outside of the Catalina Ballroom

7:00pm - Dinner Catalina Ball room

Dinner speakers (Master of Ceremony : Christopher Barty)

Jacques Biot (École Polytechnique), **Arno Penzias** (NEA), **Thierry Massard** (CEA) representing Yves Brechet (CEA), **Mike Campbell** (U. Rochester)

January 26

08:30am Shuttle Irvine Marriott - UCI Campus

09:00am Laser II (Chairman : Eric Esarey)

- 09:00am** **Chan Joshi** (UCLA)
From Laser-driven to Beam-driven Plasma Accelerators
- 09:20am** **Robert Byer** (Stanford)
Surfing Lightwaves: An Accelerator on a Chip
- 09:40am** **Christopher Barty** (UCI)
Laser-Compton Light Sources and Applications
- 10:00am** **Liming Chen** (IOP-CAS)
Laser-driven ultrafast X-ray sources and application in IOP

10:10am - Break

10:30am Nuclear physics and laser (Chairman : Dmitry Ryutov)

- 10:30am** **Victor Zamfir / Kazuo Tanaka** (ELI-NP)
Ultra-intense laser and gamma beam systems at ELI-NP
- 10:50am** **Sydney Gales** (Inst Nucl. Phys Orsay)
European Nuclear Physics Long range plan: physics and societal applications of Multi-MeV brilliant and monochromatic gamma beams
- 11:10am** **Fuyuhiko Tamanoi** (UCLA & Kyoto U.)
Physical Science and Cancer Therapy
- 11:30am** **Farhad Daghighian** (Prescient Imaging)
Positron Imaging Tomography and Need for Compact Generators of Radioactivity

11:40am - Lunch

01:00pm Plasma II (Chairman : Jean-Claude Kieffer)

- 01:00pm** **Michl Binderbauer** (TAE)
Title not available yet
- 01:20pm** **Masaaki Yamada** (Princeton U.)
Magnetic reconnection and fusion research
- 01:40pm** **Tom O'Neil** (UCSD)
A mechanistic interpretation of the wave-particle interaction
- 02:00pm** **Zhihong Lin** (UCI)
Fusion Simulation at Exascale and Beyond
- 02:10pm** **Wenlu Zhang** (IOP-CAS)
Large Scale Particle Simulation of Energetic Particle Turbulence and Transport
- 02:20pm** **Samuel Oliveira** (UNICAMP)
Relaxed vortices : a hint of Tajima's visions of plasma physics
- 02:30pm** **Dmitri Ryutov** (LLNL)

02:40pm - Break

03:00pm Laser III (Chairman : Mike Downer)

- 03:00pm** **Robert Hunter** (INNOVEN) - Toshi Tajima - An Exemplar of International Science
- 03:20pm** **Jean-Claude Kieffer** (U. Quebec)
Laser Wakefield Acceleration: a brilliant future for global Food security issues?
- 03:40pm** **Ruxin Li / Yuxin Leng** (SIOM)
From SULF-10PW to SEL-100PW - Status and Plan of ultra-intense and ultra-short Laser in SIOM
- 04:00pm** **Todd Ditmire** (U. Texas at Austin)
The ELI Beamlines 10 PW L4 project and a route to an Exawatt
- 04:20pm** **Alexander Litvak** (IAP-RAS)
On the way to extreme light

Impact of Toshiaki Tajima's on Science & Society, (posters):

Felicie Albert (LLNL)

Wakefield experiments for radiation

Nic Canac, Kevork Abazajian (UCI)

Blazars and wakefields

Franklin Dollar (UCI)

laser program

Deano Farinello (UCI student)

Thin Film Compression experiment

Sahel Hakimi (UCI student)

TeV wakefield acceleration in solid

Yoonwoo Hwang (UCI student)

vector-targeted theranostics

Masaki Kando (QST)

possibly two posters on relativistic flying mirror experiments, some new results from QST

Yoshiaki Kato (RIKEN scientist)

Magneto-Rotational Instability of accretion disk

Calvin Lau, Daniel Fulton, and / or Jian Bao (TAE, UCI, FRC transport)

Title not defined yet

Katherine Mackey (UCI)

The unexpected confluence of plasma physics and climate science

Rich Magee et al. (TAE)

neutron generation

Tada Matsumoto (Nihon U., TAE)

torus injection

Anatoly Muchnikov, Sasha Litvak (IAP, UCI)

diamond thin film technology for first wall

Shaul Mukamel et al (UCI Chemistry)

Femtochemistry

Kazuhisa Nakajima (CoReLS)

CAN laser based future collider

Marcos Navarro (U. Wisconsin)

graphene layer for first wall

Ales Necas (TAE scientist)

Transmutator

Scott Nicks (UCI student)

beam and ion cyclotron modes

Eric Potma (Chemistry, UCI)

ultrafast chemistry

Lothar Schmitz (UCLA)

FRC fluctuations and transport

Toru Tamiya (JSPS Director at SF)

JSPS programs (He will post JSPS funding program)

Xiaomei Zhang (SIOM)

through Prof. Leng on TeV /cm solid acceleration simulation

04:30pm End of the symposium

05:00pm Shuttle UCI - Irvine Marriott

Lab visit of TAE January 27 Saturday *(invitees only, not public)*

Shuttle pick up – INVITATION ONLY

Saturday, January 27, 2018 Location:

Irvine Marriott Lobby Time: 8:45am

Drop Off: TAE – Rostoker Lab – Foothill Ranch Tour

will start at 9:30am and will end at 11:00am

NOTE: PARTICIPANTS WILL NEED TO ARRANGE CAR SERVICE, UBER, TAXI FROM ROSTOKER LAB

VIP TOUR WILL START AT 11:30am

Lunch will be provided and will adjourn at 2:30pm