

PCSI-36:  
36<sup>th</sup> Conference on the  
Physics and Chemistry of  
Surfaces and Interfaces

January 11-15, 2009

Hotel Mar Monte  
1111 East Cabrillo Blvd  
Santa Barbara, CA 93103  
[www.hotelmarmonte.com](http://www.hotelmarmonte.com)

**Sponsors:**

- AVS
- The Army Research Office
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Conference Website:

[www.PCSIconference.org](http://www.PCSIconference.org)

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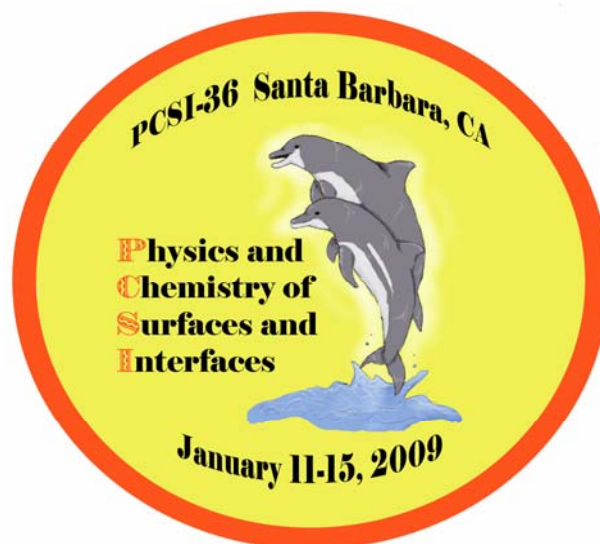
**First Call for Papers:** Deadline October 25, 2008

The 36th Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-36) will be held at the Hotel Mar Monte in Santa Barbara, California from Sunday at 3:00p.m., January 11, through Thursday noon, January 15.

The annual PCSI conference is devoted to achieving a fundamental understanding of the physical, chemical, biological, structural, optical, magnetic and electrical properties of surfaces and interfaces. These studies include characterization of growth processes, interfacial phenomena, transport and the structure and influence of defects. Generous amounts of discussion time will be included in the program in order to emphasize the workshop character and to stimulate the exchange of new ideas. **The abstract deadline is October 25, 2008.** Later abstracts will be accepted, if space is available.

**Conference Focus Areas:**

- Novel theoretical investigations of semiconductor interfaces
- Surface/interface issues related to nitride electronics and photonics
- Surface/interface issues related to spintronics
- Properties/limitations of high-k gate dielectrics on Si, SiGe, SiC, and compound semiconductors
- Passivation of compound semiconductor surfaces
- Bonding/electronic structures of compound semiconductor interfaces
- Surface/interface issues related to nanostructures
- Organic/inorganic interfaces
- Metal contacts to new semiconductor materials
- Interfaces between dissimilar materials
- Interfaces in semiconducting oxides and multifunctional materials
- High resolution probes of interfaces
- Effects of interfaces on carrier transport and optical properties
- Surfaces of and interfaces to biological systems



**Program Committee:**

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**Abstracts and Registration:**

Preferably Online at [www.PCSIconference.org](http://www.PCSIconference.org)

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## Partial List of Invited Speakers:

- P. Bhattacharya, *University of Michigan*, High-temperature spin polarized lasers with tunnel spin injectors
- J. Chakhalian, *University of Arkansas*, Orbital reconstruction and covalent bonding at an oxide interface
- M. S. Dresselhaus, *Massachusetts Institute of Technology*, The importance of edges in nanotubes and graphene
- P. Feibelman, *Sandia National Laboratory*, Why a regular Ir cluster array forms on graphene on Ir(111)
- F. Flores, *Universidad Autónoma de Madrid*, Dipoles and band alignment at organic materials interfaces
- M. Fuhrer, *University of Maryland*, Intrinsic and Extrinsic Limits of Charge Carrier Mobility in Graphene
- P.C Hammel, *The Ohio State University*, 3D scanned probe magnetic resonance imaging for high resolution studies of materials
- A. Hitchcock, *McMaster University*, Soft X-ray spectromicroscopy of biomolecules at polymer surfaces
- S.-W. Hla, *Ohio University*, STM surface characterization and manipulation
- B. Jonker, *Naval Research Laboratory*, Spin currents in silicon: injection, modulation and electrical detection
- T. Kikkawa, *Fujitsu Laboratories Ltd.*, High reliability AlGaIn/GaN FETs
- R. Latour, *Clemson University*, Understanding protein-surface interactions at the atomic level through molecular simulation
- G. Lucovsky, *North Carolina State University*, Metal oxides on Ge
- T. P. Ma, *Yale University*, CMOS transistors with GaAs, InAs, and InGaAs channels and high-k gate stacks
- G. Malliaras, *Cornell University*, Charge injection and transport in conjugated polymers
- C. Murray, *University of Pennsylvania*, Nanocrystals, nanocrystal assemblies, and their properties
- T. Nagao, *National Institute for Materials Science (NIMS)*, Atom-scale and mesoscale metallic structures for infrared plasmonics
- M. Olmstead, *University of Washington*, Heteroepitaxial growth and electronic structure of Mn:Ga<sub>2</sub>Se<sub>3</sub> thin films on Si(100):As: Exploration of a candidate dilute magnetic semiconductor
- T.-Y. Seong, *Korea University*, Contact problems on III-Nitrides
- W. Stolz, *Philips University Marburg*, Monolithic integration of III-V laser with Si-CMOS
- A. Talin, *Sandia Livermore Laboratories*, Barrier formation and transport in metal contacts to nanowires
- S. Tsukamoto, *The Anan National College of Technology*, In-situ STM studies on III-V surfaces during MBE Growth
- K. Uchida, *Tokyo Institute of Technology*, Physics and engineering of strain effects on Si MOS inversion layer mobility
- A. Yacoby, *Harvard University*, Electron-hole puddles in graphene imaged using a scanning single electron transistor

## Deadlines:

- **October 25** for receipt of abstracts, [www.PCSIconference.org](http://www.PCSIconference.org)
- **October 25** for receipt of Young Scientist Award applications, mailed or e-mailed to Chris Palmstrøm
- **December 18** for reduced conference registration fee, [www.PCSIconference.org](http://www.PCSIconference.org)
- **December 18** for room reservations

## Abstract Submissions:

Prospective authors are invited to submit one-page abstracts on recent unpublished results in the focus areas listed. Up to two support pages of additional information may also be submitted to aid in the abstract selection.

The preferred way to submit an abstract is electronically at [www.PCSIconference.org](http://www.PCSIconference.org), which will accept Adobe PDF and Microsoft Word files. The abstract, with authors' names and institutions may include figures. Abstracts may also be submitted by sending two copies each of the abstract and any additional support pages to the address below. No abstracts will be accepted by Fax. Paper abstracts of reproducible quality must be received no later than **October 25, 2008**, by: Chris Palmstrøm, PCSI-36, Electrical and Computer Engineering, University of California at Santa Barbara, Santa Barbara, CA 93106-9560.

If the abstract is not submitted through the website, communications information, *i.e.*, name, full address, phone, fax, and e-mail address of the corresponding author must be located somewhere on the abstract page (possibly in the margins). Names and institutions of three possible referees (on a separate page) for reviewing the Conference proceedings manuscript are also requested. Corresponding authors must include an e-mail address to receive information about their papers. Accepted abstracts will appear in the program of the meeting. Notifications regarding acceptances will be sent by e-mail by **November 30, 2008**.

Abstracts must provide a concise description of the work, the novelty of the results, and their relevance for advancing our understanding of interfaces. The Program Committee may select up to two or three additional invited talks from among the submitted abstracts.

A limited number of post-deadline abstracts will be considered. These must be submitted online at [www.PCSIconference.org](http://www.PCSIconference.org), or e-mailed to Chris Palmstrøm ([cpalmstrom@ece.ucsb.edu](mailto:cpalmstrom@ece.ucsb.edu)) as early as possible.

## Posters and Proceedings:

All authors, including invited speakers, will be expected to present material both by poster and orally. Posters remain up for the whole conference (Sunday evening through Thursday morning). **Manuscripts of presented papers are due at the Conference** and will be refereed for publication in the *Journal of Vacuum Science and Technology B*.

## Presentations:

The conference will provide a transparency projector (the preferred method of projection) and an LCD projector attached to a PC running Windows XP with PowerPoint 2003 and Adobe Acrobat 6.0 or newer. If a PC is to be used, the presentations must be loaded prior to the session using a USB memory stick. Authors must bring a set of backup transparencies.

## Young Scientist Awards:

This year we will again offer some Young Scientist Awards, which will constitute financial assistance to students, especially students presenting papers—undergraduate and graduate students, and perhaps post-docs. The award will be in the form of a subsidy of the student's hotel costs. Students presenting papers will normally receive preference for such awards.

If you would like to apply for the Young Scientist Award, please send a letter of application indicating your level in school, including your year in undergraduate or graduate school or at the post-doc level. Your application should be sent to Chris Palmstrøm, PCSI-Young Scientist Award, Electrical and Computer Engineering, University of California at Santa Barbara, Santa Barbara, CA 93106-9560, or e-mail: [cpalmstrom@ece.ucsb.edu](mailto:cpalmstrom@ece.ucsb.edu) for receipt by **October 25, 2008 (rigid deadline)**.

Your application should include: (I) a copy of the abstract together with any additional supporting pages that you have submitted to the conference (if you have submitted one), (II) a list of your publications (either accepted or in print at significant journals), and (III) a *brief (less than one-half page)* statement of why you should be considered for such an award. This should be two pages maximum: one abstract page, and a one-page list of publications, and your statement. Your application must include your name, address, e-mail address, phone, and fax. You will be notified by e-mail of your receipt of application and its outcome.

## Lodging and Registration:

Participants must **RESERVE A ROOM WITH THE HOTEL AND REGISTER WITH THE CONFERENCE**.

### Reserving a Hotel Room:

Participants are eligible for the Conference room rate of \$139 (single/double, plus tax) or enjoy an ocean view room for between \$149-\$209 per night (plus tax) at the Hotel Mar Monte, 1111 East Cabrillo Blvd, Santa Barbara, CA ([www.hotelmarmonte.com](http://www.hotelmarmonte.com)). Please make your reservations by **December 18, 2008**, by phone 800-643-1994, **identify yourself as a AVS PCSI-36 attendee**. The hotel will require a credit card number (plus expiration date) to guarantee the first night's stay. For those eligible, the hotel may offer a small number of rooms at Government rates. Most attendees will arrive on Saturday, January 10 or Sunday (afternoon), January 11 and leave on Thursday (afternoon), January 15.

### Registering with the Conference:

Conference registration may be made online at [www.PCSIconference.org](http://www.PCSIconference.org). The registration fee is \$625.00 per person before **December 18, 2008**, and \$675.00 after. This fee covers the conference organization, proceedings, and most meals (including dinners Sunday, Monday, and Wednesday (the banquet), and lunches Monday and Wednesday) as well as breaks which are intended to be adequate for continental breakfasts and afternoon snacks. Undergraduate and graduate students qualify for a special rate of \$400.00 before **December 18, 2008**, \$450.00 after. The student fee includes the above meals, *but no proceedings*.

## Local Airports:

- **Santa Barbara Municipal Airport (SBA):**  
<http://www.flysba.com/> (~12 miles)
- **Burbank Airport:** [www.burbankairport.com](http://www.burbankairport.com) (~93 miles)
- **Los Angeles International Airport (LAX):**  
<http://www.lawa.org/lax/welcomeLAX.cfm> (~98 miles)

### Directions from Santa Barbara Municipal Airport

From the airport, head east from Fowler Road. Bear left at Fairview Avenue and proceed for one mile. Turn right via an entry ramp onto the US-101 South for 9.5 miles. Take Exit 96. Bear right at Milpas Street. Continue to drive down Milpas until it dead-ends at Cabrillo Boulevard. Turn left onto East Cabrillo Boulevard and continue for 0.2 miles. Hotel Mar Monte will be on your left. Make a left onto Corona del Mar. Make a right on Orilla del Mar.

### Directions from the South

Take Highway 101 North to Santa Barbara. Take Cabrillo Boulevard exit (left exit). Turn left at the stop sign and proceed along Cabrillo Boulevard. Continue past the Bird Refuge and proceed to the first traffic light. Hotel Mar Monte is to the right of the traffic light. At the light, go right on Niños and take an immediate left on Orilla del Mar.

### Directions from the North

Take Highway 101 South to Santa Barbara. Take the Hot Springs/Coast Village Rd. exit (left exit). Turn right and proceed along Cabrillo Boulevard. Continue past the Bird Refuge and drive to the first traffic light. Hotel Mar Monte is to the right of the traffic light. At the light, go right on Niños and take an immediate left on Orilla del Mar.

## Things to Do:

Enjoy a multitude of things to do in Santa Barbara—from kayaking and wine tasting to playing golf. Just a short distance from the hotel, visitors can stroll through downtown paseos and quaint side streets to discover a collection of stylish boutiques, cafés, museums and galleries.

With so much and so many types of things to do so close, sightseeing is almost effortless. Take a journey on the Santa Barbara Trolley for a scenic tour and learn much about the local area steeped in history. Hop aboard the electric shuttle, a stop right outside our door, to Stearns Wharf or up to the historical downtown area—only .25¢ per ride.

Visit the world famous, historical Santa Barbara Mission with its two soaring bell towers and colorful mosaic of rose gardens. Explore the world of art at the many museums Santa Barbara has to offer. From contemporary to historical museums, the art scene is plentiful.

The Santa Barbara Zoo is perfect for families of all ages, this charming attraction is situated on beautiful grounds with ocean-views and tree-lined walkways. Absorb the 360-degree view of Santa Barbara by climbing to the top of the Santa Barbara Courthouse lookout. Then, photograph the matriculate architectural design and Latin sayings on the outside of this historical building.