

2005

Iowa Academy of Science 117th Annual Meeting [2005]: Advance Program

Iowa Academy of Science

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Iowa Academy of Science

117th Annual Meeting



**April 29-30, 2005
Cornell College
Mt. Vernon, Iowa**

Advanced Registration Packet

Advanced Registration Deadline: April 1, 2005

GENERAL SESSIONS



II. Dr. Donald A. Gurnett
The Cassini Mission to Saturn
Friday, April 29th, 11:00a.m.

On July 1, 2004, after a nearly seven-year journey, the Cassini spacecraft was placed in orbit around Saturn. In this talk Professor Gurnett will describe recent results from the Cassini mission to Saturn. The presentation will include a discussion of spectacular images of Saturn, its rings, and its moons, particularly Titan, and the early results from the University of Iowa Instrument that is carried aboard the spacecraft.

II. Dr. Daryl Smith
Screening of America's Lost Landscape: The Tallgrass Prairie
Friday, April 29th, 8:00p.m.

America's Lost Landscape: The Tallgrass Prairie is a 60-minute documentary film designed for national broadcast on public television. The film tells the story of one of the world's great ecosystems and its transformation from natural landscape to farmland. The tallgrass prairie was once a prominent feature of the North American Continent that was reduced, in less than a hundred years, to the vanishing point. The film is narrated by Iowa native, Annabeth Gish and includes commentary by Richard Manning, Pauline Drobney and many other regional scholars. America's Lost Landscape: The Tallgrass Prairie is a co-production of the University of Northern Iowa and New Light Media, Inc and directed by David O'Shields.



Dear Academy Member:

We are excited about the upcoming 117th Annual Meeting to be held at Cornell College. Our general session speakers have Iowa roots and national acclaim and will be of interest to members and guests. The symposia promise to be informative and intellectually stimulating. Please invite your colleagues and students to experience the social and scientific interaction found only at an IAS Annual Meeting. Registration information is found in this booklet and on the IAS website at www.iacad.org. We hope to see you in Mt. Vernon!

Craig Johnson
Executive Director

III. Dr. Ingo R. Titze, Ph.D.
*The Science of Human and Animal
Vocalization*
Saturday, April 30th, 11:00a.m.



Sound production in humans and animals involves the vibration of biological tissue, resonance of sound with air columns, and radiation of sound from orifices. Non-ideal sizes and location of sound sources present a great challenge for obtaining the desired loudness, frequency, and sound quality. Analysis with nonlinear dynamics shows how species utilize material and structural nonlinearities to produce sounds ranging from song-like (periodic) to shriek-like (chaotic). In teaching, singing, and public speaking, an overdose of self-induced tissue vibration can damage vocal cord tissues, a problem for which tissue engineering and molecular biology has provided some answers.

Only fragments of scientific information about the physics and physiology of vocalization can be gained experimentally. This includes imaging, electromyography of muscle activity, and excised larynx studies with tissues obtained from cadavers. The macro-integration of all these fragmentary data is performed with computer simulation, of which there will be ample demonstration, including singing, speaking, and, a tiger roar.

TENTATIVE SCHEDULE

Friday
April 29, 2005

Time	Activity	Location
7:30-8:00	Registration Desk IJAS only	1st Floor, Commons
8:00-8:30	IJAS Poster Set-up	1st Floor, Commons
8:00-11:00	Continental Breakfast	Kimmel Atrium
8:00-11:45	Registration Desk Open	1st Floor, Commons
8:00-12:00	IAS Bookstore Open	1st Floor, Commons
8:30-11:30	IJAS Poster Session	1st Floor, Commons
8:30-10:50	IJAS Presentations	Martin Luther Room & Berlin Room
11:00-12:00	General Session I Dr. Donald A. Gurnett The Cassini Mission to Saturn	Kimmel Theatre
12:00-1:30	Awards Luncheon	Flint Dinning Room 2nd Floor, Commons
1:30-5:00	Registration Desk Open	1st Floor, Commons
1:30-5:00	IAS Bookstore Open	1st Floor, Commons
2:00-4:00	Senior Poster Set-up	1st Floor, Commons
1:45-2:30	Standing Committee Meetings	(see next page)
2:30-3:00	IAS Business Meeting	Hedges Room 1st Floor, Commons
3:15-5:00	Symposia A Past, Present, and Future Investigations on Water-Quality Issues in Iowa (Hedges Room – 1st Floor, Commons) B Ecology of Overlooked Landscapes (Martin Luther Room - Basement, Commons) C Geologic Contributions to Archaeological Method and Theory (Shaw Room – 1st Floor Commons)	
5:00-6:00	Social Hour & Senior Academy Poster Viewing	1st Floor, Commons
6:00-7:30	President's Banquet	TBA
8:00-9:30	General Session II America's Lost Landscape with Dr. Daryl Smith	Kimmel Theatre

TENTATIVE SCHEDULE

Saturday
April, 30, 2005

Time	Activity	Location
8:00-11:00	Continental Breakfast	Kimmel Atrium
8:00-12:00	IAS Bookstore Open	1st Floor, Commons
8:00-12:30	Registration Desk Open	1st Floor, Commons
8:00-11:00	Senior Poster Removal	1st Floor, Commons
8:30-11:00	Section Meetings/ Oral Presentations	TBA*
11:00-12:00	General Session III Ingo R. Titze, Ph.D. The Science of Human and Animal Vocalization	Kimmel Theatre
12:00-1:00	Lunch (on your own)	
1:00-TBA	Section Meetings resume	TBA*
1:00-TBA	Geological Society of Iowa Field Trip	

*Abstracts for Section presentations are still being collected as of the date this publication goes to print. Please check the IAS website for updates on section meeting times.

**More details on the web at:
www.iacad.org**

STANDING COMMITTEE MEETINGS

Friday, April 29th
1:45-2:30p.m.
(open to all IAS members)

Committee	Location
Committee on Committees & Elections	Magee Room, B
Conservation and Preserves	Bejing Room, B
Finance Committee	Paris Room, B
Iowa Science Foundation	Stockholm Room, B
Membership Committee	Hedges Room, 1st
Recognition and Awards	Athens Room, B
Societal Issues Committee	Martin Luther Room, B
Student Programs Committee	Berlin Room, B

All Rooms are in Commons. (B = basement, 1st = First Floor)

IOWA ACADEMY OF SCIENCE BUSINESS MEETING AGENDA

Friday, April 29th
2:30-3:00pm
(open to all participants, only IAS Members may vote)

Call Meeting to Order
Recognition of deceased members and moment of silence
Recognition of new fellows
Executive Director Report
Bylaws Changes Adoption Vote
Old Business
New Business
Conclusion

SYMPOSIA

Friday 3:00-5:00

A. Past, Present, and Future Investigations on Water-Quality Issues in Iowa

A panel of U.S. Geological Survey and Iowa Geological Survey water-quality research scientists will discuss past, present, and future investigations on water-quality issues in Iowa. Water-quality investigations conducted by the panel include focused studies on the Big Spring Basin, Fourmile Creek, the Cedar River, as well as reconnaissance studies on ground-water and surface water resources throughout the State. Following the presentations, the panel will address questions from the audience.

Presiding: James Caldwell, District Groundwater Specialist, United States Geological Survey, Iowa City, Iowa

B. Ecology of Overlooked Landscapes

On a national or global scale, the culture, politics and biology of small, less populous states such as Iowa often are overlooked. This symposium will celebrate the interesting ecology that can be found in habitats of our state that also are commonly overlooked. We will briefly examine the autumn migration of raptors through featureless landscapes, the plant ecology of pastures, and the ecology of a threatened turtle species in sand prairies.

Presiding: Bob Black, Department of Biology, Cornell College, Mount Vernon, Iowa

C. Geologic Contributions to Archaeological Method and Theory

With the recognition that prehistoric cultural remains are fundamentally part of the stratigraphic record, geology has played an ever-increasing role in the formulation of interpretations of the archaeological record. From designing and conducting effective and efficient searches for cultural deposits, to geochemical analyses of material remains, to paleoenvironmental analyses, archaeologists are integrating earth science concepts, methods and techniques into their methods and theories. This session highlights a range of examples of these geologic contributions.

Presiding: Rhawn Denniston, Department of Geology, Cornell College, Mount Vernon, Iowa

More details and a list of speakers is available online.

SPECIAL EVENTS

Tri-Beta:

This year's Iowa Academy of Science Annual Meeting is being held in conjunction with the District Tri Beta Meeting. Beta Beta Beta (Tri Beta) is a national honor society for outstanding students of biology. Since its founding in 1922, more than 175,000 persons have been accepted into lifetime membership, and more than 430 chapters have been established throughout the United States and Puerto Rico. District 3 of the north central region has 25 chapters in Iowa, Minnesota, and South Dakota. More information on Tri Beta is available at their website, <http://www.tri-beta.org/index.html>

Iowa Junior Academy of Science:

Friday morning, selected middle and high school students from across the state will present their own research projects and compete for a variety of honors. Please encourage these outstanding students by attending the IJAS presentation and visiting the IJAS poster session from 8:00-11:00am, Friday April 29th. Senior Academy Members may host an IJAS member for lunch by purchasing an additional lunch ticket. Hosts will be seated with Jr. Academy members and their mentors for the Awards Luncheon.

Aderson Geology Museum:

(319-895-4307) Exhibits include fossils, rock & mineral samples, meteorites, and ir images of Earth. Located on campus in the Norton Geology Center. Hours: M-F 7am-10pm, Saturday 10-12.

Geological Society of Iowa Field Trip:

Please join the Geological Society of Iowa for an afternoon at the Martin-Marietta Quarry. Organized by Rhawn Denniston, this workshop is free. Participants will car pool from Cornell College to the site.

GENERAL INFORMATION

Meals and Refreshments

Complimentary coffee, tea, juice and a variety of breakfast breads will be available each morning from 8:00-10:00am. An afternoon snack will be served at the IAS Business Meeting on Friday. Punch and hor d'oeuvres will be served during the social hour. A cash bar will also be available.

Award Luncheon—Choice of two soups, variety of salads, assorted rolls and carrot cake. Price is \$8.00/ticket.

Presidents Banquet—Signature Salad, choice of chicken breast or portabello mushroom with pecan dijon sauce, assorted breads with butter, roasted parmesan garlic new potatoes, fresh broccoli with lemon butter, and strawberry or black forest trifle. Price is \$15.00/ticket.

Save by purchasing a lunch and dinner ticket for \$20.00.

Campus Map

A detailed campus map is available online at http://www.cornellcollege.edu/tours_maps/maps/static_map.shtml. Campus maps will be available at the registration desk.

Registration

The registration desk will be located on the middle level of the Commons.

Parking

No parking passes will be required. See the conference website for a map of available parking spaces.

Institutional Student Group Rate

There is a group flat rate (\$200) for groups of 6 or more full-time students registering together from the same IAS member institution or department. The flat rate applies regardless of how many students beyond the initial 6 attend. All registrations must arrive together. The institutional student group rate applies to Advance Registration only.

Additional Information

For additional information, contact Susan DeBord at 319-273-2021, iascience@uni.edu, or visit the IAS website, <http://www.iacad.org>.

OVERNIGHT ACCOMODATIONS

Conference Hotel

The Iowa Academy of Science has arranged a special rate of \$67.15 per room for a limited number of rooms with the Sleep Inn and Suites of Mt. Vernon. To take advantage of this rate:

- reserve your room directly with the hotel
- ask for the Iowa Academy of Science group rate
- reserve your room by March 28th, 2005

Sleep Inn and Suites

310 Vergil Avenue

Mt. Vernon, IA 52314

319-895-0055 (p) or 319-895-0066 (f)

gm.ia111@choicehotels.com



REGISTRATION

Register on-line at our secure site: <http://www.iacad.org> or mail the registration form to:

Iowa Academy of Science

175 Baker Hall – UNI

Cedar Falls, IA 50614-0508

Advanced Registration Deadline: April 1, 2005

Questions? Call 319-273-2021

ADVANCE REGISTRATION FORM

Iowa Academy of Science – 117th Annual Meeting

Name: _____

Institution (for name tag): _____

Mailing Address: _____

MEETING REGISTRATION ONLY: Tribeta Members Check Here ☐

Status	Pre-Registration Received by 4/1	After 4/1 and on-site	Cost
Member:			
_____ Emeritus	\$ 00.00	\$ 00.00	N/C
_____ Professional	\$ 50.00	\$ 60.00	\$ _____
_____ Student	\$ 25.00	\$ 35.00	\$ _____
_____ Presenter (fee pre-paid with abstract submission)			N/A
_____ Institutional Student Group Rate \$200 (see page XXX)			\$ _____

NonMember:			
_____ Professional	\$ 75.00	\$ 85.00	\$ _____
_____ Student	\$ 40.00	\$ 50.00	\$ _____
_____ Presenter (fee pre-paid with abstract submission)			N/A
_____ Spouse (attending)	\$ 25.00	\$ 30.00	\$ _____

MEALS (Advanced Registration for Meals **Required**):

Meal:		Cost
Awards Luncheon	# _____ tickets @ \$8.00 each	\$ _____
Sponsor an IJAS Member Lunch	# _____ tickets @ \$8.00 each	\$ _____
President's Banquet	# _____ Chicken	
	# _____ Vegetarian @ \$15.00 each	\$ _____

Save! Lunch and Banquet # _____ Chicken
 # _____ Vegetarian @ \$20.00 each \$ _____

Guest Name(s) (for those attending meals but not sessions, e.g. non-attending spouse):

TOTAL ENCLOSED: \$ _____

☐ Check enclosed **or**

☐ Credit Card Payment (Discover/MasterCard/Visa): Expiration Date: ____/____

Signature: _____

Please contact us if you have any special needs, including dietary.

Iowa Academy of Science
175 Baker Hall - UNI
Cedar Falls, Iowa 50614-0508

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