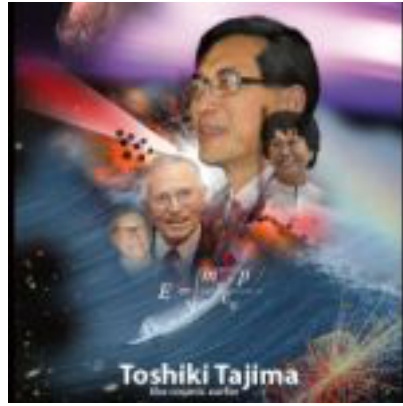


A Scientific Journey from Wakefields to Astrophysics and Fusion : A Symposium in Honor of Toshiki Tajima



Thursday, January 25, 2018 - Friday, January 26, 2018

Scientific Program

Preliminary Symposium Program
January 25

08:30am Shuttle Irvine Marriott - UCI Campus

09:00am Opening Session

Open (5min): Mourou, Binderbauer
Greetings (20mins) : Chancellor Gillman (TBD)

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

09:30am Gerard Mourou (Ecole Polytechnique) - Toshiki Tajima's gifts to Science and Society
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) - Onset of Whistler Chorus in the Magnetosphere
02:10pm James Benford (Microwave Sciences) - Starshot Project Update
02:20pm Xueqing Yan (Peking U.) - A Laser Proton 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 room and Rowland Hall room 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)

Howard Gillman (UCI), **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/SJTU

10:10am *Break*

10:30am Nuclear physics and laser (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 Farad 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 resonant wave-particle interaction

02:00pm Zhihong Lin (UCI) - Fusion Simulation at Exascale and Beyond

02:10pm Wenlu Zhang (IOP-CAS) - Heterogeneous Programming and Optimization for Exascale Computing Using Directives

02:20pm Samuel Oliveira (UNICAMP) - Relaxed vortices: a hint of Tajima's visions of plasma physics

02:30pm Dmitri Ryutov (LLNL) - Finite photon mass and galactic rotation curves

02:40pm *Break*

03:00pm Laser III (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

04:30pm End of the symposium

05:00pm Shuttle UCI - Irvine Marriott

Impact of Toshiki Tajima's on Science & Society, few examples :

- Felicie Albert (LLNL, wakefield experiments for radiation)
- Nic Canac, Kevork Abazajian (UCI, Blazars and wakefields)
- Franklin Dollar (UCI, his laser program)
- Deano Farinello (UCI student, Thin Film Compression experiment)
- Sahel Hakimi (UCI student, TeV wakefield acceleration in solid)
- Kaleb Hatfield (TAE), BNCT
- 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) perhaps two posters out of the three guys.
- 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

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