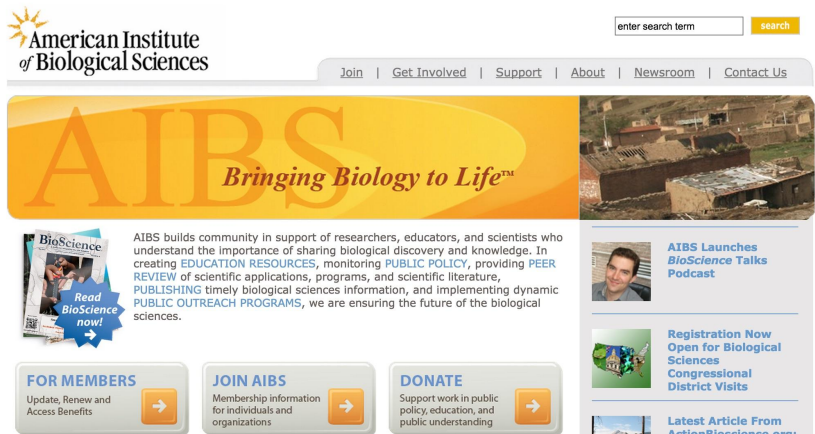


# AIBS Report – 2014-2015

## Virginia Pannabecker



<http://www.aibs.org/home/index.html>

This report was also presented at the 2015 STS Liaisons Online Forum. As it provides an overview of the organization along with an annotated summary with references for the “Changing Practices in Data Publication,” workshop held in Washington, D.C., United States on December 3, 2014, I am also submitting a PDF of this presentation with my notes as the AIBS report for 2014-2015.

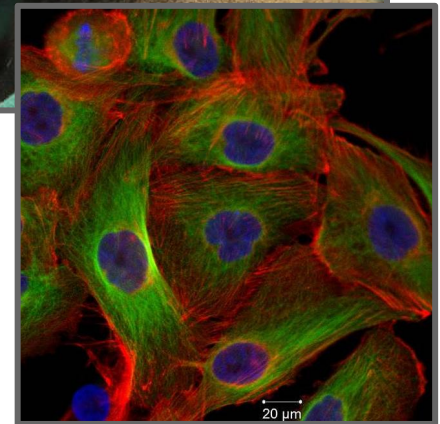
~Virginia Pannabecker  
ACRL STS Liaison to AIBS, 2014-2016

# STS Liaisons Forum June 2015

-

# American Institute of Biological Sciences

Virginia (Ginny) Pannabecker  
Life Science & Scholarly  
Communication Librarian  
Virginia Tech  
STS liaison to AIBS



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# AIBS Overview



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AIBS builds community in support of researchers, educators, and scientists who understand the importance of sharing biological discovery and knowledge. In creating **EDUCATION RESOURCES**, monitoring **PUBLIC POLICY**, providing **PEER REVIEW** of scientific applications, programs, and scientific literature, **PUBLISHING** timely biological sciences information, and implementing dynamic **PUBLIC OUTREACH PROGRAMS**, we are ensuring the future of the biological sciences.




**AIBS Launches  
BioScience Talks  
Podcast**



**Registration Now  
Open for Biological  
Sciences  
Congressional  
District Visits**

**FOR MEMBERS**  
Update, Renew and  
Access Benefits 

**JOIN AIBS**  
Membership information  
for individuals and  
organizations 

**DONATE**  
Support work in public  
policy, education, and  
public understanding 



**Latest Article From  
ActionBioScience.org:**

<http://www.aibs.org/home/index.html>

# AIBS Overview

From the AIBS website: AIBS is a meta-level organization that includes individual and organizational members, and represents a wide variety of biological societies. WE INFORM DECISIONS by providing peer-reviewed or vetted information about the biology field and profession. WE CATALYZE ACTION through building the capacity and the leadership of the community to address matters of common concern.

Today, AIBS works toward specific outcomes through three core activities:

- [Scientific Peer Advisory and Review Services](#) for research proposals and programs sponsored by funding organizations, including the federal government, state agencies, private research foundations, and other non government organizations.
- [Publications and other Communications](#), including authoritative reports, analyses, and the peer-reviewed journal BioScience as a forum for integrating the life sciences and applying that knowledge to important societal challenges.
- [Community Programs](#) that advance the field and profession of biology and promote and provide leadership, with a particular emphasis on [public policy and advocacy](#), [education](#), and the [public understanding of science](#).

Membership benefits:

Subscription to [BioScience](#)

Optional subscriptions via email to:

- Public Policy Newsletter
- Education Newsletter
- AIBS Newsletter
- Actionbioscience Newsletter

# AIBS Open Resources

## Latest *BioScience* Talks Podcast

AIBS is pleased to announce the launch of *BioScience* Talks, a monthly podcast that features in-depth discussions of recently published *BioScience* articles. Each episode of the interview series will delve into the research underlying a highlighted article, providing the listener with unique insight into the author's work. The show's first guest is Dr. Jiquan Chen, of Michigan State University, who studies coupled human and natural systems on the Mongolian Plateau. His research is focused on the interplay of human and biophysical factors in the region. You can listen to the latest podcast below or visit our podcast home page at <http://bioscienceaibs.libsyn.com>.

Publications Public Policy Education Peer Review Public Programs Membership

Take me to Education.

News from Nov 20, 2014

- Bring Evolution To Your School/Community Darwin Day 2015.
- Apply Now for the ...

AIBS Education is dedicated to improving biological science literacy at all levels of formal and informal education.

The AIBS Education office:

Episode Info More Episodes Share

# BioScience

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Bringing biology to informed decision making

topic directory about us e-newsletter reprint policy your feedback

educator resources

Updated Aug 01, 2013

FEATURED ARTICLES

**Large Wildfires in Forests: What Can be Done?** Scott L. Stephens, Malcolm P. North, and Brandon M. Collins discuss how forest fires have received increased attention from the media, politicians, and the public in the last 20 years. Read more...

**Ethical Issues in Genetic Engineering and Transgenics:** Linda MacDonald Glenn describes current developments in these fields, as well as their ethical issues and legal implications. Read more...

**BIOSCIENCE ARTICLES AROUND THE MONTH!**

**Citizen Volunteers Pitch in on Digitization Backlog.** Digitizing natural history collections is a huge challenge, but science lovers can help!

**The Nagoya Protocol on Access and Benefit Sharing.** International treaty poses challenges for biological collections.

**BioScience Talks Podcast.** On 10 June, AIBS launched *BioScience* Talks, a monthly podcast to discuss science news. Listen to our new podcast!

American Institute of Biological Sciences

Publications Public Policy Education

# AIBS

JOIN AIBS TODAY > Get BioScience

## Careers in the Biological Sciences

Looking for a job in biology? See who's hiring

Pursuing a career in biology is exciting. Studying biology teaches observations, evaluate evidence. Biologists learn how living things work, one another, and how they evolve. evolution, natural history, and animals; investigate the interplay, the environment, or each other. pharmaceuticals, biotechnology work increases our understanding of the world we live in and helps us address global environmental and worldwide concern, such as environmental degradation, threats to human health, and maintaining viable and abundant food supplies.

**Frequently Asked Questions about Careers in Biology**

- What do biologists do?
- How can I prepare for a career in biology?
- Where are the best college and university biology programs?
- What is the job outlook for the future?
- What are the salaries for biologists?
- Where can I find more information about people who have become biologists?
- Where can I find more information and job postings for biology-related careers?

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# EDUCATION

JOIN AIBS TODAY > Get BioScience

## Resources for Teaching and Learning Biology

General Biology Nature of Science Evolution Sustainability

**General Biology:**

- ActionBioscience.org features issues-based articles written by prominent scientists, accompanying lesson ideas, and related teaching resources for high school and undergraduate biology educators.
- AAAS Science NetLinks is a guide to standards-based Internet experiences for students.
- BioSciEdNet.org provides a searchable database of resources from BEN Collaborative partner organizations such as AIBS, Ecological Society of America, American Society for Microbiology, and Botanical Society of America.

Classroom resources Professional Development Undergraduate Biology Initiatives Education Award Careers in Biology Education Committee and Staff

# AIBS Open Resources

AIBS provides access to and links to resources for keeping up on, discussing, learning, and teaching about biological sciences topics. There are options that may be of interest to K-12, Undergraduate, or even Graduate student researchers, as well as educators, including librarians and science department faculty. BioScience Talks will feature in-depth discussions of BioScience articles. The first was published June 10th, only a couple days ago.

ActionBioscience provides interviews and informational pages by researchers in related areas and includes links to both free and subscription resources at the end of each. The Education tab on the AIBS home page leads to additional pages such as Resources for Teaching and Learning Biology, Careers in the Biological Sciences, and pages on recent Undergraduate Biology initiatives and projects from different institutions.

# AIBS Member Benefits

## Membership Page

AIBS members are part of a community of individuals and organizations sharing knowledge and resources to advance research and education in the biological sciences. There are many ways you can support these efforts, membership is a great way to get started.

For **individuals**, membership is open to professional biologists, students, educators, and people who just love biology. With your membership you will:

- be **invited to participate in advocacy opportunities and grassroots campaigns** that serve the field in public policy, education, and public understanding of science.
- have the **opportunity to provide information and participate in dialogs** that will inform leaders in the field about the challenges and opportunities facing biology.
- **receive access to *BioScience* online** (or receive a print subscription with print surcharge of \$40).

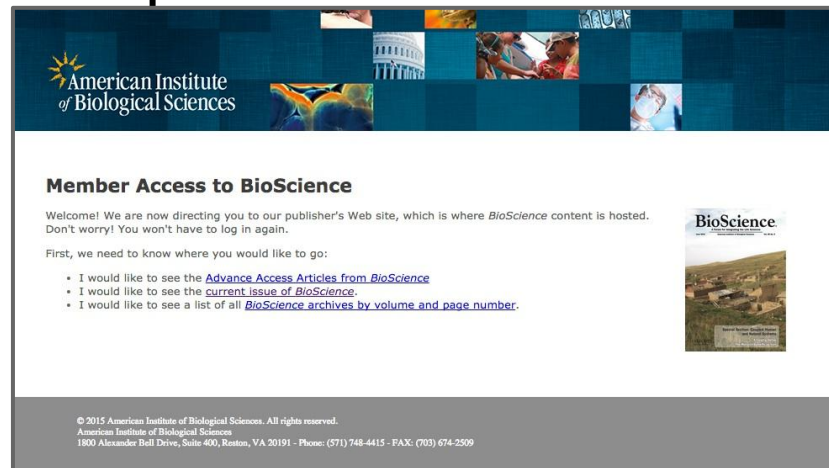
## Membership Page

**Individual:** *This membership category is open to any individual who is interested in membership in the Institute. Price: \$70/year*

**Student:** *K to Graduate: This membership option is available for active, registered students of any age. Price: \$30/year*

**K-12 Teacher/Administrator:** *This membership option is available for educators and administrators in K-12 schools. Price: \$45/year*

[More membership options...](#)



The screenshot shows the American Institute of Biological Sciences logo at the top left. Below it, a banner reads "Member Access to BioScience". The main content area contains a welcome message: "Welcome! We are now directing you to our publisher's Web site, which is where *BioScience* content is hosted. Don't worry! You won't have to log in again." Below this, it asks "First, we need to know where you would like to go:" and provides three options with links: "I would like to see the [Advance Access Articles from BioScience](#)", "I would like to see the [current issue of BioScience](#)", and "I would like to see a list of all [BioScience archives by volume and page number](#)". On the right side of the page, there is a thumbnail image of the *BioScience* journal cover.

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# AIBS Member Benefits

Membership benefits:

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Optional subscriptions via email to:

- Public Policy Newsletter
- Education Newsletter
- AIBS Newsletter
- Actionbioscience Newsletter

Individual membership cost:

**Individual:** *This membership category is open to any individual who is interested in membership in the Institute. Price: \$70/year*

**Family:** *A family membership is available for individuals living at the same address, who would like to have unique membership profiles in the AIBS community forum.*

Price: \$90/year

**Emeritus:** *Emeritus membership is available to a person who has been a Regular, Sustaining, or Family dues-paying member of AIBS for at least ten years and has retired. Price: \$50/year*

**Student:** *K to Graduate: This membership option is available for active, registered students of any age. Price: \$30/year*

**K-12 Teacher/Administrator:** *This membership option is available for educators and administrators in K-12 schools. Price: \$45/year*

# **AIBS Workshop: Changing Practices in Data Publication**

**3 December, 2014 in Washington D.C.**

## **[Panelist Bios](#)**

### **Panels included:**

Federal and National Overview  
Publishers/Librarians  
Scientific Societies and Journals  
Data Services/Providers

## **[Full Report](#)**

(prepared by Tim Beardsley, Editorial Director, AIBS Publications)

## **[Audio Recording](#)**

# AIBS Workshop: Changing Practices in Data Publication

## Overview

- Focus was on productive methods for journals and organizations to encourage more data sharing
- Discussion topics included:
  - Where to publish data
  - Exceptions to general mandates
  - Credit for data producers
  - Reviewing data for publication
  - Funding sources for data sharing and management

# AIBS Workshop: Changing Practices in Data Publication

## Background and Benefits of Sharing Data

- Practices and expectations for federally funded research since 1945
- OSTP Memo of February 2013, “[Increasing Access to the Results of Federally Funded Scientific Research](#)”
- Emphasis on
  - Open and machine-readable datasets
  - Funding applications norm now includes how and where applicants will share data
- Long-term federal goals
  - Research data commons
  - Credit for dataset production / sharing

# AIBS Workshop: Changing Practices in Data Publication

## Types and Amounts of Data to Be Shared

- **Public Access Plans for each agency** are coming out in response to the [Feb 22, 2013 OSTP Memo](#), with some already published, some in draft, and others in progress
- Keep up with published agency plans with this [crowd-sourced spreadsheet](#)\*

*\*Whitmire, Amanda; Briney, Kristin; Nurnberger, Amy; Henderson, Margaret; Atwood, Thea; Janz, Margaret; Kozlowski, Wendy; Lake, Sherry; Vandegrift, Micah; Zilinski, Lisa (2015): A table summarizing the Federal public access policies resulting from the US Office of Science and Technology Policy memorandum of February 2013. figshare. <http://dx.doi.org/10.6084/m9.figshare.1372041>. Retrieved 11 June 2015.*

# AIBS Workshop: Changing Practices in Data Publication

Points of Interest and Opportunities for Librarians

**Table of entities referenced in workshop** - p4-6 of [report](#) (data providers and services, related initiatives, organizations)

**Publication type**, 'data descriptor,' available via more publishers

**Force 11** ([www.force11.org](http://www.force11.org)) - group of scholars, librarians, researchers, publishers, funders working to, “help facilitate the change toward improved knowledge creation and sharing”

- [Recent publication announcement](#), “[Achieving Human and Machine Accessibility of Cited Data in Scholarly Publications](#)” via PeerJ May 27, 2015

# AIBS Workshop: Changing Practices in Data Publication

Points of Interest and Opportunities for Librarians

**Data and IP** - what are your current institutional policies regarding data created for IP projects; what conversations are occurring at your institutions?

**Standards** (metadata, descriptions) for data collection, sharing, and publication in different fields

**Data Repository Best Practices** - [Long-Term Ecological Research \(LTER\) Network](#) is an example of a data repository that provides quality reviews for all data packages, which receive a DOI; and tracks versions (provenance chaining) when data are reused.

# AIBS Workshop: Changing Practices in Data Publication

Points of Interest and Opportunities for Librarians

**Training and Education** desired by biological sciences researchers in using tools for scripting, reformatting, analyzing, and otherwise interacting with data. Some repositories offer assistance, such as data specialists at the [US Forest Service's Data Archive](#).

**Training Ideas** of interest to the workshop audience were:

[Data Carpentry](#)

[Software Carpentry](#)

**Events:** 'Free the Data' hackathon, or '**Research Sprints**' - 2-3 day sessions to encourage data sharing and data reuse

# AIBS Workshop: Changing Practices in Data Publication

## Points of Interest and Opportunities for Librarians

**Cost of Data Archiving and Sharing** - although federal agencies are aware of the need, and costs for individual projects may be included in grant applications, there remain issues to address for long-term sustainability of repositories and sharing/archiving requirements.

**Role of Journals** - Increasingly, journals include required policies regarding description and depositing of data, often in recommended repositories and adhering to journal, disciplinary, or funder guidelines. Disciplinary-relevant repositories and guidelines (Protein Data Bank for example) are most well accepted by researchers.

**Data-focused journals** are increasing, such as [G3: Genes, Genomes, Genetics](#); [Genome Announcements](#), [Scientific Data](#), and [Gigascience](#).

# AIBS Workshop: Changing Practices in Data Publication

## Points of Interest and Opportunities for Librarians

Some journals focused on studies utilizing large datasets, such as GigaScience, are also providing supporting platforms and online tools for the exploration and further analysis of such data. Here is [GigaScience's Aims and Scope statement](#):

"*GigaScience* aims to revolutionize data dissemination, organization, understanding, and use. An online open-access open-data journal, we publish 'big-data' studies from the entire spectrum of life and biomedical sciences. To achieve our goals, the journal has a novel publication format: one that links standard manuscript publication with an extensive database that hosts all associated data and provides data analysis tools and cloud-computing resources.

Our scope covers not just 'omic' type data and the fields of high-throughput biology currently serviced by large public repositories, but also the growing range of more difficult-to-access data, such as imaging, neuroscience, ecology, cohort data, systems biology and other new types of large-scale sharable data.

*GigaScience* aims to increase transparency and reproducibility of research, emphasizing data quality and utility over subjective assessments of immediate impact. To enable future access and analyses, we require that all supporting data and source code be publically available and we provide an extensive database and cloud repository that can host associated data, supplementary information and tools.

A unique feature of our database is that important associated datasets can be given DOIs, providing both permanency and an additional citation. Thus *GigaScience* provides easier access to associated data as well as recognition for data producers.

*GigaScience* aims to help the growing number of studies that are based on extremely large data sets maximize their future access, analysis and re-use"

# AIBS Workshop: Changing Practices in Data Publication

## Key Suggestions:

1. Wider discussion among researchers of expected benefits to science and society from data sharing and publication
2. Journals play an important role in establishing requirements, standards, and methods for describing and sharing data, including data review
3. Standardized data and metadata formats are needed in several fields
4. Develop more user-friendly information technology solutions to track data provenance and citation
5. Governments and other funders should recognize need to directly support long-term financial sustainability of data sharing and archiving
6. Increased training and education by funders for researchers
7. Institutions should consider and clarify how their Intellectual Property policies treat data

[The full report](#) covers even more topics such as methods being used by repositories and data journals to manage sensitive data; options for reviewing data prior to publication (similar to peer review), **examples of successful data-sharing** initiatives ([GoMRI](#), [VertNet](#), [LTER Network](#), [iDigBio](#), [DataONE](#), and [DRYAD](#)) and data retention.

# References

Screenshots taken by Virginia Pannabecker using the Mac Grab utility application

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**AIBS website**, <http://www.aibs.org/home/index.html>

**AIBS education resources**,

<http://www.aibs.org/home/#tabs-3> ; [http://www.aibs.org/education/teaching\\_resources.html](http://www.aibs.org/education/teaching_resources.html)

**AIBS Careers in Biological Sciences**, <http://www.aibs.org/careers/>

**AIBS BioScience Talks Podcasts**, <http://bioscienceaibs.libsyn.com/>

**AIBS Action Bioscience**, <http://www.actionbioscience.org/>

**“Changing Practices in Data Publication,” workshop held in Washington, D.C., 3rd December, 2014**

[Panelist Bios](#)

[Full Report](#), prepared by Tim Beardsley, Editorial Director, AIBS Publications

[Audio Recording links](#)