

November, 2005  
Volume 72, Issue 11  
www.iasindy.org



# The Bulletin

**The November General Meeting, November 12, 7:00 PM Butler  
Holcomb Observatory**

**Remember that we move to Holcomb Observatory for the winter  
months. Don't go to the Link!!**

Rotation Curves: Dark Matter or Newton's Laws  
Brian Woodahl,

Lecturer at the Department of Physics, Indiana  
University - Purdue University, Indianapolis  
?

We present an overview of the current "flat rotation" problem of galactic dynamics. We briefly discuss the current and common solution to this problem: dark matter. We also champion an alternative and lesser-known resolution: modified Newtonian dynamics (MOND). And finally, we show that a high-precision torsion oscillator experiment may serve as a tool for determining the validity of MOND.

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## **Annual Hog Roast at the Link Observatory**

The hog roast was a great success. Although it was cool, we all had a ball. Thanks to Mike Kirsch and Brian Murphy for planning and preparing the food. Mike is a great cook and the pork loin and the ribs were excellent. Only bad thing is that it is another year before we can do it again.

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## **Mars IS Coming!!! This Is Not a Hoax!!!**

In August 2003 Mars was the closest to the Earth that it had been in recorded times. Observers went nuts and we had a ball. Well, we even have a better chance this month and next. Although it is 25%

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further than 2003, Mars will be 30° higher in the sky and we in the northern latitudes will have probably the best viewing until 2020. Get out and observe. Pray for no dust storms.

We will hold Mars observing sessions November 5 and 19.

There will be a McCloud New Moon on November 4 for observing Mars.

Butler will hold events in October 28-29 and November 4-5 for the public and will need help. In 2003, we had as many as 2000 people at Butler each night. We will need scopes then.

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## **Twin Lakes Star Party**

Twin Lakes Star Party is held at Pennyrile State Forest in Kentucky every year. For many it is a great annual escape. The people are great, the skies are wonderful, and the food is good! Yes, for those of you who seem to only show up for the food, the meal on Saturday was wonderful --- more than everybody could eat! If you weren't there, than its too bad that you missed it! Oh, for those who just cant justify the trip for observing alone --- there is an 18 hole golf course about two miles up the road from the observing field! (John, Vicki)

Sandy and I left home at 8:00 Sunday morning heading to TLSP. Exactly four hours later, we were pulling onto the observing field. A quick glance revealed that many of the regulars were already there. On second glance were a couple of newfound friends from Nebraska --- Pierre (from NC) and Roberto (Chicago area). It was great to see them, I had bragged about this star party to them --- gulp, sure hope that the skies are decent. (They were great, whew!!!)

Sandy and I set up off by ourselves --- we expected Bill Conner and Danny (Bloomington, IL), and wanted to make sure that they would have enough space.

Bill ended up with other priorities to take care of, so couldn't make it down. The IAS folks that enjoyed the star party were Larry Phillips, Jon Williams, John Molt (all both days), and Sandy and Jay Simmons.

Many enjoyed the views through Pierre and Danny's 24 Starmasters --- wow, what great views they were too! Thanks for sharing. Then there was Bills (Evansville) 22 Telekit --- oh Sandy, I want one (Yes, I was probably whining!). I understand that many of the Evansville group went to Okie-Tex. Sorry about the weather that you guys had --- TLSP is only a couple of hours away for you!

One of the biggest highlights of the week for me was Jon's astrophotography adventures. He was having WAY too much fun --- ask him about it --- its great when everything is working perfectly.

The week went by way too quickly. Saturdays catered meal is mixed with emotions. It signifies the end. Another great TLSP is finished, now to pick up, pack up and on Sunday morning, drive back home.

For anyone who is looking for a good event to attend, I would definitely recommend this star party. Its not that far away. Thanks to our neighbors of the WKAA for a good show, Ross and David --- thanks for listening! Last year Ross promised better weather, and David promised mag 6.5 skies, we had both this year!

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Mark your calendar now for next years event --- October 14 -22, 2006 as long as the weather is decent, you will have a great time --- I promise!

Check out <http://www.wkaa.net/>

Mike Wolford

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## **Astronomy Magazine Subscription Rates Rise**

Effective immediately, the subscription rate for Astronomy magazine has risen to \$34.00. Please include the new amount when ordering Astronomy magazine.

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## **Mars at McCloud - November 4, 2005**

In August 2003 Mars was the closest to Earth that it ever had been in recorded history. Observers went nuts, and we had a Mars event at McCloud. Although Mars will be 25% further than 2003, it will be much higher in the sky and we will have the opportunity for the best viewing until the year 2020. Weather permitting; the Indiana Astronomical Society will hold a Mars Observing event at McCloud Nature Park on Friday night, November 4<sup>th</sup>.

The planet doesn't get high enough to observe until later in the evening --- most likely after 10:00 PM, but observers will be looking at many other objects while waiting for Mars.

**This event will be held only if the skies are clear.**

Mike Wolford



## **A Wrinkle in Space-Time**

By Trudy E. Bell

When a massive star reaches the end of its life, it can explode into a supernova rivaling the brilliance of an entire galaxy. What's left of the star fades in weeks, but its outer layers expand through space as a turbulent cloud of gases. Astronomers see beautiful remnants from past supernovas all around the sky, one of the most famous being the Crab Nebula in Taurus.

When a star throws off nine-tenths of its mass in a supernova, however, it also throws off nine-tenths of its gravitational field.

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Astronomers see the light from supernovas. Can they also somehow sense the sudden and dramatic change in the exploding star's *gravitational field*?

Yes, they believe they can. According to Einstein's general theory of relativity, changes in the star's gravitational field should propagate outward, just like light—indeed, at the speed of light.

Those propagating changes would be a gravitational wave.

Einstein said what we feel as a gravitational field arises from the fact that huge masses curve space and time. The more massive an object, the more it bends the three dimensions of space and the fourth dimension of time. And if a massive object's gravitational field changes suddenly—say, when a star explodes—it should kink or wrinkle the very geometry of space-time. Moreover, that wrinkle should propagate outward like ripples radiating outward in a pond from a thrown stone.

The frequency and timing of gravitational waves should reveal what's happening deep inside a supernova, in contrast to light, which is radiated from the surface. Thus, gravitational waves allow astronomers to peer inside the universe's most violent events—like doctors peer at patients' internal organs using CAT scans. The technique is not limited to supernovas: colliding neutron stars, black holes and other exotic objects may be revealed, too.

NASA and the European Space Agency are now building prototype equipment for the first space experiment to measure gravitational waves: the Laser Interferometer Space Antenna, or LISA.

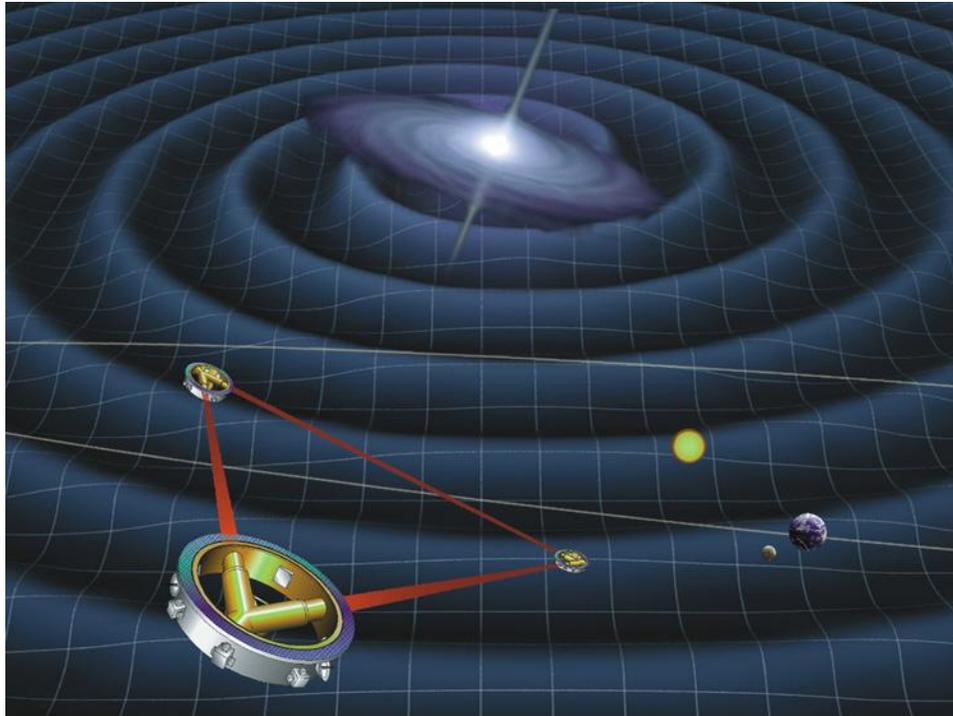
LISA will look for patterns of compression and stretching in space-time that signal the passage of a gravitational wave. Three small spacecraft will fly in a triangular formation behind the Earth, each beaming a laser at the other two, continuously measuring their mutual separation. Although the three 'craft will be 5 million kilometers apart, they will monitor their separation to one *billionth* of a centimeter, smaller than an atom's diameter, which is the kind of precision needed to sense these elusive waves.

LISA is slated for launch around 2015.

To learn more about LISA, go to <http://lisa.jpl.nasa.gov>. Kids can learn about LISA and do a gravitational wave interactive crossword at <http://spaceplace.nasa.gov/en/kids/lisaxword/lisaxword.shtml>.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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*LISA's three spacecraft will be positioned at the corners of a triangle 5 million kilometers on a side and will be able to detect gravitational wave induced changes in their separation distance of as little as one billionth of a centimeter.*

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## **McCloud Nature Park Project Fund**

In an effort to fund the project the IAS Board has created a "McCloud Fund". All donations to the Fund will go directly towards funding the improvement project which will include the storage building and warming room and six electrified concrete pads.

If you would like to make a cash donation to the McCloud Fund, please send it to:

John Shepherd, Treasurer  
4609 Callahan St.  
Indianapolis, IN 46239

The IAS is a Not-For-Profit 501 C-3 corporation. Your donation may be tax deductible. Consult your tax advisor.

## **Election Night November 12, 2005**

According to the By-Laws of the IAS, the IAS elections will take place during the Annual Meeting to be held November 12, 2005 at the Holcomb Observatory on the Butler campus. The meeting begins at 7:00PM. All members in good standing and their spouses are eligible to vote. If you cannot attend, you may mail a signed absentee ballot to the Secretary. Absentee ballots must be received prior to the election. Additional nominations may be made from the floor by any member at the time of the election. All nominees must agree to serve prior to the election.

Offices shall be filled by election by majority vote of the membership at large at the annual meeting. Votes by absentee ballot shall be recognized provided the signed absentee ballot is received by the Secretary before or during the annual meeting. Votes by proxy will not be recognized.

### **The report of the Committee on Nominations**

The following slate of candidates have been received and candidates have agreed to run..

President -

Jeff Patterson

Vice President and Program Chairman -

Brian Murphy

Treasurer:

John Shepherd

Secretary:

Betsy Brown

Board of Directors (Two to be elected)

John Molt

Marion Hakes

Report presented by Brian Murphy  
Nominating Committee

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If you cannot attend the meeting on Election Night, please vote absentee. We need your participation.

**Absentee Ballot**

President: \_\_\_\_\_

Vice President: \_\_\_\_\_

Treasurer: \_\_\_\_\_

Secretary: \_\_\_\_\_

Board of Directors (vote for Two

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signed: \_\_\_\_\_

**Mail ballot to**

Larry Phillips  
9413 South PR Black Hawk Hills Dr.  
Edinburgh, In 46124

**Absentee ballots must be received prior to the election**

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**Upcoming Star Parties and Registrations**

**Winter Star Party** – February 20-25, 2006- Registration has just started. Check [www.scas.org](http://www.scas.org) or call the registrar at 386-362-5995. This party is always sold out and you need to get a ticket early. This is a premium party and the weather is fantastic in the Florida Keys in February.

**Texas Star Party** – April 23-30, 2006 - TSP 2006 Reservations will include both on-site and off-site attendees, so everyone will need to submit a TSP Registration/Reservation Request Form , before January 17, 2006 which will be processed through a random drawing in late January 2006. This drawing will also include the allocation of all accommodations on the Ranch (camping and covered housing). The online form will be available starting November 1, 2005.

If you know of events coming up let me know and I will get them in the Bulletin

### **Local School Events and Star Parties**

Gerald Venne has accepted the position of Public Program Chairman. He will be responsible for coordinating Public Events for the IAS. Thanks Gerald.

To schedule a public event contact Gerald Venne 1 317 826-2680 or Jeff Patterson at 1-317 882-8055.

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### **Astro Ads**

Are you changing or upgrading your equipment? Do you have or are you looking for astronomical materials and equipment? The Indiana Astronomical Society as a service to its members, will publish non-commercial ads at no charge. The ad will stay in the Bulletin for 4 months and may be renewed at the owner's request.

#### **To place an ad contact:**

Bulletin Editor

Jeff Patterson

1780 S. Morgantown Rd.

Greenwood, IN 46143

(317) 882-8055

E-Mail: [JMPSR@Iquest.net](mailto:JMPSR@Iquest.net)

**For Sale** - Meade ETX-90EC astro telescope , it has the manual controller and the autostar computer controller, the worm gear has been replaced (Good as new). I have upgraded the finder to a 45 degree. Extras, 1 Meade super plossl 26mm eyepiece, 1 Sirius plossl 10mm eyepiece, 1 Orion illuminated ke12mm, 1meade 2x-3x variable barlow, 1 mead camera adapter (fits into eye piece hole), 1 Meade ETX camera adapter (fits onto back of ETX, 1 camera ring, 1 35mm Yashica camera, 1 remote camera switch, 1 Meade Series 4000 lunar filter, 1 45 degree prism adapter, 1#883 deluxe field tripod, 1 nice metal carrying case for the extras, am letting go also several star chart books ,the Norton 2000.0 sky atlas. \$700 obo thank you for your time. day time phone (317) 359 0229 John Miller (12/05)

**For Sale** –Celestron 20x80 mm binoculars and case. Excellent condition \$250. Jeff Patterson 317 882=8055 (2/06)

**For Sale** –Obsession 18” with ServoCat guidance. Galaxy F/4.5 premium primary. Many accessories. Outstanding images. Excellent condition \$6500. Jeff Patterson 317 882=8055 (2/06)

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### **Loaner Equipment Program**

Did you know you can borrow a scope or piece of astronomy equipment from the Society and take it for a test drive? The Society has a program where members who are trying to determine what kind of equipment to buy can borrow one of the

Society's scopes for a month or two and see how they like it. John Molt is the chairman of the program and can arrange for your pickup and training on the use of the particular instrument. This is a great way to see what telescope you want to purchase. We have

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several scopes, eyepieces and binoculars to loan. Contact John Molt at

1star-gazer@earthlink.net.

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### **List Server Online - Don't be left in the cold - Sign up!**

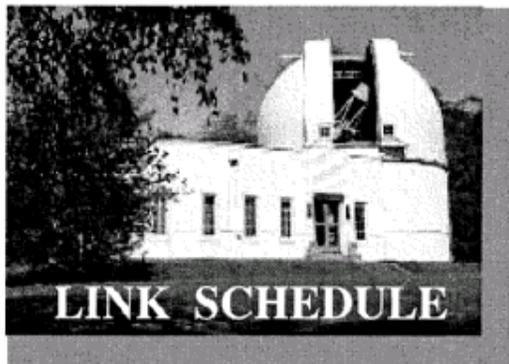
This service is our main communication tool. The list server is in the "Members Only" section of the site and is accessible only by IAS members. Make sure we have your correct e-mail and you will have access for late updates to events and functions.

Note: The list server is for use of Society business. It can only be used according to the rules as outlined previously. Members abusing the service will be eliminated from the service.

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### **Board Meeting – November 17, 2005 - 7:00 PM**

The IAS Board Meeting is being held at 430 Massachusetts Avenue in downtown Indianapolis. The building is at the point of convergence of Mass. Ave., Vermont and Alabama Streets. There is a Starbucks located in the frontage of the building. The coffee shop stays open late into the evening. Try to park as close to Starbucks as possible, preferably in a metered space. On-street parking is free after 5pm. Handicapped parking is directly in front of Starbucks entrance. The main entrance to the building is to the right of Starbucks, but it will be locked. To get into the building, walk around the building to the left as you are facing Starbucks. You will cross Starbucks outdoor patio seating area and you will come to the double door entry into the building (this is the south building façade). These doors will be unlocked. Enter the lobby and ride the elevator (to your right) to the basement. Turn right as you exit the elevator and go through the first door on your right. This is the conference/meeting room. If you need further assistance, please contact Brian P. Murphy, IAS Vice-President on his cell phone 716-8124.



#### **Observatory Address**

**Goethe Link Observatory  
8403 N. Observatory Lane  
Martinsville, IN 46151**

**Observatory 's Phone:  
(317) 831-0668**

This schedule is being published to assure proper access to the Link Observatory for programs that are designed as observational, general education, astronomy conferences or amateur research projects. Training programs are tentatively scheduled for Saturday evenings only. Although other requests can over-ride these sessions. It is the purpose of this listing to prevent activity conflicts. If you need to acquire use of the 36-inch telescope: remember two important IAS guidelines: 1) *There has to be two or more IAS members present.....* 2) *contact the Observatory Manager: Gary Schoppenhorst (317)297-1405. DON'T WAIT UNTIL THE LAST MINUTE TO MAKE YOUR REQUEST OR YOU MAY NOT GET ACCESS.*

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## **Designated Link Observatory Key**

### **Holders**

Jeff Patterson: 882-8055

Tom Borlik: 849-4113

Gary Schoppenhorst: 297-1405

Brian Murphy: 841-8511

Dave Williams: 769-7430

Gerald Venne: 826-2680

## **Link Activities for November:**

Mars Observing – November 4

Observer's Meeting – November 26

Link Training – November 26

## **McCloud Activities:**

Mars Observing and New Moon Group – November 4.

## **Observing Activities**

We are able to go to the Link, Prairie Grass Observatories and McCloud Nature Park at non scheduled times if they do not conflict with reserved activities:

For those interested in going to The Link Observatories for observing call Gary Schoppenhorst 1-317-297-1405.

For those interested in going to Prairie Grass Observatories for observing call Hoppe at 1-765-296-2753.

For those interested in going to McCloud to observe, please call the caretaker Cecil Rich at 765-366-3235 before 5PM on the day you want to go out.

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## **Bulletin Stats**

All personal and professional opinions presented herein do not, in any way, represent the opinion or policy of JPL or NASA.

### **Accessing the Bulletin**

The current bulletin can be found on the website [www.iasindy.org](http://www.iasindy.org)

### **Bulletin - Bulletin deadline on the 20th of every month**

The monthly newsletter welcomes articles of local astronomical interest information and want ads:

Please submit to

The Indiana Astronomical Society, Inc

Jeff Patterson, editor

1780 S. Morgantown Rd

Greenwood, IN 46143

Phone: (317) 882-8055

[JMPSR@Iquest.net](mailto:JMPSR@Iquest.net)

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### **Membership information**

Contact any IAS officer or the membership chairman

Larry Phillips

9413 South PR Black Hawk Hills Dr.

Edinburgh, In 46124

[llpastro@lightbound.com](mailto:llpastro@lightbound.com)

### **Link Observatory**

Latitude: 39 degrees, 33 minutes North

Longitude: 86 degrees, 24 minutes West

Phone: (317) 831-0668

IAS Internet address

<http://www.iasindy.org>

### **Executive Officers**

President: Jeff Patterson (317) 882-8055

Vice-President and Program Director: Brian Murphy (317) 841-8511

Secretary: Larry Phillips (317) 729-2447

Treasurer: John Shepherd (317) 862-3442

### **Board of Directors**

Gary Schoppenhorst (2006)

Gerald Venne (2006)

Thad Hatchett (2007)

Doug Brown (2007)

Bill Conner (2007)

Marion Hakes (2005)

John Molt (2005)

### **Public Event Chairman**

Gerald Venne [gvenne@iquest.net](mailto:gvenne@iquest.net) 1 317 826-2680

### **Library Committee Chairman**

Ed Otto [ecotto1@comcast.net](mailto:ecotto1@comcast.net)

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**November Calendar, 2005**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 New Moon	2	3	4  McCloud Mars Party	5  Mars at he Link
6	7	8  First Qtr Moon	9	10	11	12 General Meeting Butler
13	14	15  Full Moon	16	17 Board Meeting 7:00	18	19
20	21	22	23  Last Qtr Moon	24	25	26 General Observing Observer's Mtg Link Training
27	28	29	30			

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**Membership Application to the IAS**

**Benefits:**

- Use of the Goethe Link Observatory
- Formal monthly programs with guest speakers
- Local and regional astronomical functions
- Discounted Astronomy publications
- New Moon observing activities
- Access to IAS member experts and problem solving
- The Bulletin monthly newsletter
- Free admission to the Holcomb planetarium
- Star party events and observing sessions

Please mark whether this is a new or renewal application

New

Renewal

Note: Magazine subscription renewals forms and payment must be submitted to the Treasurer in order to maintain publisher's club discount.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Telephone:   ( )   \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

How do you want to receive the IAS monthly newsletter?

Downloadable from Website  Hard Copy\*

\* Please note that hard copy costs the Society about \$1.50 per issue. Please consider this when selecting mode of receiving the newsletter.

Annual Regular Membership (\$25.00)	
Annual Student Membership (\$10.00)	
Astronomy Magazine Renewal (\$34.00)	
Sky and Telescope Magazine (\$33.00)	
Total Enclosed	

Make checks payable to: The Indiana Astronomical Society, Inc

Please complete Member Profile and include with the application

Mail Application to: John Shepherd, Treasurer  
4609 Callahan St.  
Indianapolis, IN 46239

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**Member Profile**

Spouses Name: \_\_\_\_\_

Children's names and ages: \_\_\_\_\_

Education: \_\_\_\_\_

Occupation: \_\_\_\_\_

How many years associated with Astronomy? \_\_\_\_\_

Special astronomical interests or projects: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Equipment: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

What can the Society do for you? \_\_\_\_\_

\_\_\_\_\_

What can you do for the Society? \_\_\_\_\_

\_\_\_\_\_

Note: Profile information is not a requirement for membership to the Society. This information is entered into the IAS database and is not given nor sold for solicitation purposes. It does provide for a brief welcoming article for new members and may be used by the society to match people with similar interests.