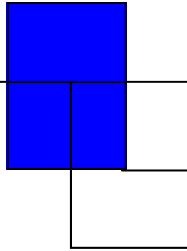


November 2004

Volume 30  
Number 2



# What's Up

In the Atlanta Section

Please Join Us For the November  
Dinner Meeting

## “Astroideaters”\*

By: AC Charania from SPACEWORKS

**When:** Thursday, November 18th

Social: 5:30 pm

Dinner: 6:30 pm

Program: 7:30 pm

**Meal Prices:**

Members/Guests \$15

Non-Members \$19

Students \$10

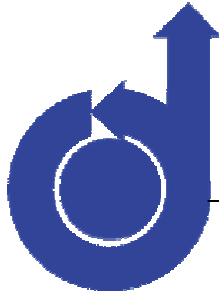
**Where:** Sheraton Galleria,  
2844 Cobb Pkwy SW, Atlanta

**Directions:** From Downtown—Take Interstate 75 North to Interstate 285 West (Exit 259B). Exit onto Cobb Parkway/State Highway 41. Turn left at the light. The Hotel is immediately on the right side.

**Menu:** Shrimp Scampi over penne pasta with field green salad & dessert.

Register online at the AIAA Section website ([www.aiaa-atlanta.org](http://www.aiaa-atlanta.org)) or contact a council member no later than the Close of Business on Monday, November 15th.

\*More information about the speaker, and the topic of the talk can be found on page 3 of the newsletter, and on the AIAA-Atlanta website.



## Chairman's Corner

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Welcome to Fall everyone. For those that may have not attended one of the Atlanta section meetings or events so far, you have missed some very good ones. The good news is that there is MUCH MORE TO COME. Take a look at the Upcoming Events section of this newsletter.

Remember, this is YOUR AIAA. It takes your continued interest and energy to make it succeed. I strongly urge each and every one of you to contact myself or any council member with IDEAS on how the Atlanta section can better serve your needs and professional interests. We are here for you.

I also encourage everyone in the section to take advantage of one of what we hope will be several VOLUNTEER opportunities this year. Prospects include lectures at schools via our Pre-College Outreach program, participation in Congressional Visits Day, and acting as part of our Booster Network. Many, many more possibilities are in the planning stage. There are opportunities for AS MUCH OR AS LITTLE TIME AS YOU CAN SPARE.

Here's wishing you all a safe and happy holiday season.

*Jordy Nichols*

Chairman, AIAA Atlanta

### Meeting Attendance Numbers

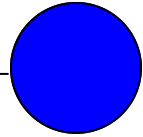
September:

Members	20
Students	9
Nonmembers	2

October:

Members	33
Students	6
Nonmembers	6

# November Dinner Meeting Topic Information



## ABSTRACT

A new approach to mitigate and protect against planetary impactor events is presented. The primary objective of this systems concept is to apply small perturbations to Near-Earth Objects (NEOs) in an attempt to divert them from their path toward Earth impact. Unlike past proposals from other individuals or organizations, this project concept proposes a rapid and scalable solution consisting of tens, hundreds, or thousands of small, nearly identical spacecraft. They will intercept the target body and conduct mass driver/ejector operations to perturb the target body's trajectory to the point where an impact with Earth can be avoided. There have been many ideas woven together to develop the asteroid concept presented herein. From mass driver technology to notions of swarm intelligence, various technologies and approaches have been combined to develop a potentially unique approach to planetary defense against asteroids and comets.

Such a spacecraft, referred to here as a Modular Asteroid Deflection Mission Ejector Node (MADMEN) spacecraft could conceivably be nuclear powered, pre-deployed outside of low earth orbit (likely at an Earth-Moon or Earth-Sun libration point), and be capable of using chemical propulsive boost to rapidly intercept an incoming target. Upon arrival at the target, each MADMEN spacecraft will begin to eject small amounts of mass from the asteroid that will, over time,

have the effect of slightly changing the heliocentric orbit of the target so that Earth impact is avoided. Such a design philosophy focuses on developing rapid and scalable NEO mitigation plans incorporating the world's current launch vehicle/spacecraft bus manufacturing capability. Potential advantages envisioned in such an architecture design include: integrating the analysis of spacecraft development/deployment/launch, ability to complete the mission given the loss of part of the swarm, scalability of response for different size threats, and flexibility to initiate an immediate response leaving the option to develop more advanced systems.

## COMPANY OVERVIEW:

Founded by Dr. John R. Olds, SpaceWorks Engineering, Inc. (SEI) is a small aerospace engineering and consulting company located in metropolitan Atlanta. SEI specializes in providing products and services to enhance engineering design and analysis. In the services arena, SEI provides timely and unbiased analysis of advanced space concepts ranging from space launch vehicles to deep space missions. The firm's conceptual and preliminary level toolsets and methods can help determine feasibilities of space systems, viabilities in the marketplace, and determine the temporal impacts of technology on public and private actors. The firm also forecasts markets to help determine future demand, public policy, and related media initiatives.

## BIOGRAPHY OF SPEAKER:

Mr. A.C. Charania is senior futurist at SpaceWorks Engineering, Inc. (SEI) and current member of the AIAA Economics Technical Committee (TC). His previous experience includes roles at Accenture, Futron Corporation, and the Georgia Institute of Technology's Space Systems Design Laboratory (SSDL). He possesses extensive experience in the development and application of tools and methods for space transportation design and advanced technology prioritization. Some previous conceptual design projects he has participated in include: Space Solar Power (SSP), Reusable Launch Vehicles (RLVs), space tourism, Europa landers, Martian telecommunication networks, lunar base concepts, and outer planet Nuclear Electric Propulsion (NEP) missions. He is a NASA Institute for Advanced Concepts (NIAC) fellow based on his role as Co or Lead-Investigator for the following Phase 1 studies: "The League of Extraordinary Machines: A Rapid and Scalable Approach to Planetary Defense Against Asteroid Impactors" and "Networks on the Edge of Forever: Meteor Burst (MB) Communication Networks on Mars." He holds an M.S. in Aerospace Engineering from the Georgia Institute of Technology (with a concentration in systems design and optimization), a B.S. in Aerospace Engineering from the Georgia Institute of Technology, and a B.A. in Economics/Mathematics from Emory University.

# Calendar of Events

## November:

11/4 - GT Student Chapter Meeting  
 11/18 - November Dinner Meeting -  
 AC Charania - Asteroid Eaters,  
 SPACEWORKS  
 11/18 - GT Student Chapter Meeting  
 11/20 - YP Event - Cosmic Bowling

## December:

12/2 - GT Student Chapter Meeting

## January:

1/10-1/13 - AIAA Aerospace Sciences  
 Meeting, Reno, NV  
 1/27 - January Dinner Meeting  
 Boeing 7E7

## February:

2/24 - February Joint ASM Dinner Meeting -  
 F/A 22 Full Scale Fatigue Tests

## March:

TBD - Career Enhancement Workshop  
 TBD - YP Event - Paintball

## April:

4/4-4/5 Region II Student Conference  
 Gainesville, FL  
 4/15 - Associate Fellow Application  
 Deadline  
 4/15 - Fellow Application Deadline

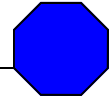
## June:

6/15 - Honorary Fellow Application  
 Deadline

## Council Members

Chairperson	Jordy Nichols	404-714-0792 chairman@aiaa-atlanta.org	Council Members councilmembers@aiaa-atlanta.org	
Vice-Chair	open		Scott Culpepper	770-933-9500
Secretary	Josh Prater	secretary@aiaa-atlanta.org	Jay Dellinger	678-645-2204
Treasurer	Shawn Mahan	404-714-2432 treasurer@aiaa-atlanta.org	Cassy Dellinger	770-794-6609
Past Chair	Jennifer Creelman	770-793-1534 councilmembers@aiaa-altanta.org	Doug Winkeljohn	
	Career Enhancement	Brian Kirby	career@aiaa-atlanta.org	
	Communications	Heather Patterson	404-872-4303 e.h.patterson@accenture.com	
	Pre-College	Jennifer Creelman	770-793-1534 precollege@aiaa-atlanta.org	
	Honors & Awards	open		
	Membership	Aaron Harcrow	770-314-1846 membership@aiaa-atlanta.org	
	Programs	Bob Greene	770-879-7989 programs@aiaa-atlanta.org	
	Student Activities	Heidi Anderson	Studentactivities@aiaa-atlanta.org	
	Public Policy	Ben Walker	404-677-0143 publicpolicy@aiaa-atlanta.org	
	Young Professionals	Jason Seymour	770-494-6576 youngpros@aiaa-atlanta.org	

## Membership Roundup



The headline says it all!!! My primary objective as Chairman of the Membership Committee is to roundup as many Atlanta Section Members and corral them, at some time or another, at one of our Section functions. But, a committee of one is limited in how much he can achieve. So, I want to reinvigorate the Booster network and enlist those activist Members out there who want to make a difference in THEIR Atlanta Section of AIAA.

**I strongly believe that, for a volunteer organization such as AIAA, the more you participate, the more benefit you receive.**

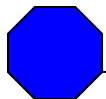
The Boosters play a critical role in the day to day operation of the Section, including:

- Communication of Section events to Members and Non-Members,
- Communicates local aerospace industry news and events to AIAA,
- Provide a “face” in the local environment to go with the AIAA name,
- Recruit new Members,
- Serve as first level contact for questions concerning Membership.

Web sites, phone mail and email are very useful tools for communication and information, but there are times when your best resource is a person. Can an email greet you in the morning with a warm and hearty handshake, a cheerful smile and remind you about the AIAA dinner meeting tomorrow night? I think not. Boeing CEO, Harry Stonecipher wrote in a *Boeing Frontiers* newsletter “... but the most important type of communication ... is actual face-to-face, back-and-forth conversations with one or a few people at a time.” I couldn’t agree more.

I am seeking Boosters from all sectors of the Atlanta aerospace community, from the traditional and not so traditional. Of course I want Boosters at the core organizations such as Lockheed Martin, Georgia Tech (Campus and GTRI) and Delta Airlines. But there are many other aerospace interests around Atlanta that are underrepresented in AIAA such as small businesses engaged in aerospace research, aerospace suppliers and manufacturers, pilots and “backyard” enthusiasts. If any of my enthusiasm has rubbed off on you and you want give more to and get more from AIAA, then contact me and let’s get going.

Cheers,  
Aaron Harcrow,  
Chairman, Membership Committee  
770-314-1846  
swede16@bellsouth.net



## Volunteer Opportunity—Honors and Awards Committee

The Atlanta Section is in need of a chairperson for the Honors and Awards Committee. This important committee is intended to promote and coordinate award opportunities to our section membership both at the local and national level. This is a very important service that our section can provide to our membership, and it’s an excellent way to make this your AIAA. Please contact [chairman@aiaa-atlanta.org](mailto:chairman@aiaa-atlanta.org) for details.



## Volunteer Opportunities - Pre-College Outreach

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***AIAA Pre-college Outreach monitors and develops programs to promote the importance of math, science, and technology education in a pre-college setting. It stimulates technical interest and develops a sense of importance through a medium (aerospace) that is fascinating to youth. It works with the AIAA local sections to establish an effective outreach program that fits the individual requirements of each economical and geographical location.***

Pre-college Outreach is looking for AIAA members to help in local Georgia schools.

Help is needed in the following areas:

- Elementary & Middle Schools – Volunteers needed to visit classrooms and help teachers facilitate aerospace/aeronautical classroom projects and lectures.
- High Schools – Volunteers needed to act as mentors for students looking to pursue a college degree in engineering
- Committee Planning – Volunteers to help coordinate with schools/teachers and plan events.

Your help would be greatly appreciated, not only by your fellow AIAA members, but most importantly by those whom you are able to mentor and motivate. For more information or to volunteer please email [precollege@aiaa-atlanta.org](mailto:precollege@aiaa-atlanta.org).

## Open Their Eyes to What Lies Ahead: AIAA Shadowing Program

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Remember back to college. You walked from class to class, memorizing equations, visualizing in 3D, imagining free body diagrams, and hoping that one day you too could be part of something great. The first day you stepped on campus you thought, *what is aerospace engineering, and what do aerospace engineers do?* After asking advice from everyone- your parents, your best friend, and even your dog- you concluded that engineers “do everything.” But what does that mean? Maybe you co-oped to find out, maybe you interned, but did you really know what you were in for? And what if you had not experienced any industry work before graduation?

The new AIAA Shadowing Program is designed to share the world of real engineering and science with undergraduate students in aerospace. It works similar to Take-Your-Child-to-Work day. If you volunteer you will host an undergraduate, show them what your job is all about, and get them excited about working in the aerospace field. There is a growing list of undergraduates waiting to get a glimpse of what happens after graduation.

Shadowing benefits both the student and the host. Showing students what is expected when working in the aerospace field will help them know what they need to focus more on in school. It will further the knowledge and experience of those graduating. Shadowing is also a great way to advertise your field and let others learn more about it. If you would like to get more involved, please email the Georgia Tech Student Chapter President Heidi M. Anderson at [studentactivities@aiaa-atlanta.org](mailto:studentactivities@aiaa-atlanta.org).

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## Have an Idea for a YP Event?



The Atlanta chapter of AIAA is currently planning fun upcoming events for young professionals (under 35). Currently, we have plans for another game of Paintball, a few Happy Hour Social Events, and an Outdoor Ropes Course. If you have any ideas that you would like see for an upcoming event, please submit your ideas to [youngpros@aiaa-atlanta.org](mailto:youngpros@aiaa-atlanta.org).



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## World-Class Career Enhancement Advice – For Free!

Well, not really free. Those hard earned dollars spent for your AIAA membership allow you access to a wealth of information on-line. Whether you are just starting or are well into your career, either actively looking for a new position or happy where you are, AIAA's website contains tools to address all aspects of career development. And as both a member of AIAA and the aerospace industry, you should take full advantage of this benefit!

Log in to My AIAA at [www.aiaa.com](http://www.aiaa.com), and then go to Career Resources. Members looking for a new job can jump right into the *Post Your Resume* and *Career Opportunities* links. I recommend that you take some time to look at the *Job Hunting* section to help organize a job search for best effect.

The *Resource Links* section is probably the best part of Career Resources area, as it contains several salary calculators, planning tools, and no less than 15 links to jobs databases. Active job hunters will spend a lot of time here. For those "just browsing," this section will give you a comprehensive look at the market as well as giving you an idea of how much you'll need to earn during the move.

AIAA's Career Resources website is valuable even to those who aren't looking around at this point. The *Job Hunting* section has excellent tips for mapping out your career and keeping a fresh perspective on steering towards your employment goals. In addition, take a look at the *Professional Career Time Line* – it's a great thought-provoking tool in regards to "watching the clock."

Keeping abreast of career development should be a priority for every professional. Please take advantage of what AIAA provides for you!

Brian Kirby  
Atlanta Section Career Enhancement

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## Congratulations to our 2005 Associate Fellows



Nominees for Associate Fellow must be AIAA Senior Members, have at least twelve years professional experience, and be nominated by at least three members in good standing of Associate Fellow grade or higher. The Atlanta AIAA section is proud to congratulate our section members who have become AIAA Associate Fellows.

Richard J. Gaeta, Jr.  
Robert C. Michelson

Kevin C. Massey  
David E. Parekh



## Atlanta Section

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### Highlights

- ✈ See the latest from your Atlanta section chairman, and the attendance numbers from past meetings.
  - ✈ This months **Dinner meeting** will be **November 18th** look inside for more details about the meeting and our speaker.
  - ✈ Calendar of this years events as of today is inside. Mark your calendar and plan to attend these events!
  - ✈ Your committee chairs have ways you can get involved with the section. Look inside for ways you can help.
  - ✈ Your Career Enhancement Committee Chair has advice for navigating AIAA website.
- 



**American Institute of  
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Atlanta Section  
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Atlanta, GA 30309