



Photonics Society of Chinese-Americans

Issue 0046: January 1, 2002

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Published on Websites: www.psc-a.org & www.psc-sc.org & www.psc-eoa.org

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Treasurer	Bill Waung		bwaung@sguards.com
Secretary	Janice Shen		

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Fund Raising	Eric Wu
Conference Organization	Tain-Ren Ming

President's Message

Dear PSC members:

It is time to have our PSC Annual Meeting. This year we will have the meeting in conjunction with the OFC Conference during the week of March 17 at Anaheim, California. The PSC Annual Meeting will be held at the UC I (University of California, Irvine) Beckman Center. You can find detailed meeting information on page 5 in this newsletter. In the meeting we will introduce and elect our 2002 officers. Also we are going to present the 2002 Bor-Wei Chen Memorial Scholarship Award to the winner, Ms. Shuo Tang of UCLA. The technical program will follow after these activities. This year we have a very strong program as we have invited many outstanding speakers in the communication profession to share with us their ideas. On pages 6-7 you will find the program agenda for the 2002 PSC Annual Meeting. Dr. Tingye Li and Dr. Milton Chang will tell us the status of the current OFC industry; hopefully will show us some clear sky for the future. Dr. Chi Wu and Dr. Yan Sun will describe the opportunities for new startups in the OFC industry. We can also learn more about current activities of photonics industry in the Far East from Dr. Peter Shih, Zheng Liu and Mr. Kaofeng Tsai. Finally, we can learn face to face with experts about what companies continue to grow even in the period of downturn economics. For example, Huawei attained 16% increase on global sales for FY 2001. Dr. Y.S. Liu, Ping-An Zhang, John Yu, and other venture capitalists will present in this special session.

I am sure you will be enjoying and benefited from this meeting. Besides, you will see many of your old friends and find new friendship at this meeting. Please check our PSC web sites for the latest information:

Atlantic chapter: www.psc-a.org
Northern California chapter: www.psc-eoa.org
Southern California chapter: www.psc-sc.org

I hope you will join us at this year's Annual Meeting. I'll see you there.

Sincerely,

Raymond Wang
February 21, 2002
Current PSC President

PSC 2002 Annual Meeting

PSC annual meeting will be held at **UCI Beckman Center of the National Academies of Sciences and Engineering Auditorium** on March 17th 1:00pm - 9:00pm. We cordially invite you to join us at the meeting and learn the latest technology of optical fiber communications. We have invited many outstanding speakers who will present the recent business opportunities and new challenges in fiber optical communication industry. See you there.

PSC Conference Committee, February 2002

PSC 2002 ANNUAL MEETING

Date: Sunday, March 17, 2002, 12:30pm - 9:00 pm.

Place: Beckman Center of the National Academies of Sciences and Engineering Auditorium
(Building 80) University of California, Irvine

Cost: \$50 for Dinner and Registration

Or \$30 for Registration only, \$15 for student (not including Dinner)

Or \$45 for Dinner only

Register Mail: Seats are Limit, Please pre register (before 3/11) with Raymond Wang at raymondwang8@compuserve.com for \$10 registration fee discount

Or Tel: 714-730-6256

Theme: Business Opportunities and Challenges for Photonics Industry

Driving Directions

From North:

- b. Take I-405 south or I-5 south
- c. Exit at Jamboree road
- d. Right on Jamboree
- e. Left on Campus Drive
- f. Right on University Drive
- g. Left on California Ave.
- h. Right on Academy Way and right to Building 80 of Beckman Center of the National Academies of Sciences and Engineering Auditorium

From South:

- b. Take I-405 or I-5 north
- c. Exit at Culver Drive
- d. Left on Culver Drive
- e. Right on University Drive
- f. Left on California Ave.
- g. Right on Academy Way and right to Building 80 of Beckman Center of the National Academies of Sciences and Engineering Auditorium

Business Opportunities and Challenges for Photonics Industry

UCI, Beckman Center, March 17, 2002

AGENDA

12:30 PM - 1:00 PM

Registration

**Dr. James Yeh of OptoIC Technology
Dr. Bill Wuang of Accra Technology
Professor C. C. Lee, UCI**

1:00 PM - 1:10 PM

Welcome and Introduction: PSC President - Raymond Wang

1:10 PM – 2:10 PM

Session I: The Challenges for the Fiber Optics Communication Industry

Session Chair: Professor Ray Chen

1:10 – 1:40 Crouching Technologies and Hidden Profits:
"If winter comes, can spring be far behind?"
Speaker: Dr. Tingye Li, AT&T

1:40 – 2:10 TBD
Speaker: Dr. Milton Chang, New Focus

2:10 PM – 2:50 PM

Session II: Opportunities for the New Startup in OFC Industry

Session Chair: Dr. Gordon Li

2:10 – 2:30 Silicon Based Photonic Integrated Optical Circuits: A Paradigm Shift of
Fiber Technology for Future Low Cost Optical Communication Networks
Speaker: Dr. Chi Wu, LightCross

2:30 – 2:50 Status of Optical Amplifier System Applications and Component
Requirements
Speaker: Dr Yan Sun, Onetta Inc.

2:50 PM – 3:05 PM

Session III: PSC 2002 Bor-Uei Chen Memorial Scholarship Award

Session Chair: Dr. C. C. Shih, TRW

Award Recipient: Ms. Shuo Tang, UCLA

Talk Title:

'Chaotic Optical Communication with Chaotic Pulsing Semiconductor Lasers'

3:05 PM – 3:10 PM **Break**

3:10 PM – 4:10 PM

Session IV: Opportunities of Photonics Industry In Far-East

Session Chair: Dr. Raymond Wang

- 3:10 – 3:30 Cooperative - Create a New Era in Chinese Photonics World
Speaker: Dr. Peter T.C. Shih, EOSTC, NSC, ROC
- 3:30 – 3:50 Optical Component Industry In China Market and Vendor Profile
Speaker: Zheng Liu, China Fiber Online
- 3:50 – 4:10 Optical Component Industry In Taiwan Market and Vendor Profile
Speaker: Mr. Kaofeng Tsai, RiteKom Photonics Corp.

4:10 PM – 6:00 PM

Session V – Panel Session –

New Photonics Business Opportunity in today's Downturn Economics

Session Chair: Dr. Owen Wu, GCS Communication

Presentations by:

- 4:10 – 4:30 TBD; Dr. Y.S. Liu, ITRI, ROC.
- 4:30 – 4:50 The Challenge and Opportunity of ULH DWDM System in China
Speaker: Mr. Ping-An Zhang, Huawei Technologies Corp.
- 4:50 – 5:10 Metro and Access Networks in China
Speaker: Dr. John Yu, ZTE Communications USA
- 5:10 – 5:20 TBD; VC base in USA
- 5:20 - 5:30 TBD; VC base in USA
- 5:30 – 6:00 Panel Discussion and Q&A

6:00 PM – 9:00 PM

Networking and Dinner – 5 minutes for each attendant to introduce their company and products during Dinner Session. (If you like to present, please register with Dr. Raymond Wang)

Location: UCI Beckman Center of the National Academies of Sciences and Engineering Auditorium

Cost: Including facility charge, dinner, gratuity and tax

A Glance at the SPIE Photonics West (January 20-26, 2002)

Hua-Kuang Liu

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After seeing the extremely low attendance of the October 2001 OSA Annual Meeting at Long Beach, CA, I was pleasantly surprised that the Photonics West Meeting has attracted so many participants as if the photonics industry is in a robust turning around following a shrinking year and the 911 disaster. It seems that we folks in the optics field should feel reasonably optimistic in viewing of the improved atmosphere. Obviously people have short memories and business demands to be conducted as usual.

Photonics West Program features several hundred papers each in the areas of biomedical optics, optoelectronics, high-power lasers, and electronics imaging. These conference topics are obvious of current interests. Among the very few sessions that I was able to attend, may I share with you briefly of some of the interesting technology I learned:

1. In Conference 4656, Quantum Dot Devices and Computing, silicon-based nuclear spin quantum computer was reported. InAs; GeSi dots grown on Si; and GaAs/AlAs quantum dot lasers as well as quantum dot VCSELs have been making progress. I think that these new laser sources together with MEMS technology will be of interests to future roles of nano-technology for computing, communication, display, and biomedicine applications.
2. In Conference 4638, Optical Devices for Fiber Communications III, a review of high-power double-clad fiber lasers was presented. Five different cross-sectional geometric profiles including square and half-circular and half-square are tested for efficient coupling. Extremely high power output of up to 1000 Watts CW in IR has been reported for the fiber lasers. Notably Nankai University of Tienjing, China has at least half a dozen of post papers in the conference.
3. In Conference 4632, Laser Beam and Technologies, Airborne laser showed the equipment of a Boeing 747 with powerful laser for military applications, and in advanced tactical laser, video demonstrations the feasibility of demolishing a rocket in flight has attracted a crowd. Usage of laser power in building a space elevator going to the earth synchronization orbit hundreds of kilometers above ground using thin hard carbon duct material cable is an innovative project in progress. I myself, on behalf of the ORNL CESAR research group, presented the result of how to achieve high-intensity high-quality laser beams from broad-area laser arrays conventionally used for pumping applications. Compact sized high coherent power laser is our eventual goal in this work.

The exhibit also featured a variety of companies showing their products and attracted many visitors. This may indicate that the economy is getting better. I feel that micro-structured source for large-panel display may bring revolutionary changes to home entertainment, computer, and wireless communication areas that have great impacts to our living conditions.

EOA January Seminar Announcement

Yalan Mao

Title: Dynamic Power Equalization of Optical Networking

Time: 10:00 am, Saturday, 01/12/02

Place: Stanford University CIS Building (Center for Integrated Systems), Room 101 (Cypress auditorium)

Abstract: Power or gain equalization in optical networking is much needed to optimize signal-to-noise ratio and thus to maximize the transmission distance. Modern optical networking utilizes optical amplifiers such as Er-doped fiber amplifiers (EDFAs) to replace the Optical-Electrical-Optical regenerations (O-E-O) for long haul transmission. The next generation networking will need to be dynamic and reconfigurable for cost and performance advantages over the current generation. Therefore, dynamic power equalization will play an important role. However, the gain spectra of EDFAs are often uneven at different gain conditions. This unbalanced power distribution degrades the signal-to-noise ratio and hence limits the span without O-E-O. This presentation will review various approaches and technologies for dynamic power balancing and gain equalization, and compare their advantages and disadvantages.

Speaker's Biography: Bo Lu is a Sr. Product Manager at CoAdna Photonics, Inc.(www.CoAdna.com). Before joining CoAdna, Bo spent more than five years with SDLI/JDSU in the areas of visible lasers, pump lasers, EDFAs and Raman pump modules. Bo has authored and co-authored more than 40 papers and given many presentations in various conferences. Bo earned his Ph.D. from the Center of High Technology Materials (CHTM) of University of New Mexico, Albuquerque, and his Master of Science from Shanghai Jiao Tong University.

EOA February Seminar Announcement

Yalan Mao

Title: "Tunable Lasers Enabling the Next Generation Optical Networks"

Speaker: Dr. Rang-Chen Yu, Director of Optical Engineering, Cinta Networks Inc.

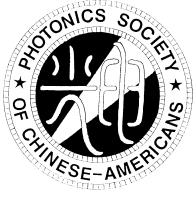
Time: 10:00 am, Saturday, 2/9/02

Place: Stanford University CIS Building (Center for Integrated Systems), Room 101 (Cypress auditorium)

Fee: Member free, \$10 for non-member

Abstract: With the explosive Internet traffic growth, the telecommunication infrastructures around the globe are increasingly dependent on high capacity, intelligent optical networks. For the last few years, carriers have been deploying DWDM transport equipment en masse, in reaction to the escalating bandwidth demand. With current telecommunication capital spending slow down, carriers are more focused on driving maximum operational efficiency and only deploying equipment that can offer substantial differentiated service to generate revenue with attractive return-on-investment (ROI). Despite overall slow down, optical technologies promise to drive better economics are continuing to advance at a healthy pace. Tunable lasers are one such example as one of the key enablers for a more efficient and intelligent next generation optical networks. In this talk, a broad range of tunable laser technologies, their pros and cons, and respective vendors are discussed. Particular attention is paid to the applicability of technology to system applications, and system design considerations. In addition, complimentary tunable optical component technologies, such as tunable filter, re-configurable OADM, etc. will also be discussed. Several novel wavelength agile optical networking systems based on tunable lasers will be used as examples for discussing tunable laser applications. Finally, future development of tunable laser, standardization, and associated dynamic optical technologies will be summarized.

Speaker Biography: Dr. Rang-Chen Yu, currently Director of Optical Engineering at Cinta Networks Inc., responsible for optical system and optical hardware engineering for a tunable laser based optical core switching and transport networking system platform. He is the founder of the OIF (Optical Internetworking Forum) Tunable Laser User Group, and is instrumental in driving the standardization of emerging tunable laser products. Prior to Cinta, he was Product Engineering Manager at Bandwidth9, a start-up company developing novel tunable laser products; Before BW9, he held senior engineering and management positions at SDL (now part of JDSU) leading development of high-speed transmission products. Before SDL, He was a Member of Technical Staff at Conductus leading R&D work on 10 Gbps optical transmission and cross-connects. He currently holds 5 patents in high-speed laser, tunable laser, laser controls, packaging, OADM subsystems. Rang-Chen got his Ph. D. in Solid State Physics at University of Pennsylvania and B. S. in Physics from Peking University. He also conducted research work at Princeton University and U. of Illinois at Urbana-Champaign.



The Photonics Society of Chinese-Americans

Announcement

The Eighth Bor-Uei Chen Memorial Scholarship Award

Chun-Ching Shih, Chair

On behalf of the PSC Scholarship Committee, I am pleased to announce that, after a careful review of candidates by Review Committee, Ms. Shuo Tang of UCLA was selected to receive the 2002 Bor-Uei Chen Memorial Scholarship Award. The award, including a certificate and a check of \$1000 will be presented to Ms. Tang at the PSC Annual Meeting on March 17, 2002. She was also invited to give a short talk on her graduate research at the meeting. Please join us to congratulate her and her thesis advisor, Prof. Jia-Ming Liu.



Ms. Shuo Tang

Scholarship Recipient Profile

Ms. Shuo Tang
tangs@ee.ucla.edu

- Research Interest

Optical communications, optoelectronics, nonlinear optics, and biomedical optics.

- Education

- **Ph.D.** in Electrical Engineering – UCLA (expected in June, 2002)
- **M.S.** in Electronics – Peking University, China, 1997
- **B.S.** in Electronics -- Peking University, China , 1992

- Research Experience

Research Assistant

- | | | |
|------|----------------|--|
| 1988 | 1997 – present | Department of Electrical Engineering, UCLA Experimental and Theoretical Research on Optical Communication Systems Based on Semiconductor Lasers. |
| 1989 | 1992 – 1997 | Department of Electronics, Peking University, China Research on Optical Fiber Communication Systems. |

- Teaching Experience

Teaching Assistant

- 1997 – present Department of Electrical Engineering, UCLA
 - EE2 Physics for Electrical Engineers
 - EE10 Circuit Analysis
 - EE172 Introduction to Lasers and Quantum Electronics
 - EE172L Laser Laboratory
 - EE173 Photonic Devices
 - EE174 Semiconductor Optoelectronics
- 1992 – 1997 Department of Electronics, Peking University, China

- Technical Skills

Computer Programming for Numerical Simulation.
Theoretical Modeling of Semiconductor Devices.
Experimental Techniques on Lasers and Optical Communication Systems.

- Awards

Departmental Award Based on GPA 4.0, 2000, EE Department, UCLA
CESASC Graduate Scholarship, 1998
Departmental Fellowship, 1997, EE Department, UCLA
Scholarship, 1989-1991, Peking University, China

- Presentations

- - **S. Tang** and J. M. Liu, “2.5Gb/s chaotic optical communication,” Accepted by *OFC*, March 2002.
 - **S. Tang** and J. M. Liu, “Nonlinear dynamics and applications of semiconductor lasers with optoelectronic feedback,” Accepted by *proceedings of SPIE*, Vol.4646, 2002.
 - **S. Tang**, L. Illing, J. M. Liu, H. D. I. Abarbanel, and M. B. Kennel, “Communication using synchronization of chaos in semiconductor lasers with optoelectronic feedback,” *6th Experimental Chaos Conference*, Potsdam, Germany, July 2001.
 - **S. Tang** and J. M. Liu, “Message encoding/decoding using chaotic pulsing semiconductor lasers,” *Proceedings of OFC*, WDD46, March 2001.
 - J. M. Liu, **S. Tang**, and H. F. Chen, “Unidirectional synchronization of single-mode semiconductor lasers,” *proceedings of SPIE*, Vol.4283, pp. 325-334, 2001.
 - **S. Tang**, Y. Q. Liu, and L. X. Zhu, “4-channel densely spaced optical FDM transmission/distribution system,” *Proceedings of SPIE*, Vol. 2893, pp.64-67, Beijing, China, Nov. 1996.
 - N. Q. Han, A. S. Xu, and **S. Tang**, “Wavelength control precision using FP filter in a WDM or FDM system,” *Proceedings of SPIE*, Vol. 2893, pp.60-63, Beijing, China, Nov. 1996.
 - J. X. Gu, D. M. Wu, and **S. Tang**, “The experimental study of crosstalk with multi-channel amplification in an erbium-doped fiber amplifier,” (in Chinese), *Proceedings of the 7th National Conference on Optical Fiber Communications*, pp.480-483, Guilin, China, Nov. 1995.
 - A. G. Li, **S. Tang**, and Y. Q. Liu, “Two channel optical FDM transmission experiment over 50km using an in-line optical fiber amplifier,” *Proceedings of SPIE*, Vol.2321, pp.422-424, Beijing, China, Aug.1994.
 - H. Chen and **S. Tang**, “Design and manufacturing of an active envelope discriminator for coherent optical communication,” (in Chinese), *Proceedings of the 6th National Conference on Optical Fiber Communications*, pp.647-649, Beijing, China, Oct.1993.