



American Institute of
Aeronautics and Astronautics



*12 seconds,
112 feet,
100 years later...*

FINAL REPORT
2003 AIAA Southwest Region
Student Paper Conference

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2003 Region IV Student Paper Conference

Summary:

The 2003 AIAA Region IV Student Paper Conference (SPC) was held April 3 – 5th, 2003 at the University of Houston Main Campus. The host school was Texas A&M University. Additional support for the conference was provided by the Houston Section and the University of Houston Student Branch. 45 students attended from 5 different Region IV schools. A total of 3 design teams and 22 papers were presented.

This was the first year that the online Conference Administrator page was used for electronic submission of the papers. Although there were some initial problems, these were overcome and the system proved to be very effective.

Conference registration was handled through a combination of on-line submission and faxed in forms. Texas A&M managed the registration and sign in process and no significant problems were encountered.

We would like to thank our sponsors for all of their support and the time and effort our judges and other volunteers put forth to make the conference a success.

In all, a very successful conference!

Conference Staff:

Dr. John Valasek
SPC Chairperson

Diana Talley
Host Student Section Chair

Organizing Committee:

Dr. Merri Sanchez
Reg. IV Deputy Director of Education

Michael Oelke
Organizing Committee Chair

Brenda Boyko
University of Houston

Alicia Contreras
University of Houston

Nathan Withers
University of Houston

Conference Results at a Glance

Students and Papers:

School	# of U/grad Students	# of Grad Students	# of U/grad Papers	# of Grad Papers	# of History Papers	# of Design Papers
University of Houston	5	-	-	-	-	-
Rice University	-	2	-	2	-	-
Texas A&M University	22	4	5	4	1	3
Univ of Texas at Arlington	6	2		2	4	-
University of New Mexico	1	3	-	3	1	-
TOTALS	34	11	5	11	6	3

Total Students: 45
Total Papers: 25

In addition to the registered students, the University of Houston's Sasakawa International Center for Space Architecture (SICSA) paid for 12 AIAA student memberships. While these students only presented one guest paper, they attended the opening social and learned about AIAA student membership. They will continue as new members of the University of Houston Student Branch.

Four of the seven Region IV student branches were represented.
 45 of the approximately 200 student members attended the conference.

Budget Summary (detailed budget on page18):

INCOME

AIAA HQ Prize Money	\$ 4,750.00
Century of Flight Funding	\$ 1,000.00
CAT III Funds	\$ 500.00
North Texas Section Fundraising	\$ 4,000.00
Houston Section Fundraising	\$ 2,750.00
Houston Section Contribution	\$ 2,000.00
SPC Registration Fees	\$ 420.00
TOTAL INCOME:	\$ 15,420.00

EXPENSES

Student Prizes	\$ 2,425.00
Tshirts	\$ 1,064.00
Lodging	\$ 3,754.00
Meeting Rooms	\$ 390.00
Meals	\$ 3,552.00
Travel - UT Arlington	\$ 828.00
Travel - TAMU	\$ 632.00
Supplies	\$ 652.00
TOTAL EXPENSES:	\$ 13,297.00

NET: \$ 2,123.00
Check sent back to Region IV SPC account: \$ 2,123.00

Conference Schedule

		Welcoming Day Events
THURS., APRIL 3	3:00 PM	Registration begins (Hilton Lobby)
	4:00 PM	Guaranteed times rooms available at UH Hilton for Check-in (Earlier check-in most likely available)
	6:00 PM	Glider competition (Architecture Building Atrium)
	7:00 PM	Opening Reception: From Gliders to Spaceports (Architecture Building Atrium)

		Competition Day: Track 1	Competition Day: Track 2
FRIDAY, APRIL 4	7:00 AM	Continental breakfast (UC, Bluebonnet Room, #250) Opening Address at 7:50 AM - Welcome to the conference!	
	8:00 AM	Undergraduate Papers, Session 1 (UC, Bluebonnet Room (#250))	Graduate Papers, Session 1 (UC, Rodeo Room (#264))
	9:45 AM	Break (UC, Bluebonnet Room, #250)	
	10:00 AM	Undergraduate Papers, Session 2 (UC, Bluebonnet Room (#250))	Graduate Papers, Session 2 (UC, Rodeo Room (#264))
	12:00 PM	Lunch with Dr. Charles Justiz " <i>Risk Management During Flight Testing</i> " (UC, Bluebonnet Room (#250))	
	1:30 PM	Open	Graduate Papers, Session 3 (UC, Bluebonnet Room (#250))
	2:45 PM	Break (UC, Bluebonnet Room, #250)	
	3:00 PM	Open	Graduate Papers, Session 4 (UC, Bluebonnet Room (#250))
	5:00 PM	Young Professionals Forum (Hoffman Hall, Room 232)	
	7:00 PM	Section Officers Meeting (Hoffman Hall, Room 232)	

		Awards Day: Track 1	Awards Day: Track 2
SATURDAY, APRIL 5	7:00 AM	Continental breakfast (UC, Atlantic Room (#74))	
	8:00 AM	Design Team Presentations (UC, Atlantic Room (#74))	History Papers, Session 1 (UC, Baltic Room (#82))
	9:45 AM	Break (UC, Atlantic Room (#74))	
	10:00 AM	Guest Presentations (UC, Atlantic Room (#74))	History Papers, Session 2 (UC, Baltic Room (#82))
	12:00 PM	Awards Luncheon - Dr. Alex Ignatiev (Architecture Building Atrium)	
	2:00 PM	Tour of the Texas Center for Superconductivity and Advanced Materials	

Thursday Night, April 3rd:

The conference began Thursday night with students arriving in Houston, registering, and attending an opening reception: *“From Gliders to Spaceport: Celebrating a Century of Flight”*. This reception was held in the atrium of the Univ. of Houston Architecture building, because it provided an excellent venue for a balsa glider competition and because the Architecture building houses the Sasakawa International Institute for Space Architecture (SICSA).

This proved to be an excellent evening, beginning with a pasta buffet dinner and an address by SICSA’s director, Mr. Larry Bell and followed by a tour of the SICSA facilities. This event also provided a dozen new AIAA members (students in the SICSA program) the opportunity to meet the student delegates from other schools. The evening finished with a balsa glider competition during which students exercised their aerospace engineering skills to build high performance gliders from simple kits. Awards were later given to longest straight-line distance, most acrobatic, most original (a biplane!), and best crash.



Director Larry Bell of SICSA provides a tour of the facilities.



Rick Hardy, biplane on left, and Dan Nobels with the long distance winner display their winning glider designs.

Friday morning, April 4th:

The paper competition began early on Friday morning. Two tracks were run in parallel (one for graduate papers, one for undergraduate papers) during the morning in order to handle the large number of papers in a 20/10 format.



Paul Gesting from Texas A&M University presents his paper on *Intelligent Terrain Avoidance Agent for General Aviation Free Flight*. He went on to win 3rd place in the undergraduate category.

A 1 ½ hour break was taken for lunch during which Dr. Charles Justiz, a test pilot for NASA, presented a talk on "*Risk Mitigation During Flight Testing*". He tied his presentation perfectly into the Century of Flight theme for the conference by reviewing the test pilot experiences of the Wright Brothers and other early fliers and contrasting their practices with modern techniques



Dr. Charles Justiz presented historical footage on early flight attempts.

Friday afternoon, April 4th:

The paper competition continued Friday afternoon with 5 additional graduate papers. A practice room was provided in parallel with the graduate presentations.



Linda Phonharath from the University of Texas at Arlington warms up for her history presentation on Saturday.

Following the completion of the graduate student presentations, the students migrated to another presentation room on campus. This provided them an opportunity to see more of the campus as well as have a 'stadium seating' venue for the Young Professional's forum. Nicole Smith, Chairperson of AIAA Houston Section and a NASA engineer chaired the panel and led a discussion to help prepare students for their transition from academia to professional life.



Lisa Chaszar, Nicole Smith, Alex Ashe, and David Lechner spoke to students on the transition to professional life.

Friday evening, April 4th:

The evening concluded with a pizza party and an officer's meeting conducted by Lisa Bacon from AIAA Headquarters. Ms. Bacon discussed all of the scholarships and resources available to the students from AIAA. Ideas for fundraising and member activities were also discussed.



Students attending the Young Professional's Forum, just prior to the Section Officer's Meeting.

Saturday morning, April 5th:

The paper competition continued Saturday morning with three design presentations and six history papers. These sessions were again run in parallel in order to complete them in the time allotted. Since there were only three design papers, two guest speakers presented in the open slots in the second half of the morning. First, Scott Stover from SICSA presented information on their graduate program in space architecture at the University of Houston. Second, the Houston section of the Amateur Spaceflight Association presented the design and test flight information on their A-1 rocket.



The aircraft design teams display their competing designs for ultra-heavy lift aircraft.



The SICSA guest speakers answer student's questions about their design work and the SICSA program.

Awards Lunch and Tour

Following the completion of the papers, the conference was concluded with an awards luncheon. This was held in the atrium of the Architecture building as well. Dr. Alex Ignatiev, Director of the Texas Center for Superconductivity and Advanced Materials (TcSAM) provided an outstanding talk on processing of materials in Low Earth Orbit and on the Lunar surface. The students greatly enjoyed the talk and asked many questions.



Dr. Alex Ignatiev spoke to the students about the benefits of processing materials in microgravity.

Following the TcSAM presentation, Lisa Bacon presented the first, second, and third place awards for the undergraduate and graduate papers. Michael Oelke, judging chairman, presented the awards for the history papers and the design team award. Ms. Bacon also presented the Outstanding Student Section Award to the University of Houston Chapter.

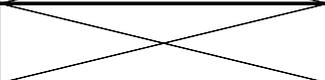
The event was concluded with a tour of the TcSAM facilities.

The next Region IV Student Paper Conference is scheduled to be held during the first weekend of April 2004, hosted by the University of Texas at Arlington.

Judging

WRITTEN	Undergraduate Papers	Graduate Papers	History Papers
Judge 1	Shirley Brandt	Bill Atwell and Boeing Fellows	Steve Hoffman
Judge 2	Ken Dorset		Tim Brady
Judge 3	Jim McLane		Jud Hedgecock

ORAL	Track 1: Undergraduate	Track2: Graduate	
Judge 1	Michael L. Tompkins	Dr. Karolos Grigoriadis	Friday AM
Judge 2	Sophia Bright	Dr. David Zimmerman	
Judge 3	Kun He (TcSAM)	Dr. Stan Kleis	

Judge 1		Darby Cooper	Friday PM
Judge 2		Dr. Rao	
Judge 3		Roland Martinez	

	Track 1: Design	Track 2: History	
Judge 1	Mike Drever	Chris Ramsay	Saturday AM
Judge 2	Rakesh Bhargava	Brad Mudgett	
Judge 3	Serwesh Mathur	Zoulikha Mouffak (TcSAM)	

An Excel spreadsheet was used to tally all scores. All judging was performed remotely through the use of the Conference Administrator website. Where there was a chance for bias between difference groups of judges in the same category (i.e., written graduate and oral graduate) the judging chairperson (Michael Oelke) met with the judges to ensure that the same level of criteria was being used by all of the judges so an overall fair score was assigned to each paper relative to the other papers in the competition. Hardcopies of all judging sheets are maintained by the judging chairperson.

No problems were encountered with the judging system.

Assessment / Lessons Learned

Overall, the conference ran very well. We had the most papers at this conference for many years and nearly as many students as the 2001 conference. It was held at the University of Houston Main Campus because all of the oral judging volunteer base was based in Houston and could not make the commute to College Station. The onsite hotel and the University Center made for an excellent combination, greatly simplifying the conference logistics. Meeting rooms and meals were of excellent quality. It is recommended to have the event here again the next time it returns to Houston since the combined venue greatly simplifies overall workload, a reasonable price, and a high quality product. The only exception is the lodging, which was rather expensive at ~\$95 / room for two people. In the future, either consider rooming four to a room or get firmer room commitments from people. A number of the reserved rooms were not used and had to be paid for anyway.

The good things to build on for next year:

- 1) Keep using the Conference Administrator to allow electronic submission and also remote judging of papers.
- 2) The t-shirts were a great idea. See if they can be included in next year's conference as well.
- 3) The YP Forum was well received. Keep performing this in order to provide new information to students.
- 4) Invite guest speakers to help fill slots in the presentation schedule if a parallel track is empty.

Things to improve upon/suggestions:

- 1) More volunteers for running the conference the day of the event. Do not underestimate this item! With the help of the UH Student Branch and Brenda Boyko the conference logistics were manageable, but the whole event would have run much smoother with an additional two people assisting. The organizing conference lead should have no task the day of the conference except to introduce people and answer simple questions / direct other actions. Specifically, the judging chair should be there full time to answer judging questions and tally scores.
- 2) Spend the funds to reserve A/V equipment instead of borrowing it. The extra few hundred dollars spent on extra LCD projectors would have greatly simplified conference logistics. Also – just assume that every room will need an LCD projector (even the practice rooms).
- 3) Do not schedule any activity for the opening night. This was attempted this year because the SICSA facility was not available at any other time during the conference and students would have missed it otherwise. However, many students cannot arrive until late on the night before because they have classes that run late in the day or a job.
- 4) Work hard to verify exact headcount for all events and rooms. Consider adding a penalty to students who do not show up to activities. This year, several room-nights were not used that had been reserved and 20% of the students did not attend the awards banquet or the YP forum. The conference could have saved nearly \$500 had these no-shows been known in advance and the room count/meals been reduced ahead of time.

Final Report – 2003 AIAA Region IV Student Paper Conference

- 5) Anticipate a slight drop in total papers, presentations, and attendees as the deadline passes. This is because: a) students will run out of time and not submit a paper, b) students will be disqualified, and c) because students will not attend all of the events at the conference. By using this rule meals and room count may be reduced in order to keep the budget smaller.
- 6) Review Region II's budget; they do not pay for student travel. Although this is impractical for Region IV (because of the large distance from Albuquerque to eastern Texas), perhaps we should reduce the mileage refund for the students who are driving in. For example, between TAMU and Arlington this year we spent more than 10% of the budget (nearly \$1,500). This was paid at 37 ½¢ / mile. If, instead, we reimbursed at half that, we could have more funds to 'fly in' more students from outlying schools (especially considering SWA's low fairs).
- 7) The \$10 fee helped significantly on the budget this year. Suggest increasing to \$20 (non-refundable) for next year. Region II charges \$40 / student!
- 8) Again, refer to Region II's SPC schedule. Consider adding a ½ day event between the end of presentations and the awards banquet. This would provide more time for judging to tally scores and print certificates. It would also provide time to photocopy the judges written scores so the packets can be handed out after the awards banquet. Even just an extra hour would make a big difference.
- 9) Provide at least two weeks for written judging and stick to a firm deadline for paper submission.
- 10) Finally – Communication, Communication, Communication. Having the split conference committee between TAMU and Houston worked reasonably well, but there were still disconnects both between these two organizers and the attending students and advisors. We had a hard time keeping everyone on the same page this year and we still had disconnects right up to the end (i.e., # of people attending opening night, the need for an extra LCD projector, etc.). As stated in the 2001 report, be absolutely sure to start early (in December) and make not just e-mail contacts but also telephone contacts. This cannot be stressed enough. With good, continuous contact, student attendance should go up as well as overall quality of the program.

Winners

Graduate Paper Title	
1st Place	Rafael Caicedo, Texas A&M University <i>Preliminary Results of Vehicle Formation Control Using Dynamic Inversion</i>
2nd Place	Matt Mulholland, University of New Mexico <i>The Study of Void Growth and Interaction in a Superplastic Material</i>
3rd Place	Rajagopal Pachalla, Texas A&M University <i>Oscillatory Forced Convection Cooled Compact SMA actuator</i>
Undergraduate Paper Title	
1st Place	Justin Hargrove, Texas A&M University <i>Supercavitation and Aerospace Technology</i>
2nd Place	Robert Effinger IV, Texas A&M University <i>Characterization of a Vision Based Stereo Navigation System</i>
3rd Place	Paul Gesting, Texas A&M University <i>Intelligent Terrain Avoidance Agent</i>
History Paper Title	
1st Place	Chris Haag, Texas A&M University <i>From Dream to Reality: The Work of Werner von Braun</i>
2nd Place	James MacComack, University of New Mexico <i>Apollo One: A Case Study</i>
3rd Place	Michelle Craig, University of Texas Arlington <i>X-Planes: Past and Present</i>
Design Team Presentation	
1st Place	Darrell Crowe, Paul Gesting, David Moore, Texas A&M University <i>The Flaming Moe: Mid-size Turbojet Design</i>



1st Place Graduate Paper Winner: Rafael Caicedo



1st Place Undergraduate Paper Winner: Justin Hargrove

Winners, cont.



1st Place design team: Darrel Drowe, Paul Gesting, and David Moore

Detailed Paper List

Undergraduate Papers, in order of presentation at conference

Aerodynamics of a Large Scaled Transonic Biplane with Winglet Configuration	<i>C. Cotton, Texas A&M University</i>
Human Flight Safety-Related Tasks	<i>S. N. Illoldi, Texas A&M University</i>
Characterization of a Vision-Based Navigation System	<i>R. Effinger, Texas A&M University</i>
Intelligent Terrain Avoidance Agent for General Aviation Free Flight	<i>P. Gesting, Texas A&M University</i>
Supercavitation and Aerospace Technology in the Development of High Speed Underwater Vehicles	<i>J. Hargrove, Texas A&M University</i>

Graduate Papers, in order of presentation at conference

NDE of Cryogenic Composites for Permeability	<i>A. Ganpatye, Texas A&M University</i>
Crack Tip Plastic Zone Shape: Analytical Solution	<i>P. Jing, University of New Mexico</i>
Stress Analysis of the Rotary Blade with S809 Airfoil	<i>Y. Kang Sun, University of Texas, Arlington</i>
Fractal Dimension Evolution in a Shear Layer Instability	<i>C. Platero, University of New Mexico</i>
Forced Convection cooled compact SMA actuator	<i>R. Pachalla, Texas A&M University</i>
Turbulence Control Using the Variational Multi-Scale (VMS) Method	<i>S. Ramakrishnan, Rice University*</i>
Cooperative Underwater Search System	<i>E. Savage, Texas A&M University</i>
The Study of Void Growth and Interaction in a Superplastic Material	<i>M. Mulholland, University of New Mexico</i>
Unipolar Generation of Plasma in a Supersonic Flow by Corona Discharge	<i>P. K. Panicker, University of Texas, Arlington</i>
Optimal Control of Burgers Equation Using Discontinuous Galerkin Method	<i>G. Chen, Rice University*</i>
Preliminary Results of Vehicle Formation Control Using Dynamic Inversion	<i>R. E Caicedo, Texas A&M University</i>

History Papers, in order of presentation at conference**

Supersonic Transport – Concorde and Beyond	<i>H. Inoue, University of Texas, Arlington</i>
F-16 Fighting Falcon	<i>L. Phonharath, University of Texas, Arlington</i>
From Dream to Reality: the Work of Wernher von Braun	<i>C. Haag, Texas A&M University</i>
X-Planes: Past and Present	<i>M. Craig, University of Texas, Arlington</i>
Apollo One: A Case Study in Decision Making During Engineering Design	<i>J. MacCornack, University of New Mexico</i>

Design Presentations, in order of presentation at conference

A Critical Design Review of The Poseidon: An Ultra Heavy Lift Aircraft <i>Texas A&M Senior Design Project</i>	<i>K. Chesna, J. Cox, P. Gesting, J. Hill, Z. Langenkamp, T. Lavin</i>
The C-1660 Leviathan: A Conceptual Design <i>Texas A&M Senior Design Project</i>	<i>C. Brewer, C. Cotton, R. Hardy, S. Melton, D. Nobles, D. Smith, D. Talley</i>
The Flaming Moe: Mid-size Turbojet Design <i>Texas A&M Senior Design Project</i>	<i>D. Crowe, P. Gesting, D. Moore</i>

* The two Rice University papers were submitted by graduate students in a doctoral program and, therefore, were not considered for the award.

** R. Mueller, University of Texas, Arlington, also presented a history paper, although he did not submit a paper in advance of the deadline.

Registered Students

Name	School	Status
Chen, Guoquan	Rice	Grad
Ramakrishnan, Srinivas	Rice	Grad
Chesna, Kimberly	TAMU	Undergrad
Illoldi, Schedir Nefertiti	TAMU	Undergrad
Myres, Marilee	TAMU	Undergrad
Savage, Elizabeth	TAMU	Grad
Selby, Laurel	TAMU	Undergrad
Talley, Diana	TAMU	Undergrad
Thomason, Susan	TAMU	Undergrad
Caicedo, Rafael Edward	TAMU	Grad
Cotton, Craig	TAMU	Undergrad
Cox, Jonathan	TAMU	Undergrad
Crowe, Darrell	TAMU	Undergrad
Effinger, Robert	TAMU	Undergrad
Ganpatye, Atul	TAMU	Grad
Gesting, Paul	TAMU	Undergrad
Haag, Chris	TAMU	Undergrad
Hardy, Rick	TAMU	Undergrad
Hargrove, Justin	TAMU	Undergrad
Hill, William Joel	TAMU	Undergrad
Langenkamp, Zach	TAMU	Undergrad
Nobles, Dan	TAMU	Undergrad
Pachalla, Rajagopal	TAMU	Grad
Wagner, Tom	TAMU	Undergrad
Wilson, Matt	TAMU	Undergrad
Jing, Peihua	UNM	Grad
MacCormock	UNM	Undergrad
Mulholland, Matthew	UNM	Grad
Platero, Chris	UNM	Grad
Craig, Michelle	UTA	Undergrad
Hollingshead, Cindy	UTA	Undergrad
Phonharath, Linda	UTA	Undergrad
Burris, Matt	UTA	Undergrad
Inoue, Hisashi	UTA	Undergrad
Lee, Jason	UTA	Undergrad
Mueller, Robert W.	UTA	Undergrad
Panicker, Philip	UTA	Grad
Sun, Yung-Kang	UTA	Grad
Contreras, Alicia	UH	Undergrad
Kronenberger, Melissa	UH	Undergrad
Le, Crystal	UH	Undergrad
Schmitz, Mark	UH	Undergrad
Withers, Nathan	UH	Undergrad

Detailed Budget

INCOME	ACTUALS	
AIAA HQ Prize Money	\$ 2,100.00	
AIAA HQ Funding for Student Meeting	\$ 400.00	
AIAA HQ \$50 per head	\$ 2,250.00	\$50 each x 45 students Need an additional \$400 from National
Century of Flight Funding	\$ 1,000.00	Opening Reception with COF theme
CAT III Funds	\$ 500.00	for tshirts (membership promotion, only 1/2 of it awarded)
Albuquerque Section	-	No funding in- they covered their own travel
North Texas Section	\$ 4,000.00	
Southwest Texas	\$ -	Assume no help for now
Houston Section Fundraising	\$ 2,500.00	\$250 OSS, \$250 Honeywell, \$250 Dynacs, \$500 Cimarron, \$250
Houston Section Contribution	\$ 2,000.00	Hernandez, \$250 Raytheon, \$250 Boeing, \$250 SAIC, \$250 Muniz
SPC Registration Fee	\$ 420.00	\$10 ea x 42 paid students
TOTAL INCOME:	\$ 15,170.00	
EXPENSES		
Student Prizes	\$ 2,325.00	Pass through from National plus history prizes
Tshirts	\$ 1,064.00	\$6 ea, x 144 shirts + \$200 (for volunteers as well as students)
Lodging - Thurs 3 April	\$ 1,778.22	18 rooms x \$98.79 / night (including hotel tax)
Lodging - Fri 4 April	\$ 1,975.80	20 rooms x \$98.79 / night (including hotel tax)
Lodging - Sat 5 April	-	No one stayed for Saturday.
Gliders for Opening reception	\$ 139.10	
Polo shirt prizes	\$ 100.00	
Reception Room - 3 April	\$ -	Free rental for the Achritecture Atrium.
Meeting Rooms	\$ 390.00	UC and A/V rental
Food & Bev - 3 April - Reception Dinner	\$ 795.80	Catered, 80 people x \$8.65 + 15% delivery
Food & Bev - 4 April - Breakfast and Breaks	\$ 414.35	Chartwells catered for all
Food & Bev - 4 April - LUNCH	\$ 497.50	Catered, 80 people x \$6.22 ea.
Food & Bev - 4 April - Pizza Dinner	\$ 400.00	Pizza and sodas for YP and officer's meeting
Food & Bev - 5 April - Breakfast	\$ 337.15	Chartwells catered for all
Food & Bev - 5 April - AWARDS LUNCH	\$ 1,107.19	Catered, 70 people (Chartwells w/ service and china)
Parking at Hilton	\$ -	60 parking tokens donated from Brenda Boyko's office.
Travel - UNM	-	UNM paid it's own way.
Travel - UT Arlington	\$ 828.00	See travel subsheet
Travel - TAMU	\$ 632.00	See travel subsheet
Travel - UT Austin	\$ -	No faculty or students.
Mailing	\$ 25.00	
Printing of program	\$ 110.00	
Photocopies	\$ 47.95	
Supplies	\$ 79.66	
TOTAL EXPENSES:	\$ 13,046.72	
NET:	\$ 2,123.28	
Check sent back to Region IV SPC account:	\$ 2,123.28	

Featured Speaker Biographies

April 3rd Reception Speaker: Mr. Larry Bell

Director

Space Architecture Center, University of Houston



The Sasakawa International Center for Space Architecture (SICSA) offers undergraduate and graduate level education programs related to broad aspects of government and commercial space development. SICSA is recognized throughout the world for research and design projects that address planetary mission and habitat planning, space human factors, space tourism enterprises and spaceport facilities. SICSA's founder and director, Larry Bell has also founded several private space companies that have undertaken research and planning for the International Space Station, developed telerobotic rovers for planetary surface missions, and conducted space advertising features in space.

April 4th Luncheon Speaker: Dr. Charles Justiz

Test Pilot

National Aeronautics & Space Administration



In his 30 year career, Dr. Justiz has ranged from test pilot to professor. Starting as a T-38 pilot in 1975 and a test pilot in 1977, he has accumulated over 13,000 flight hours in over 100 different types of aircraft including the T-38, STA, G2, WB-57, NC-130, KC-135, UH-1, Bell 47G, F-4, F-15, F-16, and F-18. He is rated as an Instructor Pilot in the Astronaut T-38 and the Shuttle Training Aircraft, in which he has over 20 years of experience and over 10,000 Shuttle approaches. In addition to his aviation achievements, Dr. Justiz has been Chief of both the NASA/JSC Aviation Safety Office and the Shuttle Chase Program. He has authored technical papers on flight simulation using implicit model following and on ionized plasma flows around charged spacecraft. He also teaches astrodynamics and space mission design for the Univ. of Colorado and is an adjunct professor at the Univ. of Houston

April 5th Awards Luncheon Speaker: Dr. Alex Ignatiev

Director

Texas Center for Superconductivity and Advanced Materials



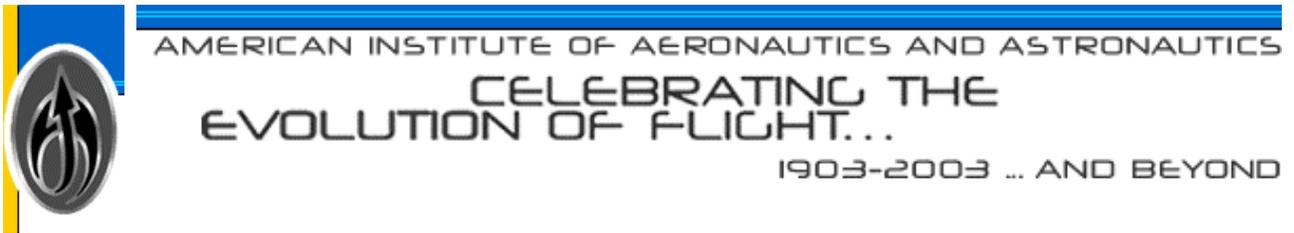
Dr. Ignatiev is a Professor of Physics, Chemistry, and Electrical and Computer Engineering at the University of Houston and is the Director of the Texas Center for Superconductivity and Advanced Materials. This center focuses on both fundamental science technology development and commercialization through partnership with industry, government, and academia. Dr. Ignatiev's research interests have been focused on advanced thin film materials and device development and surface chemical interactions that form the basis for thin film growth. Recent efforts have been in the development of high performance semiconductor materials, including thin film solar cells fabricated in the vacuum environment of space. He has published more than 275 scientific articles, has 8 patents, and serves on the editorial boards of three scientific journals.

Conference T-shirt Artwork:



Picture of reverse side of conference t-shirt with sponsor logos. Inset in lower right shows AIAA logo located on front side over the pocket location.

Sponsors:



Honeywell



Muniz Engineering, Inc.



UNIVERSITY of HOUSTON



**American Institute of
Aeronautics and Astronautics**