



INDIANA ACADEMY OF SCIENCE NEWSLETTER

Issue 181

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From the President, Paul Doss



First, let me thank each of you for your commitment to the Indiana Academy of Science. By being a member, you share the Academy’s view on the importance of science at the state level-I thank you! That shared vision meshes well with something I consider daily....Engagement. As an Environmental Geologist involved in matters of science on public lands, in policy, and in legislative matters, I see the critical need for scientists to be engaged in societal matters. With today’s overwhelming flow of information, it can be easy to think one is engaged simply by listening, observing, and attempting to navigate the maze of mis-, dis-, and true information. I argue that the most important aspect of engagement is “to do,” “to cause,” “to take part in.”

As I write this missive, 1000’s of young people are engaged in COP26, the UN Climate Change Conference in Glasgow, Scotland. They’re informed, invested, and recognize themselves as stakeholders in the conference outcomes (or non-outcomes). Blatant examples of our societal stakeholder status are the very real impacts of scientific mis/dis-information in the midst of a rising death toll from the Covid-19 pandemic. Others include the increasing tragedy of climate change impacts, the planet’s monumental loss of biodiversity, habitat loss, the increasing demands for finite (non-renewable) resources, and more. You are informed, you obviously are invested, and by default, we are all stakeholders in how humanity accepts scientific fact. Each of us needs to “take part in” the active application of science to societal well-being. We all have full lives with work, family, passions, and more. But, It is precisely these things that obligate us “to do.” I’ve said before, and will again, I am proud of the Academy for stepping up and taking the right position on systemic racism by preparing an explicit statement denouncing such practices, by establishing the DEI committee, and by elevating our actions to meet the goal of increasing Diversity, Equity, and Inclusion. That positive outcome required individual members to step up... “to do” and “to cause.” An engaged academy is a rich and productive academy, an academy to be proud of, and an academy that improves the quality of life for all.

We “use” the Indiana Academy of Science for networking with peers, disseminating our science, mentoring our students, promoting our scientific services or products, and for enriching our careers. Let us also work actively to elevate this academy in the state and illuminate the role our science plays in advancing public health, sustaining resources, protecting the environment, documenting change, reducing hazards, and educating our youth. At our upcoming meeting in March, 2022, there will be opportunities for new leadership in our scientific sections. Please “take part,” and importantly, be innovative to affect positive growth. The next Indiana legislative session begins in January 2022. It will certainly be filled with policy proposals that demand scientific knowledge. Help the Indiana Academy of Science be a source of guidance for our decision makers. And finally, there is a never-ending need for policy engagement at the Federal level...on Capitol Hill.

We stand at several societal thresholds now...while they seem to reside in the political arena, many originate in the scientific world. Society needs good scientists. Let’s fulfill our obligations as academy scientists and be Engaged...let’s “do,” let’s “cause,” and “take part!” If I can help direct you to an outlet for engagement...just ask! I look forward to seeing all of you at the 137th Academy Meeting in March, 2022! Thanks for what you do, and please be safe!

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From the Executive Director, Delores Brown



As we get closer to the holidays and the end of the year, I wish to remind you that it is time now to renew your Indiana Academy of Science membership. Membership renewal and new member registration can be done very simply at the Academy Website (<http://www.indianaacademyofscience.org>). Unless you are a life member of the Academy, your membership will expire at the end of this year (2021), which is in just a few weeks. Yes, this year has flown by it seems.

When you renew (or gain a new membership), you will be prompted to complete a short questionnaire providing the Academy with a little more information about you. We are debuting that questionnaire this year in an effort to gather data that will help us to answer demographic questions about our great organization; questions useful to having a complete understanding of the diversity of our membership. If you have already updated your membership, consider gifting a membership to a colleague, young aspiring scientist, or friend.

The work that our members do is highly appreciated. The Indiana Academy of Science is the only multidisciplinary scientific organization in Indiana, and with this diversity, we offer a wealth of opportunity for Academy members to learn from one another and collaborate in both science research and science education. Whether you find yourselves in industry, academia, or simply a science enthusiast, the Indiana Academy of Science provides multiple chances for you to know and learn from one another. At the Indiana Academy of Science, our passion and mission are to enable an unparalleled cooperation among Indiana scientists. With your steadfast involvement we are able to realize that mission.

2022 Academy membership is required for Academy grant applications, discounted books and publications, participation in select programming, and for early-registration for the 137th Annual Academy Meeting. Yes, it is time now to begin thinking about the Academy's in-person annual meeting at the J.W. Marriott Hotel in downtown Indianapolis on Saturday, March 26, 2022

Academy President Dr. Paul Doss will host the 137th Annual Academy Meeting.

We are busy planning that meeting now. Your Section leaders met on October 27th to firm up Meeting plans. If you have ideas for local science experts to speak at the annual meeting, hot topics and speakers, workshop topics and facilitators, or panel discussion ideas, please forward your thoughts to your section chair or vice chair (names and contact information are listed on the Academy Website in the next few days. We want to hear from you. Meeting early-registration will begin the second week in January. Mark your calendars!

Stay well!

Delores G. Brown, Ph.D.
Executive Director, Indiana Academy of Science

137th ANNUAL MEETING ANNOUNCEMENTS

Safety

In an effort to ensure the highest level of safety at the 137th Annual Academy Meeting, held in person at the J.W. Marriott Hotel and Conference Center in downtown Indianapolis, Indiana, the Council of Indiana Academy of Science has established the following policy:

All participants at the in-person IAS 2022 meeting in Indianapolis, Indiana (whether a presenter, attendee, exhibitor, staff, guest, or vendor) are required to provide proof of full vaccination to attend the Indiana Academy of Science 137th Annual Academy Meeting. Per the Centers for Disease Control and Prevention you are considered fully vaccinated two weeks following a second dose of the Pfizer or Moderna vaccines or a single dose of Johnson & Johnson. At this time, boosters are not required, but strongly encouraged. Compliance with the required vaccination can be met by showing an attendees' vaccination card or facsimile at the registration desk. Masks will be required to be worn by all attendees except during oral presentations or eating.

Registration and Abstract Submission

Available online January 15, 2022 through February 20, 2022 at
<http://www.indianaacademyofscience.org/Events-Meetings/Event/13.aspx>.

Prepare now to share your research and insight—The Indiana Academy of Science encourages abstracts from Indiana field scientists, academic scientists, industry scientists, science educators, graduate science students, and undergraduate science students whose work could be of interest to other Indiana scientists, science educators and science students. Abstracts are approved by the Section Chair before being presented. The Section Chair (or Section Vice-Chair) is the point of contact for Academy members who would like to discuss their abstract before submitting it for review or have other questions pertaining to their intended presentation. Academy members can access the names of Section Chairs and Section Vice-Chairs on the Academy Website at <https://www.indianaacademyofscience.org/the-academy/sections>. Abstracts will be published on the Indiana Academy of Science Website following the 137th Annual Academy Meeting.

General Criteria

- The research must be of sufficient scientific importance.
- Science presenters must register for the 137th Annual Academy Meeting and pay the Annual Meeting registration fee before an abstract can be uploaded. Academy members receive a discount Annual Meeting registration. Update your membership or obtain a new Academy membership for 2022 at <https://www.indianaacademyofscience.org/become-a-member/join-online>.
- All presentations will take place in-person on Saturday March 26, 2022. See guidelines for preparing abstracts for Oral, Poster, Workshop, and Hot Topic presentations at <https://www.indianaacademyofscience.org/events/annual-meeting>.
- A single individual may submit only one abstract (oral or poster) as the first author. It is expected that this individual will make the presentation.

Technical Requirements

Abstracts are limited to 300 words and must be submitted on the online submission form. Presentations must be brought to the Annual Academy Meeting on a flash drive, ready to upload between 7:15 a.m. and 8:00 a.m.

Dr. Shahzeen Attari...



137th ANNUAL ACADEMY MEETING LUNCHEON SPEAKER

Of note:

Dr. Shahzeen Attari's research focuses on the psychology of resource use and how to motivate action on climate change. Attari and her lab work on problems that draw on both cognitive and environmental science, and focus on perceptions, motivations, and biases related to climate change and sustainability.

Attari's work has been published in leading science journals such as the *Proceedings of the National Academy of Sciences* and *Climatic Change*, and has received media attention from major news outlets including the BBC, *The Economist*, *The New York Times*, and NPR.

Prior to working at Indiana University, Attari was a postdoctoral fellow at the Earth Institute and the Center for Research on Environmental Decisions (CRED) at Columbia University. She holds a Ph.D. in Civil and Environmental Engineering & Engineering and Public Policy from Carnegie Mellon University, and a Bachelors of Science in Engineering Physics from University of Illinois at Urbana-Champaign.

Highlights

- Indiana University Bicentennial Professor (2019-20); Andrew Carnegie Fellow (2018); SN10 – Among top ten scientists to watch under the age of 40, *Science News* (2018); Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford University (2017-18); Outstanding Junior Faculty, Indiana University (2017); Excellence in Teaching, Campus Catalyst Award (2014), Indiana University;
- Outstanding Teaching Award (2009), Civil and Environmental Engineering, Carnegie Mellon University

In the News

- ["How our brains make it hard to solve climate change"](#) - *The Washington Post*, May 14, 2020;
- ["Hope for the Future Lies in the Multitude- A conversation about capital, consumption, and population"](#)- *Sierra Magazine*, October 31, 2019
- ["Climate Scientists' Personal Carbon Footprints Come Under Scrutiny"](#) - *InsideClimate News*, June 23, 2016
- ["Blame cognitive biases when efforts to conserve water aren't effective"](#) - NPR Morning Edition, May 5, 2015
- ["A special Earth Day edition of Profiles features two interviews with noted authorities on sustainability."](#) - WFIU, April 19, 2015

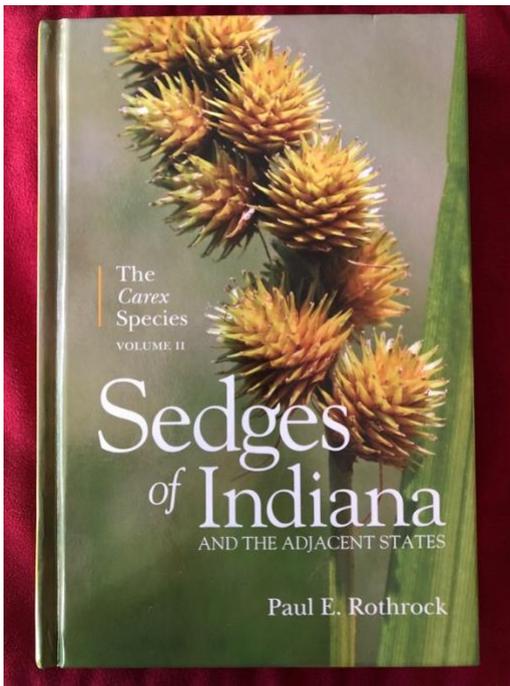
Selected Works

- ["Shared vision for a decarbonized future energy system in the United States,"](#) (with D. Miniard and J. Kantenbacher), *Proceedings of the National Academy of Sciences*, 117 (13) 7108-7114 (2020)
- ["Climate change communicators' carbon footprints affect their audience's policy support,"](#)
- (with D. H. Krantz and E. U. Weber), *Climatic Change*, 154(3), 529–545 (2019)
- ["Perceptions of water systems,"](#) (with K. Poinssatte-Jones and K. Hinton), *Judgment and Decision Making*, 12 (3) 314-327 (2017)
- ["Statements about climate researchers' carbon footprints affect their credibility and the impact of their advice,"](#) (with D.H. Krantz and E.U. Weber) *Climatic Change* 1-14 (2016)

Book Review: *Sedges of Indiana and the Adjacent States: Volume II – The Carex Species* by Paul E. Rothrock

Reviewed by Scott Namestnik

Botanist, Indiana Natural Heritage Data Center, Indiana DNR – Division of Nature Preserves



Professional and amateur botanists alike often turn the other way, or worse, cower in fear, when they hear the word *Carex*, as this genus of graminoids includes an intimidating number of species that, to the uninformed eye, can look superficially similar to one another. As a ubiquitous genus represented in natural and ruderal areas from wet to dry, in full sun to full shade, and in soils ranging from sand to clay, being able to identify or at least appreciate *Carex* is a necessity for anyone working in the outdoors or landscaping with native plants.

Sedges of Indiana and the Adjacent States: Volume II – The Carex Species (Indiana Academy of Science, 2021) fills a void by providing a user-friendly field guide to the 158 species in this challenging genus that are known to occur in Indiana, as well as an additional 37 species that are known from the surrounding states of Wisconsin, Illinois, Kentucky, Ohio, and Michigan, synthesizing a half century of work by respected and admired Caricologist (and all-around good guy!) Paul Rothrock. This is the highly anticipated follow-up work to *Sedges of Indiana and the Adjacent States: The Non-Carex Species* (Rothrock 2009).

Although its size makes it ideal to include in a field pack, *Sedges of Indiana and the Adjacent States: Volume II – The Carex Species* is much more than just a field guide. The book begins as expected with sedge morphology and terminology information (including annotated images) to help the beginner know what to look for and to remind the experienced botanist of the parts of the sedge plant that should be examined to lead to correct identifications. In addition, the introduction includes a synopsis of where and when to find various *Carex* species in the wild. Unlike other field guides that may seem dry or not useful for native landscaping purposes, a section of the introduction addresses appropriate sedge species for various gardening situations. Following the introduction are guest essays by two of the other foremost sedge experts in North America, Andrew Hipp and Tony Reznicek, a feature that adds to the amazing expertise on the genus already provided by the author.

A dichotomous key to the sections of *Carex* allow the user to see similarities in groups of sedge species that, over time, will allow the user to more quickly narrow down the identity of an unknown sedge species as they become more familiar with characteristics and the “look” of the various groups of species. Following this dichotomous key, the species of *Carex* are discussed by section, with a description of the section followed by a dichotomous key to the species in that section (when there are more than one species in the section). This is followed by the meat of the book, accounts for each species.

The format of the species accounts will look familiar to those who have used *Sedges of Indiana and the Adjacent States: The Non-Carex Species*, as they begin with botanical name, common name, and etymology, as well as distribution maps for Indiana and the six-state region. Brief descriptions of the species and information

on the habitat, likely associated plant species, abundance and frequency within the region, and a discussion follow; the discussion includes interesting bits of information such as similar species, ecological relationships, and general natural history notes. For sedges with recognized taxonomic levels below the species level, a key to subspecies or variety is included. All of this would ensure a very useful guide on its own, but the greatest attribute of the guide is the number of high-quality images that show various aspects of most of the species treated in the book, including inflorescence, closeups of perigynia and pistillate scales (from herbarium specimens), sheaths, and habitat; these photographs were clearly chosen to illustrate some of the most important identification characteristics of each species. In addition these images portray the diversity and beauty encompassed by the many species of the fantastic genus *Carex*.

The book concludes with several appendices, including a summary of the *Carex* species treated in the guide and their coefficient of conservatism (C) values and wetness indicator statuses (useful for those doing wetland delineation work), a summary of nomenclatural changes and additions and subtractions of *Carex* species in Indiana's flora since Charles Deam's 1940 Flora of Indiana, a list of ant species that use *Carex* (based on the work of Laura Rericha, co-author of Flora of the Chicago Region: A Floristic and Ecological Synthesis [2017]), and addenda to Sedges of Indiana and the Adjacent States: The Non-*Carex* Species that provides an update on the status of several non-*Carex* sedge species in Indiana. A comprehensive glossary rounds out the book.

Any work of this extent will inevitably have some shortcomings, but in this case those are extremely difficult to find. The only criticism (and a trivial one at that) is that there are not images of species known from the region but not known from Indiana that are covered in the book, and in a couple of rare instances where a *Carex* species is only known from one or two counties in Indiana, images are not included. This critique is quite easy to overlook given the impressive number of high-quality images that illustrate the diversity of species covered.

The author's passion for *Carex* is evident through this impressive work. The anxiously anticipated second volume of Sedges of Indiana and the Adjacent States was well worth the wait, and field botanists and nature enthusiasts alike will benefit from having this beautiful guide as a reference in the field or inside the home/office. At a minimum, results of this book should include "*Carex* sp." showing up less frequently on data sheets of professionals conducting field botany work, and hopefully we see increased utilization of various *Carex* in native landscaping. As aptly stated by the author himself, this book represents "a ticket to a lifetime of exploration" for anyone willing to take on the challenge of learning about one of the most interesting genera in our flora, *Carex*.

Literature Cited

- Deam, C.C. 1940. Flora of Indiana. Wm. B. Burford Printing Co.: Indianapolis.
- Rothrock, P.E. 2009. Sedges of Indiana and the Adjacent States: The Non-*Carex* Species. Indiana Academy of Science: Indianapolis.
- Rothrock, P.E. 2021. Sedges of Indiana and the Adjacent States: Volume II – The *Carex* Species. Indiana Academy of Science: Indianapolis.
- Wilhelm, G & L. Rericha. 2017. Flora of the Chicago Region: A Floristic and Ecological Synthesis. Indiana Academy of Science: Indianapolis.

PROFILES: Lillian Jane Martin (1851 –1943)

by Luke M. Jacobus, Newsletter Editor



Miss Lillian Jane Martin was the only female charter member of the Indiana Academy of Science. At the time, she was a teacher at Indianapolis High School, later known as Shortridge High School, where she taught botany, physics and chemistry. She was invited to join as part of an effort to invite public school teachers and administrators to be part of the Academy. This illustrates some of the original intents of the organizers of the Academy. At the age of 91, she was the next to last verified charter member to die.

She was born 7 July 1851 in Olean, New York and died 24 March 1943 in San Francisco. She received an AB from Vassar in 1880. She received a degree from University of Gottingen in 1884 and later an honorary Ph.D. from the University of Bonn in 1913. As mentioned above, she was a science teacher at

Indianapolis High School from 1880–1889, then subsequently took a position as vice principal and member of the department of science at Girl's High School in San Francisco, California, 1889–99. From 1899–1916, she advanced from assistant to full professor of psychology at Stanford and was emeritus professor from 1916 until her death. During her lifetime, her work on psychology received such acclaim that she was included in multiple editions of *American Men of Science*; in the third edition, she was marked as having eminence in her field, a signal honor. She was an author of eleven books, both in English and German, and of numerous articles in psychological and other journals. She was a member of a number of scientific societies other than the Indiana Academy of Science and notably served as vice president of the psychology section of the American Association for the Advancement of Science, the first female to hold a vice president position in that organization.

After her retirement from Stanford, which was more or less forced due to her age, she set up clinical offices in San Francisco. During this time, she pioneered various frontiers in clinical psychology, working initially with preschool children, then later with senior citizens.

She led a full life that extended beyond her professional achievements. For example, she was an extensive traveler late in life. She went around the world at age 74 and went alone to Russia at 76. At age 78, she learned to drive and then twice drove across the North American continent. She also made an extensive trip into Mexico by car. When she was 88, she spent a year touring South America, which included an airplane trip across the Andes, and a boat trip up the Amazon.

By all accounts, Lillian Martin was a remarkable person. I encourage you to read more about her from the works listed below, as well as from some of the references listed therein. This one-page profile does not do her justice. Special thanks to our Academy Librarian, Jocelyn Lewis, for help with some literature.

Sources and other reading:

Daily WA; Daily FK. 1984. History of the Indiana Academy of Science 1885-1984, a centennial volume. Indiana Academy of Science.
DeFord, M. A. (1948). *Psychologist unretired: The life pattern of Lillian J. Martin*. California: Stanford University Press.
Edington, W.E. 1943. Necrology. *Proceedings of the Indiana Academy of Science* 53: 1–13.

<https://feministvoices.com/profiles/lillian-jane-martin>

<http://faculty.webster.edu/woolfm/martin.html>

FALL 2021 SENIOR RESEARCH GRANTS

<i>PI</i>	<i>Rank</i>	<i>Title</i>	<i>Institution</i>	<i>Discipline</i>
Chambers, Joseph	Assistant Professor	Establishing zebrafish as an in vivo model to study pharmacogenomics	Manchester University	Biology
Haney, Robert	Assistant Professor	Applying high-throughput RNA sequencing to novel toxin discovery in the Darwin's bark spider	Ball State	Biology
Kalinski, Ashley	Assistant Professor	Impact of injury-activated immune cells on axonal dynamics	Ball State	Biology
Nicol, Audrey	Grad Student	The Impact of modifier genes on obesity and <i>Drosophila</i> AKH/glucagon signaling	Purdue NW	Biology
Placek, Caitlyn	Assistant Professor	Understanding Opioid Use Disorder and Treatment Experiences of Pregnant and Postpartum Women in Indiana	Ball State	Anthropology
Smith, Emmett	Assistant Professor	Identifying sub-arctic microbiome species in Icelandic glacier forefields using portable MinION sequencing technology	Earlham	Biology
Woodruff, Mary	Grad Student	Birds and the problem of climate change: an experimental approach	IUB	Biology
Wright, Carson	Grad Student	The Effect of Biochar on Soil Fertility, Soybean Yield, and Leachate Quality	Ball State	Geology

RESEARCH GRANTS NOTICES**Winona Welch Award for Botanical Biodiversity Research**

Established by funds donated to the Academy by Winona Welch, Ph.D., this award is intended to support biodiversity research (e.g., surveys and systematics) of plants and their allies (e.g., algae and fungi). **One award of \$2500.00** will be made each year for worthy proposals. **Proposals are due February 15; announcement of the award will be made about March 1.** Recipients must submit a final written report and make a presentation at the annual meeting of the Academy. All recipients are encouraged to submit a manuscript for publication to the Proceedings of the Indiana Academy of Science. For more details on this program, see <https://www.indianaacademyofscience.org/research-grants/winona-welch-award>

Senior Grants Applications Welcome

The Indiana Academy of Science implemented a new Senior Grants Application system for the Fall 2021 Senior Grant application cycle. For those interested in applying for the Spring 2022 cycle (due March 1st, 2022), you can access the Senior Grant Application Google Form at:

<https://docs.google.com/forms/d/e/1FAIpQLSd4KsWfVT-LxXdcb1HtOASIsNYZqWnP-EU84xZQNezIZ1mR5Q/viewform>

For more information about the Senior Grant Application, please visit the Indiana Academy of Science website: <https://www.indianaacademyofscience.org/research-grants/senior-research-grants>
 Questions? Use the "Contact Us" button on the IAS website, or contact Sarah Mordan-McCombs, Academy Webmaster, sarahmordan-mccombs@depauw.edu .

IAS AWARDS REMINDERS

Awards already have been decided for 2022, but nominations are accepted any time, due by October 15th of each year for consideration for presentation at the following Spring Academy Annual Meeting. Details & nomination forms available at < <https://www.indianaacademyofscience.org/awards-fellows>>.

Procedure for Nomination of Individuals for IAS Fellows

A Fellow is a member of the Academy (minimum of 5 years) who has demonstrated service to the Academy and to the advancement of science in Indiana; service to education in science; and achievements in scientific research. Nature of service to the Academy includes attending Indiana Academy of Science meetings, presenting papers at meetings, publishing in the Proceedings; serving as an officer, as a section or committee chair, as a committee member; playing a role in organizing Academy activities.

The Awards Committee of the Indiana Academy of Science accepts nominations any time of the year. Forms for Fellow may be found at <http://www.indianaacademyofscience.org/award-fellows>. Please keep in mind that Recommendations for Academy Fellows are put forth by Fellows of the Academy only. Recommended nominees must be current members of the Indiana Academy of Science. Please direct questions or send nominations to: <awards@indianaacademyofscience.org>.

Distinguished Scholar Award & Distinguished Service Award

The Distinguished Scholar Award of Indiana Academy of Science is bestowed upon individuals who have been recognized by the Academy as having an exceptional record of scholarship. Award recipients have been selected by the Council, and acknowledged through awards made at the annual Academy meeting. The Council may select and honor one Academy member each year for his or her outstanding scholarship.

The Distinguished Service Award of Indiana Academy of Science is bestowed upon individuals who have been recognized as having supported the Academy through service exceeding any normal expectation. Award recipients have been recognized by the Academy Council, and acknowledged through awards made at the annual Academy meeting. The Council may select and honor one Academy member each year for his or her outstanding service to The Academy.

ABRIDGED FALL 2021 ACADEMY COUNCIL MEETING MINUTES

November 16, 2021, 4:00 p.m., ZOOM Meeting, Academy President Dr. Paul Doss presiding
Meeting called to order at 4:02 pm by Paul.

Paul Doss: Follow up on the motion submitted to Council via email to approve the following statement/policy in preparations for the Academy Spring 2022 meeting. UPDATED Statement:

“The Academy Council has made the decision that all participants at the in-person IAS 2022 meeting in Indianapolis, Indiana (whether a presenter, attendee, exhibitor, staff, guest, or vendor) will be required to provide proof of full vaccination to attend the IAS meeting. Per the Centers for Disease Control and Prevention you are considered fully vaccinated two weeks following a second dose of the Pfizer or Moderna vaccines or a single dose of Johnson & Johnson. At this time, boosters are not required, but strongly encouraged. Compliance with the required vaccination can be met by showing an attendees’ vaccination card or facsimile at the registration desk. Masks will be required to be worn by all attendees except during oral presentations or eating.”

Email discussion on this topic prior to meeting considered mandating vaccination, masking, and no negative COVID test. (Mask mandate not in Paul’s original motion; obtained from email discussion.)

Discussion about enforcing mask mandate ensued—discussion that mask mandate can't be enforced. Communication needs to be very clear and early and often (at Website, podium at the opening, again at lunch, signage throughout the venue, etc.). Word the “mandate” more as an expectation of wearing mask when not eating or presenting. Paul struck the “and receive a negative COVID test” phrase from the motion. Marc suggests use MedProctor to allow for submission/review of vaccination prior to or at event. Michael suggests use Clear to set up digital vaccine card with QR code at point of entry of conference. Tom Dolan suggests to add to the amendment: “...will be required to provide proof of vaccination to attend the IAS meeting. Tell folks at time of registration that they need to be vaccinated and that they will have to show proof. People could show image of the card, or use app like Michael suggested. Last sentence: modify to say “...by showing vaccination card at the registration desk.” Also add: “Masks will be required to be worn by all attendees except during oral presentations or eating.” Goal: get high compliance without enforcing.

Motion passed unanimously. Paul will finalize the wording.

Jennifer Kowalski: Member at Large and DEI Committee representative. The DEI committee would like to amend the Fellow Award description to include wording along the lines of “evidence of promoting diversity, equity, and inclusion within their scientific communities” as additional award criterion. The DEI committee discussed this possibility but did not finalize any particular wording since we were not sure if Council approval or a bylaws amendment was required, so these words are my own interpretation of what we might want. I can get a consensus on the language the committee would desire if we do need the Council to vote on this. A Fellow is a member of the Academy (minimum of 5 years) who has demonstrated service to the Academy and to the advancement of science in Indiana; service to education in science; evidence of promoting diversity, equity, and inclusion within their scientific communities; and achievements in scientific research. Nature of service to the Academy includes attending Indiana Academy of Science meetings, presenting papers at meetings, publishing in the Proceedings; serving as an officer, as a section or committee chair, as a committee member; playing a role in organizing Academy activities.

The evidence will be in the CV and in the letter of nomination, for the committee to review. Add full description into operating policies after 15 days; vote by email. Awards committee aware of this change and did consider it this year. Will go into effect for next year. **Motion passed unanimously.**

Azeem Ahmad. Youth Activities Committee. No Council action needed, however concern pertaining to the *Science Talent Search Program*.

Major activity: Science talent search competition throughout Indiana. COVID reduced participation last year since it would have been last year when students would be preparing their research submissions. Remote education prohibited a lot of this from happening. Azeem expresses that engagement is important and was made difficult by COVID. Azeem wants suggestions from Council for how to improve participation and promote science in schools. The Youth Activities Committee will reflect on past on what might be able to be improved. Marc will work with Azeem for communication improvements/advertising to promote efforts. Delores noted that there is a new staffing at the Indiana Department of Education that she and Azeem will need to meet with. The meetings they had with the former Director of STEM yielded substantial benefit; they will need the same buyin from the new staffing.

Paul Doss. Discussion on the report of the Science and Society Committee (Erin Gerecke-Chair) on matters of Academy involvement in the development of a Science Policy Fellowship program in Indiana.

Background: State science policy fellowship—Paul engaged in initial conversations with individuals from Notre Dame who are involved in this initiative. There is a comparable program in VA. He enlisted the

Science and Society Committee to review the Fellowship Program to determine if and how the IAS could be involved. (Committee: Chris Stobert, Benjamin Speers on committee with Erin Gerecke.) Committee review describes benefits to Academy and some cautionary tales. Committee doesn't think this topic was in their scope...perhaps it's just a communication issue? Could be people being concerned about the political implications—especially if IAS has state employees. Paul states that framework is science and policy, not political position—for example, for isolated wetlands bill, Paul advocated for resources and described the science behind isolated wetlands.

Next steps: No Council action needed at this time; Paul will develop a specific proposal for the Council to consider. Perhaps create task force that will be part of science and society committee (temporary expansion of committee)? Response from the proposal will dictate next steps.

Luke Jacobus. Newsletter Editor. Luke is planning to take a research sabbatical during the first half of 2022 and is trying to minimize his service activities during that time, to allow him to focus on completing projects and tying up loose ends. He has asked that we find someone to prepare the February and May issues for 2022. These issues are two of the most important, because they deal with elections and the annual meeting.

Sarah shared that of 576 email list: 200 people opened email and 36 people clicked on the link for it. Do we need to have a newsletter? For Spring newsletter, important items include election nominations (already posted on website). We can have other forms of communication to still get info out vs. the newsletter.

Decision to not identify an interim editor, but to suspend the Newsletter for the 6 months that Luke is on sabbatical and determine if the Newsletter is the best vehicle for reaching the membership with the information that the Newsletter now conveys.

Don Ruch. Awards Committee.

Action: Approval of the list of awardees for Fellows and Distinguished Scholar. **Motion passed unanimously (Paul abstained).**

Announcements:

Glenn Mynhardt. Biodiversity and Natural Areas Committee. The Committee discussed a visit to the Bioblitz site for 2022, which will occur at Beanblossom Bottoms Nature Preserve. The initial visit was to take place on Saturday, October 30, but had to be postponed to Saturday, November 6th, due to flooding at the site. A few members plan to meet at the site to identify potential areas to collect and set up a “base camp” where participants can gather. The visit will be hosted by Chris Fox, Land Stewardship Director of the Sycamore Land Trust, who will be giving members a tour of the boardwalk and surrounding areas.

Delores Brown. 137th Annual Academy Meeting update.

Planning The 137th Annual Academy Meeting is on track. Grant money is being solicited, Exhibitors are being contacted, the Call for Papers is out, and the venue is prepared. A few of the speakers from the virtual meeting last year have been asked to present in person at the 2022 meeting. Section leadership has identified other speakers Delores has followed up with. High school students will be invited to present this year, submitting abstracts for review like all members. Will extend invitation through schools, IDOE, and the Science Talent Search program.

Adjourned at 5:30 by Paul.

A NOTE FROM THE EDITOR

For nearly 50 years, the Indiana Academy of Science has distributed a quarterly newsletter to communicate with its membership and other interested parties. As you can read in the minutes from the fall Academy Council meeting, the newsletter will be put on hold after this issue. This Council decision was catalyzed by my plans to take a brief sabbatical from some of my teaching and service responsibilities to get other areas of my career back on track. I am also taking this opportunity to step back from some of the volunteer work that many of us in academia overburden ourselves with and to rethink how I can be of greatest service. Given what appears to be limited engagement with the newsletter in its present form and distribution, I decided to vacate my editorial responsibilities, at least for the next six months. Over the last several years, our communication styles have changed, and I think it is time for the Academy to assess how it can communicate best with both its existing membership and its potential membership, and—importantly—how it can reach and serve unnecessarily marginalized Indiana scientists and citizens better. In the meantime, please share news items with our executive director, Dr. Delores Brown (execdir@indianaacademyofscience.org) or our webmaster, Dr. Sarah Mordan-McCombs (sarah.mordanmcombs@gmail.com), who are able to share information in other ways. If you have ideas for better communication, please share them. Let's look to the future together.

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The *Indiana Academy of Science Newsletter* has been published since December 1970. It is the official newsletter of the Indiana Academy of Science. The Indiana Academy of Science is a professional membership organization of Indiana scientists. Founded in 1885, it is a non-profit organization dedicated to promoting scientific research and diffusing scientific information; to encouraging communication and cooperation among scientists and to improving education in the sciences. The Indiana Academy of Science strongly condemns all specific and systemic instances of racism.

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