



4th U.S. Air Force-Taiwan Nanoscience Initiative Workshop

Houston, Texas, USA · February 8-9, 2007

About the Workshop

The Air Force Office of Scientific Research (AFOSR) of the U.S. Air Force Research Laboratory (AFRL) and National Science Council (NSC) in Taiwan and are pleased to announce that the 4th U.S. Air Force/Taiwan Nanoscience and Nanotechnology workshop will be held on February 8-9, 2007 at the main campus of the University of Houston (UH). All oral and poster presentations will be held in the UH Athletics/Alumni Center, located at 3100 Cullen Boulevard, Houston, TX 77004. We invite you to join us at the workshop.

The first and second Taiwan/U.S. Air Force workshops were held in Maui and Honolulu, Hawaii, and the third was held in Hualien, Taiwan. This series of U.S. Air Force/Taiwan Nanoscience Initiative Workshops aims to provide a stimulating and thought-provoking forum for sharing the latest technical developments and ideas in nanoscience and nanotechnology.

Agenda

The workshop will consist of invited oral presentations and posters. Presentations will include work-in-progress of projects done in Taiwan and sponsored by AFOSR, by universities in the Strategic Partnership for Research in Nanotechnology (SPRING) programs as well as work from the scientific community in the U.S. and Taiwan.

Thursday, 8 February

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| 07:30-08:30 | Registration (Athletics/Alumni Center) |
| 08:30-09:00 | Welcoming remarks |
| 09:00-10:15 | Session A-Si Nanostructures |
| 10:15-10:30 | Coffee/Tea Break |
| 10:30-11:45 | Session B- GaN and InN Nanostructures |
| 11:45-13:30 | Luncheon Buffet & Poster Setup |
| 13:30-15:00 | Session C-Electro-optical properties of Nanostructures |
| 15:00-15:15 | Coffee/Tea Break |
| 15:15-16:30 | Session D-Toxicity of Nanomaterials, Environmental and Health Issues |
| 16:30-18:00 | Poster Session 1 |
| 18:00-20:00 | Dinner (<i>separate per person charge of \$30.USD</i>) |
| 20:00-21:30 | Poster Session 2 |

Friday, 9 February

| | |
|-------------|----------------------------------------------------------------------|
| 08:30-10:00 | Session E- Carbon Nanotubes |
| 10:00-10:15 | Coffee/Tea Break |
| 10:15-11:45 | Session F - Nanostructured Sensors |
| 11:45-13:15 | Luncheon Buffet |
| 13:15-14:30 | Session G- Mechanical Properties of Nanostructures |
| 14:30-15:00 | Coffee/Tea Break |
| 15:00-16:15 | Session H - Nanostructures for Computing |
| 16:15-16:30 | Closing Remarks |
| 18:00- | Optional Evening Event (<i>See Optional Social Events section</i>) |

Registration

Although there is no registration for this workshop, participation is limited. Invitees are requested to return the registration form as soon as possible to guarantee acceptance. Registered participants will receive a conference pack containing the program and abstract book, list of attendees, refreshment breaks (early morning, mid-morning and afternoon), buffet lunches, and a CD copy of the proceedings following the meeting. A modest charge of \$30.USD will be charged for the dinner to be held on the evening of 8 February, and cash-only payment will be collected at the door.

Call for Presentations

The workshop will consist of invited oral and poster presentations. All attendees and invited speakers are encouraged to present posters to facilitate discussions. Posters will be presented during two 90-minute sessions on 8 February, and will be on display throughout the remainder of the meeting.

Submissions for oral and poster presentations should include an abstract of no more than 250 words, presenter's full name, and complete contact information. This electronic submission should be in the form of a Microsoft Word® document using Times New Roman font, 10 pt., center title and names, bold title, fully justify body. A sample abstract is as follows.

Title bolded, 16 point type, centered

Author name: 10 point type, centered, bolded

Author's affiliation and full address: 8 point type, centered, italicized

Author's telephone, fax and e-mail address: 8 point type, centered, italicized

Abstract: The body of your abstract begins here. It should be an explicit summary of the paper that states the problem, the methods used, and the major results and conclusions. Do not include scientific or engineering symbols, acronyms, numbers, bullets or lists inside the abstract. Be sure to adhere to the word limitation (**250 words**).

Submissions will undergo peer review selection and submitters will be notified of the selection results in late January. We will compile all abstracts into a book to be distributed to participants at the meeting. Submissions should be sent to publicaffairs@afosr.af.mil by noon on **8 Jan 2007**.

Proceedings

A CD of workshop presentations will be sent to all participants following the meeting. Presenters should bring presentations/posters in pdf or Microsoft Powerpoint format on a CD, clearly labeled with the name of the presenter, to Capt Joe Tringe at the beginning of the workshop on 8 February.

Sponsors

AFRL

Air Force Research Laboratory is a full spectrum laboratory of approximately 9,500 people, responsible for planning and executing the Air Force's entire science and technology budget of nearly \$1.7 billion including: basic research, applied research, and advanced technology development, and an additional \$1.3 billion from AFRL customers.

AFOSR

Air Force Office of Scientific Research manages the entire basic research investment of the U.S. Air Force (USAF) as a part of the AFRL. AFOSR's technical experts foster support and fund research within the AFRL, university, and industry laboratories to ensure the transition of research results to support USAF needs.

Taiwan National Science Council

The National Science Council (NSC) of the Executive Yuan (executive branch of the Republic of China) was established in 1959. Led by a Minister and three Deputy Ministers, the Council is presently the highest government agency responsible for promoting the development of science and technology. The Council consists of twelve departments and offices, and three affiliated organizations.

Taiwan National Science and Technology Program for Nanoscience and Nanotechnology

The National Science and Technology Program for Nanoscience and Nanotechnology coordinates among various government agencies with budgets dedicated to nanotechnology R&D. The overall budget for this six-year program, which started in 2003, is about \$645M USD. Through the establishment of common core facilities and education programs, this program aims to achieve academic excellence in basic research and to promote industrial applications.

SPRING

The Strategic Partnership for Research in Nanotechnology (SPRING), established in 2002, is a network of shared experimental centers that will rapidly advance and promote nanotechnology in Texas. SPRING's mission is to foster nanoscience and nanotechnology research, education and technology transfer. SPRING is a collaborative effort between UT Austin, UT Dallas, UT Arlington, Rice University and University of Houston. An integral part of the SPRING collaboration is the participation of the Air Force Research Laboratory in Dayton, Ohio.

TcSUH

The Texas Center for Superconductivity at the University of Houston is the largest multidisciplinary superconductivity and advanced materials research effort in the U.S. Three major research divisions work to create and develop new high temperature superconducting-, energy- and nano- materials, advance their applications in partnerships with industry, and disseminate knowledge through education, outreach, and technology transfer for the benefit of the public and the environment.

Transportation: Travel to Houston

Houston is served by two major airports, with direct flights from most domestic and major Asian and European cities. Taxi, express shuttle, and METRO bus service are provided to UH from both facilities.

George Bush Intercontinental Airport (IAH)

+1-281-230-3100 or <http://www.houstonairportsystem.org>

IAH, located 23 miles north of the city, is a major international and domestic facility providing non-stop service to 152 cities around the world. IAH is approximately 30 minutes to 1 hour away from UH, depending upon traffic.

William P. Hobby Airport (HOU)

+1-713-640-3000 or <http://www.houstonairportsystem.org>

Hobby Airport is located 12 miles south of downtown and principally serves major U.S. cities. Taxi, shuttle bus, and local bus services are available to and from the downtown area.

Transportation To/From Houston Airports

Taxi Service:

Taxi service is available from both airports to the University of Houston main campus. Fares range from \$20 from Hobby Airport, to \$48 - \$55 from George Bush Intercontinental Airport, and passengers can share to lessen cost.

Express Shuttle Service:

Super Shuttle (713-523-8888; 1-800-BlueVan (258-3826); www.supershuttle.com) offers discounted one-way fares to conference participants from IAH (\$27 for the first person, and \$7 each for additional persons); and from Hobby Airport (\$23 for the first person, and \$7 for each additional person) to the University Hilton Hotel, located on the UH main campus. The Super Shuttle desk is located in all terminals in the baggage claim area, lower level.

METRO Bus Service:

METRO, the city bus service, has routes to and from IAH and Hobby Airports to the University of Houston main campus, located at 4800 Calhoun. Current fare from IAH is \$1.50 USD, and from Hobby \$1.00 USD. Participants traveling by METRO from Hobby will have to make one bus transfer. To obtain route information, please contact METRO at 713-635-4000 or www.ridemetro.org. Routes will slightly change after December 16. Please check prior to your arrival to get the latest schedule changes. METRO schedules are also available at the Airport Information Desks.

Lodging

A block of rooms for Workshop participants has been reserved at the University Hilton Hotel & Conference Center on the University of Houston campus, located at 4800 Calhoun, Houston, TX 77004 (Campus Entrance #1). All rooms at UH Hilton are at the special state rate of \$89.00 USD for standard, and \$119. For executives or suites (0% tax if federal ID is shown, 11% tax if state rate]. Directions to the University Hilton from both airports may be found at <http://www.uh.edu/uhtmaps/map_airports.html>. Please complete the housing form and fax or email your information to Uzi Rasheed at 1-713-743-2498 or uzi_rasheed@hilton.com no later than **22 January, 2007**.

On-Campus Parking & Transportation

Driving to Campus? For those staying at the Hilton, parking is available in the University Hilton Underground garage for \$5.00 USD per day. The UH Welcome Center and Parking Garage, located directly across the street from the UH Hilton, is also available for \$8.00 per day. Alternatively, participants can stop at the Entrance #1 Information Booth off Calhoun and obtain a pass to park in the Student Lots (19A or 18A&B) for \$3.00 USD. (http://www.uh.edu/campus_map/buildings/WC.html)

Driving directly to the UH Athletics/Alumni Center? Please stop at the Parking Information Booth (Entrance #15 on Cullen Boulevard) in front of the Athletics/Alumni Center and purchase a parking token (\$4.00 USD). You will be directed to the appropriate adjacent parking area.

Free On-campus Shuttle service is available from the University Hilton to the UH Athletics/Alumni Center if you are unable to stroll across campus. The shuttle, marked 'Garage Express,' is located in front of the University Center, across the street from the Hilton main entrance. The stop nearest the Athletics/Alumni Center is 'Wortham Theatre.' The shuttle runs every 10 to 15 minutes, from 7:00 a.m. until 11:00 p.m. Please see the Conference Site Map for location of the University Hilton and the meeting venue, the UH Athletics/Alumni Center.

Optional Social Events

Friday, February 9

OE1 24th Annual International Piano Festival (7:30 P.M.) <http://www.music.uh.edu/pianofestival/index.htm>

The International Piano Festival was founded 23 years ago by legendary pianist, and UH Cullen Professor, Abbey Simon. Each festival presents Mr. Simon, and two other distinguished artists in recital. In addition to Mr. Simon, the 2007 festival presents Russian pianist and Houston favorite, Olga Kern, winner of the 2001 Van Cliburn Competition, as well as Uruguayan pianist and international recording artist Enrique Graf. A very limited number of tickets are available for the February 9th Abbey Simon Recital, to be held in the new Moores Opera House, located across the street from the Workshop venue. Mr. Simon will play Schumann's Arabeske, 'ABEGG' Variations, Op.1, Fantasie in C Major, Op. 17; and Chopin's Nocturne, Sonata in B Minor, Op. 58.

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Abbey Simon has been hailed as a super-virtuoso whose appearances in the concert halls of the world are eagerly anticipated not only by music lovers, but by professional musicians who come to hear him spin his own particular magic. He is recognized internationally as one of the grand masters of the piano. He has been the recipient of the Federation of Music Clubs Award, the National Orchestral Association Award, and a Ford Foundation Award. Following his debut in Europe, he received the Harriet Cohen Medal and the Elizabeth Sprague Coolidge Award. Simon's recordings for Philips, EMI, HMV and Vox make him one of the most recorded classical artists of all time. He has recorded all the concertos of Rachmaninoff, the complete works of Ravel, and Schumann's Carnival and Fantasy. His Chopin collection encompasses some 20 disks. Abbey Simon has served on the faculties of such noted schools as Indiana University and the Juilliard School.

Price: Special discounted price of \$15.

Saturday, February 10

OT1 Space Center Houston (9:30 – 3:30 P.M.) - \$45.00 USD

Space Center Houston is a must for visitors of all ages! As the official visitors' center for NASA's Johnson Space Center, guests to Space Center Houston will experience the thrill and adventure of the manned space flight program first hand. Space Center Houston lets visitors share in the accomplishments of NASA while exploring the past, present and future of space flight. Your tour



will include a Special SCES'07 Welcome from NASA/Johnson Space Center, followed by a special IMAX film, shown on the Northrop Grumman Theatre's 80-foot wide, five-story tall screen. Other experiences include Mission Status Center, to see what is happening in Houston's Mission Control, at Florida's Kennedy Space Center launch pad, and aboard the actual space shuttle during missions. Starship Gallery provides a journey through the history of space and a view of what the future holds for this exciting field. You will peruse the world's largest display of moon rocks. You will also take the NASA Tour... boarding a comfortable tram for a guided, behind the scenes tour at Johnson Space Center. View the Mission Control Center used to maintain contact with our astronauts on actual missions. The Space Shuttle Mock Up provides an exact duplicate of the mid-deck and flight deck of the space shuttle. Afterward, try the "Land the Shuttle" simulator. Wrap up your tour in the Gift Shop where unique items are on hand as souvenirs. Boxed lunches (gourmet sandwich, side salad, cookie and beverage) will be served on board for the trip down to Space Center Houston.

Price: \$45.00 Your tour includes a knowledgeable tour guide, admission tickets, boxed lunch and assorted soft drinks, juices and bottled water, and transportation in deluxe motorcoaches. Please note that no large backpacks or bags are allowed in the facility for security reasons. *Note: This tour requires a minimum of 33 persons in order to avoid cancellation. Destination Houston, Tour Operator*

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OT2 **Houston City Tour** (10:00 A.M. – 3:00 P.M.)

Sample the excitement of Houston - a truly international city. From the impressive downtown Theater District to the historic Rice University Campus, the tour highlights some of the green spaces and skyscrapers that coexist in downtown Houston. A stop at the Houston Visitor Center on the ground floor of the recently renovated City Hall offers more than just an opportunity to grab a map or some brochures. You can watch a short Houston overview film in the Center's theatre or utilize touch-screen computers to locate restaurants, attractions and unique events. The tour passes the affluent River Oaks area, where stunning homes of the rich and famous abound. This neighborhood is often referred to as Houston's "Satin Slipper Suburb." The tour passes one of River Oaks' most famous residences, Bayou Bend. It currently serves as the decorative arts wing of the Museum of Fine Arts, Houston. Anchored by The Houston Museum of Natural Science (where you will stop and tour), the Museum District includes 16 different institutions. The tour passes the Museum of Fine Arts, Houston, the Houston Children's Museum, the Museum of Health and Medical Science, and the Houston Holocaust Museum. The "Magic Circle" with the Galleria, a luxurious 3-story shopping extravaganza sporting a center ice-skating rink and the impressive Williams Tower, is another of the city's highlights. But it is the dynamic 64-foot high "Water Wall" that is the focal point of Williams Park. On this tour you will see some of the diverse neighborhoods, parks, and commercial areas that meld Houston together, forming a fascinating city of contrasts and contradictions.



Price: \$45.00 Your tour includes a professional guide, a Texas bandana, a box lunch and beverages, admission to the Houston Museum of Natural Science, and transportation in a deluxe motorcoach. *Note: This tour requires a minimum of 33 persons in order to avoid cancellation. Destination Houston, Tour Operator*

OT3 **Houston Rockets vs Charlotte Bobcats** - at **Toyota Center** (downtown Houston) (7:30 P.M.)

National Basketball Association. Join Yao Ming and the Houston Rockets for what promises to be an exciting evening of pro-basketball! (Special Price for 15 or more: \$55.00 U.S.; individual seats starting at \$60.00 USD.) Check the "Interest" box on the Registration Form and we will contact you with more information.

OT4 **Houston Cougars vs East Carolina** - at **Hofheinz Pavilion** (7:00 P.M.)

Conference USA Basketball at Hofheinz Pavilion on the University of Houston Campus. Check the "Interest" box on the Registration Form and we will contact you with more information.

Contact

For further information, please contact:

Dr. Joe Tringe, Capt USAFR

U.S. Air Force Force Office of Scientific Research

TEL : +1-925-422-7725;

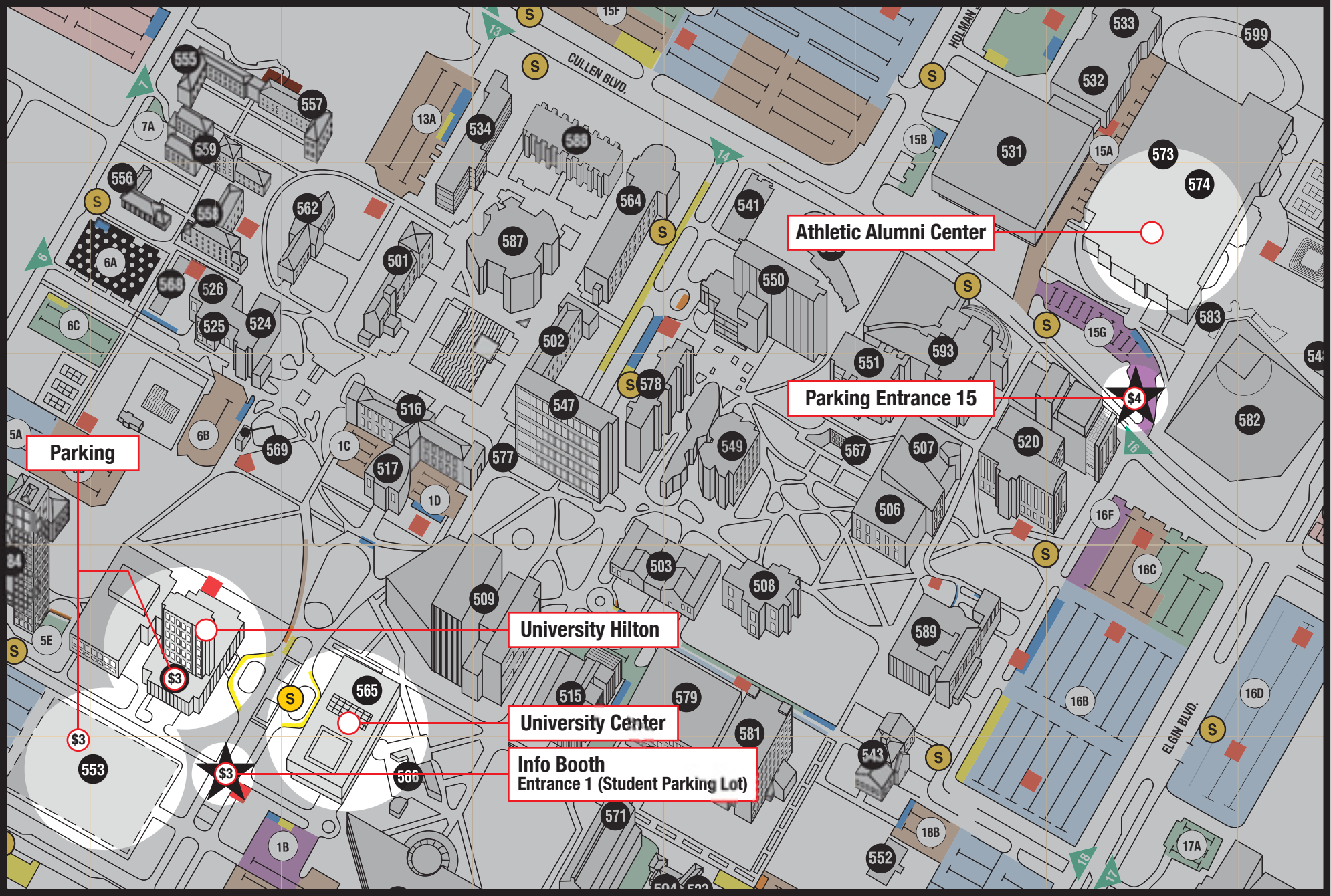
E-mail : joseph.tringe@afosr.af.mil

Questions?

Registrations : publicaffairs@afosr.af.mil

Event Options : sbutler@uh.edu

UH Campus Map





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Houston, Texas, USA · February 8-9, 2007

WORKSHOP REGISTRATION FORM

Please return this form (details below) no later than January 8, 2007.

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------|
| Prefix (choose one): <input type="checkbox"/> Mr. <input type="checkbox"/> Ms. <input type="checkbox"/> Mrs. <input type="checkbox"/> Dr. <input type="checkbox"/> Prof. <input type="checkbox"/> Male <input type="checkbox"/> Female | | |
| Name: (First, MI, Last) | | Email: |
| Institution | | |
| Street Address: | | City, State & Zip Code: |
| Country: | Phone: | Fax: |
| Additional Requests: <input type="checkbox"/> Vegetarian <input type="checkbox"/> Other: | | |

OPTIONAL EVENTS

| | | |
|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| February 9: Evening Event | | |
| — | Houston International Piano Festival: Abbey Simon – Moores Opera House, University of Houston (7:30 P.M.) | \$15 |
| February 10: Tours & Evening Events (Note: Tours run concurrently.) | | |
| — | Space Center Houston/Nasa Johnson Space Center Tour (6 hrs.) (includes admittance tickets, box lunch & drinks, guide & transportation) | \$45 |
| — | Houston City Tour/Museums (5 hrs.) (includes admittance to Houston Museum of Natural Science, box lunch, drinks, guide, transportation) | \$45 |
| — | NBA Basketball: Houston Rockets vs. Charlotte Bobcats (Toyota Center) (7:30P.M.) – Tickets will run from \$55 (for group of 15) to \$60 (individual tickets). We will contact you with more information. | Check box if interested. |
| — | C-USA Conference Basketball: Houston Cougars vs. East Carolina in University of Houston's Hofheinz Pavilion | Check box if interested. |

PAYMENT INFORMATION

Please **fax** this form to 703-696-5233 or **email** to publicaffairs@afosr.af.mil, Attention: Capt. Joe Tringe, along with credit card information.

| |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Payment Type: <input type="checkbox"/> American Express <input type="checkbox"/> Mastercard <input type="checkbox"/> VISA <input type="checkbox"/> Diner's Club <input type="checkbox"/> Discover <input type="checkbox"/> Debit |
| Credit Card Number: |
| Credit Card Expiration (mm/yy): |
| Name as it appears on Card: |



*Hilton University of Houston
4800 Calhoun
Houston, Texas 77204
713-741-2447
Fax: 713-743-2498*

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Reservations can be made either by email to Uzi_Rasheed@hilton.com or by fax to 713-743-2498. Please ensure that this form is filled out and sent as an attachment (email) or faxed to the hotel.

Today's Date: _____

Guest Name (first, middle initial, last) _____

Guest Address: _____

Company Name: _____

Guest Telephone #: _____

Check in Date: _____ **Check out Date:** _____

Type of Room: (King or Double): _____

Persons in Room: ____

Person(s) Sharing Room: _____

Credit Card #: _____ **Exp date:** _____

(AMEX, MC, VISA, DISCOVER, DINER'S CLUB) – For the Special State Rate of \$89 USD Standard or \$119 USD Executive Suite. This form must be used.

**** Please note that the cutoff date to book your hotel room is **Jan 22, 2007******

*4800 Calhoun
Houston, Texas 77204-3028
713-741-2447
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