



The Association of  
Biomolecular Resource  
Facilities

# Defining Excellence for Shared Resources Worldwide





The Association of  
Biomolecular Resource  
Facilities

# ABRF Organizational & Group Memberships





# What is ABRF?

*International scientific society dedicated to advancing technologies, education and communication and reproducible research in operations of shared scientific resources.*

- ABRF is a non-profit 501c3 organization and member of the Federation of American Societies of Experimental Biology (FASEB)
- Founded in 1989, ABRF currently includes over 1200 members working in biomedical laboratories in 16 countries representing academia, government and industry
- ABRF promotes research, technology, communication and education
- A member-driven society that relies on volunteers for ongoing activities
- Members access unique resources and professional opportunities



<https://abrf.org>



# What is ABRF?

## MISSION

Defining Excellence for Shared  
Resources Worldwide

## VISION

Accelerating Breakthroughs in Scientific  
Discovery

## VALUES

**ABRF** is committed to advancing the integration of technologies, education, communication, and reproducible research in the operations of shared scientific resources worldwide.

**ABRF** supports best practices, research excellence, and reproducibility in scientific discovery.

**ABRF** promotes a collaborative community that cultivates professional development and technological innovation.

## ABRF Strategic Goals 2019-2021



### **Reach**

*Enhance the ABRF Professional Community*



### **Relevance**

*Elevate the profile of ABRF and its members*



### **Resources**

*Ensure fiscal sustainability*



## Institution's Goals <sup>(1)</sup>

- Improve Funding and Business Operations for Shared Resource Facilities
- Increase the Discoverability and Access of Shared Resources
- Better Meet Evolving Resource Needs
- Professionalize Careers in Shared Resources

## ABRF's Role

- Access a global network of core facilities leaders
- Advocacy and engagement with federal policy makers to make the case for increased funding
- Outreach and collaboration with allied scientific societies; convene industry partners and research officers to identify future directions
- Create a professional development curriculum for core facilities personnel



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# ABRF Brings Together Diverse Institutions

- More than **270** academic institutions represented
- In **17** countries
- Over **1200** core facilities professionals, including researchers, staff scientists, core directors, technologists, and administrators





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# ABRF Academic Member Organizations – A Shared Focus





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# ABRF Academic Gallery – Your Community

Al duPont Hospital for Children	City of Hope	Harvard Medical School	Massachusetts Institute of Technology
Albany Medical College	Cleveland Clinic	Harvard T.H. Chan School of Public Health	Max Planck Institute for Biophysical Chemistry
Albert Einstein College of Medicine	Cleveland Clinic Lerner Research Institute	Harvard University	Max Planck Institute of Psychiatry
Arizona State University	Cold Spring Harbor Laboratory	HHMI Janelia Farm Research Campus	Mayo Clinic
Augusta University	Colorado State University	HHS/NIH/OD/DPCPSI/ORIP	Mayo Clinic Florida
Barrow Neurological Institute	Columbia University Medical Center	Houston Methodist Research Institute	Mayo Clinic/Mayo Foundation
Battelle	Cornell University	Indiana University	Medizinische Universitaet Wien
Baylor College of Medicine	Cornell University Institute of Biotechnology	Indiana University School of Medicine	Memorial Sloan-Kettering Cancer Center
Boise State University	Dana-Farber Cancer Institute	Indiana University-Bloomington	Miami University
Boston College	Dartmouth College	Institut Pasteur	Michigan State University
Boston University	Dartmouth Medical School	Institute for Systems Biology	Mississippi State University
Brown University	Duke University	International Agency For Research On Cancer	Moffitt Cancer Center
Bruker Daltonics	Duke University Medical Center	Iowa State University	Monash University
BYU	Einstein College of Medicine	James Madison University	NASA Ames Genelab
California Institute of Technology	Emory University	Joan C. Edwards school of Medicine, Marshall University	NASA Ames Research Center
Case Western Reserve University	Florida A and M University	Johns Hopkins University	National Cancer Institute, NIH
Center for Molekular Biology University Heidelberg (ZMBH)	Florida Atlantic University	Johns Hopkins University School of Medicine	National Eye Institute - NIH
Chan Zuckerberg Initiative	Florida State University	Justus Liebig University Giessen	National Institute of Standards and Technology
Chapman University School of Pharmacy	Fred Hutchinson Cancer Research Center	KAUST - King Abdullah University of Science and Technology	National Jewish Health
Children's Hospital Boston	Functional Genomics Center Zurich	Kyoto University	Nationwide Children's Hospital
Children's Hospital Los Angeles	Geisel School of Medicine at Dartmouth	LA Biomed at Harbor-UCLA	Naval Research Laboratory
Children's Hospital of Philadelphia	George Washington University	Leiden University Medical Center	NCI-Frederick
CHU Sainte-Justine Research Centre	Georgetown University	Louisiana State University Health Sciences Center	New York University College of Dentistry
Cincinnati Children's Hospital Medical Center	Georgetown University Medical Center	M.D. Anderson Cancer Center	New York University Langone Medical Center
Cincinnati Children's Hospital Research Foundation	Gladstone Institutes	Marshall University	NIH
	H Lee Moffitt Cancer Center	Masaryk University	NIH





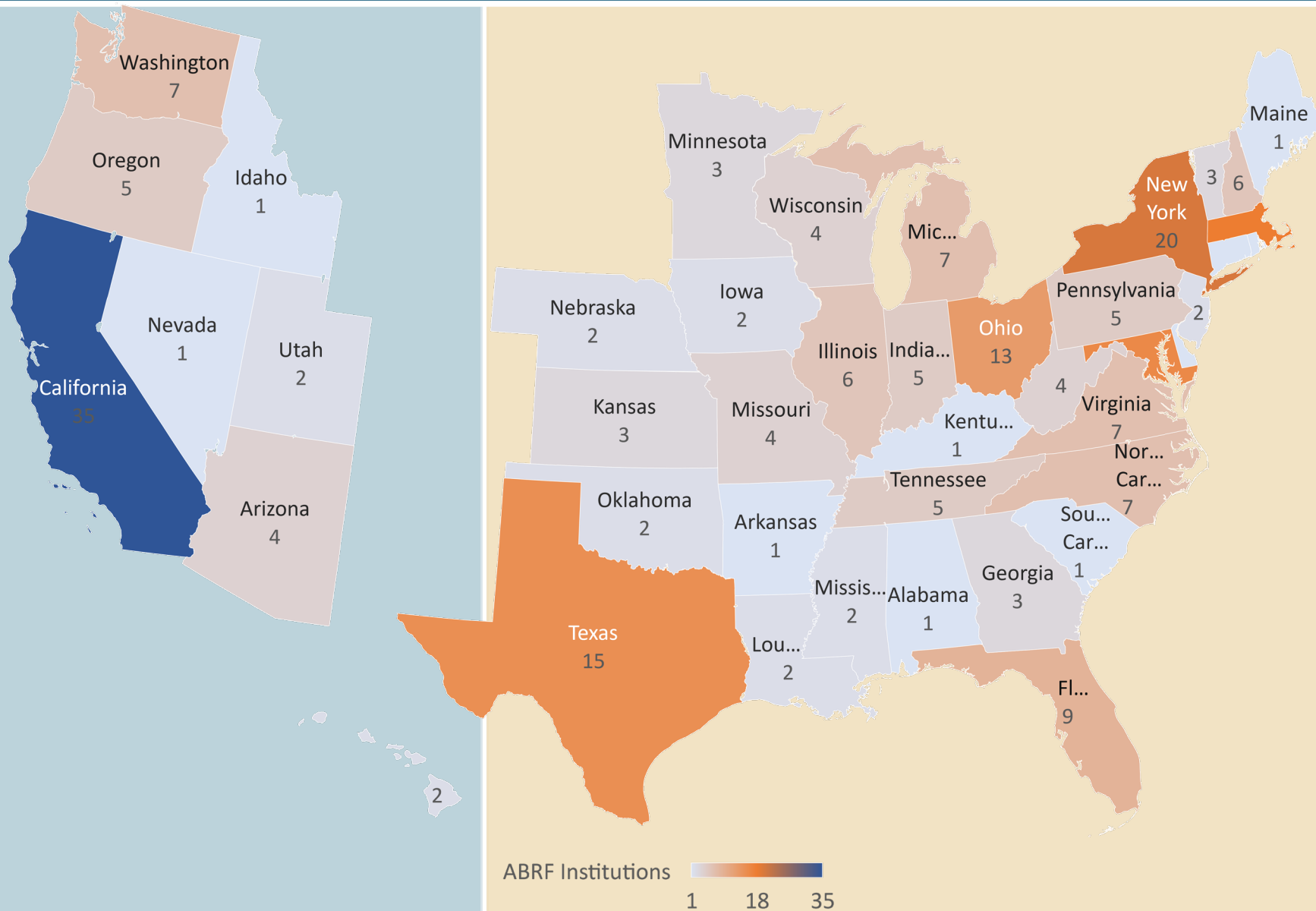
NIH/NIDA	Sinai Health System	UBC SBC
NIOSH	St. Jude Children's Research Hospital	UC Berkeley
NIST	Stanford University	UC Merced
Noble Research Institute, LLC	Stanford University Mass Spectrometry	UC Santa Cruz
Northwestern university	State University of New York Upstate Medical University	UCLA
NYU Medical Center	Stony Brook School of Medicine	UCLA Crump Institute
Ohio State University - Pelotonia Institute of Immuno-Oncology	SUNY Albany	UCLA/CNSI Nanocharacterization Core
Ohio State University Comprehensive Cancer Center	Technion - Israel Institute of Technology	UCSF
Ohio University	Texas A&M Agrilife Research	UMass Amherst - The Institute for Applied Life Sciences
OHRI	Texas A&M University	UMASS Dartmouth
OHSU Proteomics Shared Resouce Laboratory	The Children's Hospital of Philadelphia	UMass Medical School
Oregon Health & Science University	The Hong Kong University of Science and Technology	UNC-Chapel Hill
Oregon State Universtiy	The Jackson Laboratory	University California Berkeley
Pacific Northwest National Laboratory	The Ohio State University	University of Alabama at Birmingham
Paragon Genomics, Inc	The Rockefeller University	University of Alaska Fairbanks
Princeton University	The Scripps Research Institute	University of Alberta
Purdue University	The University of Chicago	University of Arizona
Rensselaer Polytechnic Institute	The University of Kansas	University of Arkansas for Medical Sciences
Research Institute of the McGill University Health Centre (RI-MUHC)	The University of Michigan	University of Auckland
Rice University	The University of Tennessee	University of California
Rockefeller University	The University of Tennessee Health Science Center	University of California Los Angeles
Rutgers University	The University of Texas at Austin	University of California San Francisco
San Francisco State University	The University of Texas Health Science Center San Antonio	University of California, Berkeley
Scripps Research Institute	The University of Washington	University of California, Davis
Seattle Children's Research Institute	The Wistar Institute	University of California, Irvine
Shriner's Hospital for Children ( Portland)	Thomas Jefferson University	University of California, Riverside



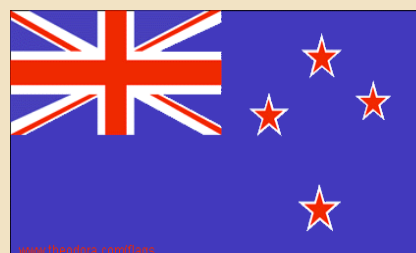
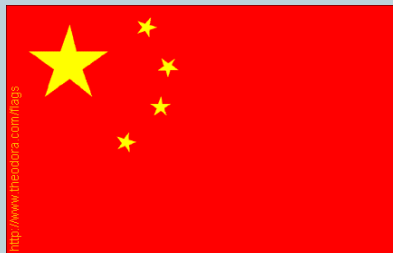
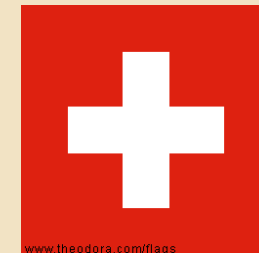
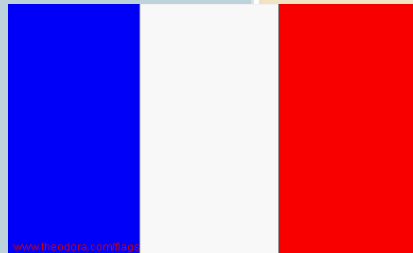
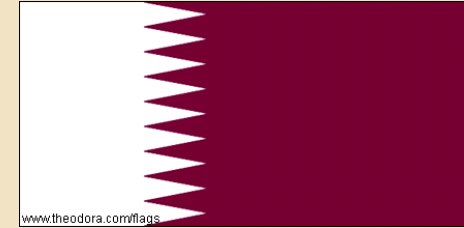
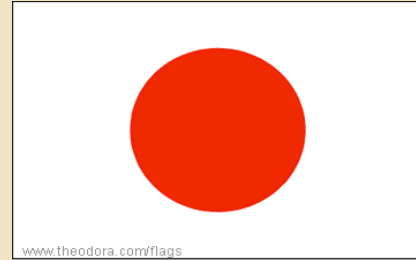
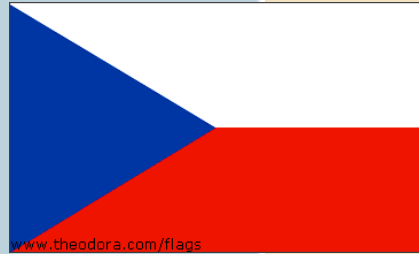
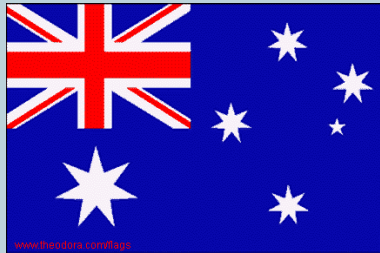
University of California, San Diego	University of Massachusetts Medical School	University of Tennessee
University of California, San Francisco	University of Miami	University of Tennessee Health Science Center
University of Cambridge	University of Michigan	University of Texas at San Antonio
University of Chicago	University of Michigan Health Systems	University of Texas M.D. Anderson Cancer Center
University of Cincinnati	University of Michigan Medical School	University of Texas Medical Branch
University of Colorado Boulder	University of Minnesota	University of Texas Southwestern Medical Center
University of Colorado Cancer Center	University of Mississippi Medical Center	University of Toledo
University of Delaware	University of Missouri	University of Utah
University of Florida	University of Nebraska Medical Center	University of Vermont
University of Florida-Gainesville	University of Nebraska, Lincoln	University of Virginia
University of Georgia	University of Nevada, Reno	University of Virginia School of Medicine
University of Hawaii	University of New Hampshire	University of Warsaw
University of Hawaii Cancer Center	University of New Hampshire/Hubbard Center for Genome Studies	University of Wisconsin - Madison
University of Illinois at Chicago	University of North Carolina	University of Wisconsin Biotechnology Center
University of Illinois at Chicago, Research Resources Center	University of North Carolina at Chapel Hill	University of Zurich
University of Illinois Chicago	University of North Carolina Lineberger Comprehensive Cancer Center	University of Maryland School of Medicine
University of Iowa	University of Notre Dame	UNT Health Science Center
University of Kansas	University of Oklahoma Health Sciences Centers	US Pharmacopeia
University of Kansas Medical Center	University of Oregon	UT MD Anderson Cancer Center
University of Kentucky	University of Pennsylvania	UTHealth at Houston
University of Maryland	University of Pittsburgh	UWM Great Lakes Genomic Center
University of Maryland Baltimore	University of Puerto Rico	Vanderbilt University
University of Maryland School of Medicine	University of Puerto Rico Medical School	Vanderbilt University Medical Center
University of Maryland School of Medicine (CIBR)	University of Rochester Genomics Research Center	Vermont Cancer Center
University of Massachusetts Amherst	University of Rochester Medical Center	Vermont Genetics Network
University of Massachusetts Lowell	University of Southern California	Virginia Commonwealth University
		Virginia Tech
		Wadsworth Center
		Washington University in St. Louis
		Washington University School of Medicine
		Wayne State University
		Weill Cornell Medical College
		Weill Cornell Medicine Qatar
		West Virginia University
		Western Michigan University Homer Stryker M.D. School Of Med
		Whitehead Institute for Biomedical Research
		Yale University School of Medicine



# Regional Distribution of ABRF Academic Institutions



*ABRF includes members from each of these countries:*





# Leading NIH Funded Institutions

JOHNS HOPKINS UNIVERSITY

UNIVERSITY OF MICHIGAN AT ANN ARBOR

UNIVERSITY OF PITTSBURGH

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

UNIVERSITY OF PENNSYLVANIA

STANFORD UNIVERSITY

UNIVERSITY OF CALIFORNIA, SAN DIEGO

WASHINGTON UNIVERSITY

MASSACHUSETTS GENERAL HOSPITAL

COLUMBIA UNIVERSITY HEALTH SCIENCES

UNIVERSITY OF CALIFORNIA LOS ANGELES

YALE UNIVERSITY

UNIVERSITY OF WASHINGTON

UNIV OF NORTH CAROLINA CHAPEL HILL

DUKE UNIVERSITY

FRED HUTCHINSON CANCER RESEARCH CENTER

BRIGHAM AND WOMEN'S HOSPITAL

ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI

EMORY UNIVERSITY

UNIVERSITY OF SOUTHERN CALIFORNIA

UNIVERSITY OF MINNESOTA

UNIVERSITY OF ALABAMA AT BIRMINGHAM

UNIVERSITY OF WISCONSIN-MADISON

VANDERBILT UNIVERSITY MEDICAL CENTER

NEW YORK UNIVERSITY SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO DENVER

NORTHWESTERN UNIVERSITY

OHIO STATE UNIVERSITY

BAYLOR COLLEGE OF MEDICINE

UT SOUTHWESTERN MEDICAL CENTER

OREGON HEALTH & SCIENCE UNIVERSITY

MAYO CLINIC ROCHESTER

UNIVERSITY OF CALIFORNIA AT DAVIS

UNIVERSITY OF CHICAGO

UNIVERSITY OF UTAH

UNIVERSITY OF VIRGINIA

UNIVERSITY OF MARYLAND BALTIMORE

SLOAN-KETTERING INST CAN RESEARCH

BOSTON CHILDREN'S HOSPITAL

HARVARD MEDICAL SCHOOL

UNIV OF MASSACHUSETTS MED SCH WORCESTER

ALBERT EINSTEIN COLLEGE OF MEDICINE

CASE WESTERN RESERVE UNIVERSITY

UNIVERSITY OF IOWA

WEILL MEDICAL COLL OF CORNELL UNIV

INDIANA UNIV-PURDUE UNIV AT INDIANAPOLIS

UNIVERSITY OF KENTUCKY

CINCINNATI CHILDRENS HOSP MED CTR

UNIVERSITY OF ROCHESTER

ABRF Members  
at **42** of top **50**  
NIH institutions



# Leading NSF Funded Institutions

Leidos Innovations Corporation

Association of Universities for Research in Astronomy, Inc.

University Corporation for Atmospheric Research

University of Texas at Austin

Oregon State University

Cornell University

University of California-Berkeley

University of Michigan Ann Arbor

University of Colorado at Boulder

Associated Universities Inc/National Radio Astronomy Observatory

University of Washington

University of Illinois at Urbana-Champaign

California Institute of Technology

Columbia University

Woods Hole Oceanographic Institution

Massachusetts Institute of Technology

Battelle Memorial Institute

University of Wisconsin-Madison

Michigan State University

University of California-San Diego

Pennsylvania State Univ University Park

Florida State University

Princeton University

Georgia Tech Research Corp

University of Minnesota-Twin Cities

Stanford University

Purdue University

University of California-Los Angeles

University of Maryland College Park

Harvard University

North Carolina State University

Department of Defense

University of California-Irvine

University of Chicago

Arizona State University

Carnegie-Mellon University

University of California-Davis

Northwestern University

University of Southern California

Indiana University

University of California-Santa Barbara

Virginia Polytechnic Institute and State University

Ohio State University

Texas A&M Research Foundation

University of Arizona

Northeastern University

Johns Hopkins University

SUNY at Stony Brook

University of Pennsylvania

Duke University

ABRF Members  
at **35** of top **50**  
NSF institutions

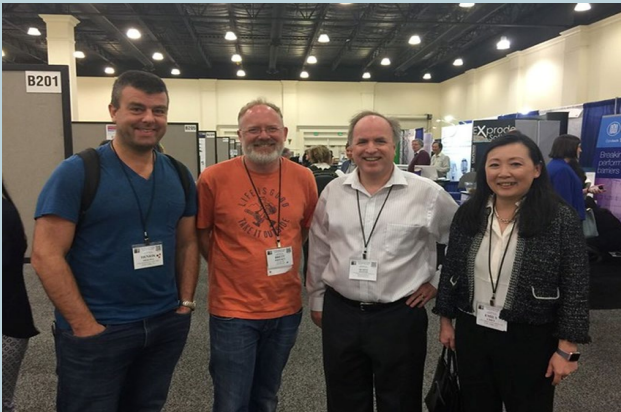


- 10X Genomics
- Adeptrix Corporation
- AdvancedSeq
- Agilent
- Agilent Technologies
- Al duPont Hospital for Children
- Amgen
- Aragen Bioscience
- Battelle
- Beam Therapeutics
- Bioinformatics Solutions Inc
- Biolytic Lab Performance, Inc.
- BioSpyder
- Bruker Daltonics
- Calico Life Sciences
- Cell Signaling Technology
- Chan Zuckerberg Initiative
- Charles River Laboratories
- ChromaCode Inc
- Coris Life Sciences Monitoring
- CRISPR Therapeutics
- Digital World Biology
- Elucidata
- Fluidigm Corporation
- Functional Genomics Center Zurich
- GE Healthcare
- GenScript USA Inc.
- Hoffmann-La Roche Ltd.
- Horizon Discovery
- iGenomX
- IGM
- Illumina
- Indica Labs
- IONpath, Inc.
- Kendrick Labs, Inc.
- Leidos Biomedical Research
- Lerner Research Institute
- Lifecanvas Technologies
- Lonza Rockland Inc
- Meenta
- MIA Cellavie Inc.
- Miroculus
- Nanolive SA
- NanoString Technologies
- Novartis Institutes for Biomedical Research (NIBR)
- Olink Proteomics
- Paragon Genomics, Inc
- Paramit
- PAVIR
- PerkinElmer
- Pfizer
- Pharmafluidics
- PHC Corporation
- PolyLC Inc.
- Promega Corp
- ProtiFi, LLC
- Qiagen, Inc.
- Regeneron Pharmaceuticals
- Rheonix, Inc.
- Roche Sequencing
- SCIEX
- Signal Biology, Inc.
- Singular Genomics
- Spectragen Informatics LLC
- Split Biosciences
- Takara Bio USA
- Thermo Fisher Scientific
- US Pharmacopeia
- UST Corporation
- Waters Corporation
- Wyzer Biosciences



## Why ABRF?

- cost-effective way to support your staff development
- elevate the profile of your core facilities
- shape the future of biomolecular core leadership through participation in the ABRF Academic Advisory Board
- be featured as an essential ABRF partner in the ABRF Core Marketplace, Annual Meeting Exhibit Hall, Annual Meeting app



## Benefits

**ALL** your biotechnology Core Facilities personnel will gain access to ABRF the membership community, resources, and professional support, including:

- Annual Meeting
- Chapter meetings and local area networks
- Committee contributions
- Research Group participation
- *Journal of Biomolecular Techniques*
- Mentoring program
- Discussion forums for peer-to-peer information sharing

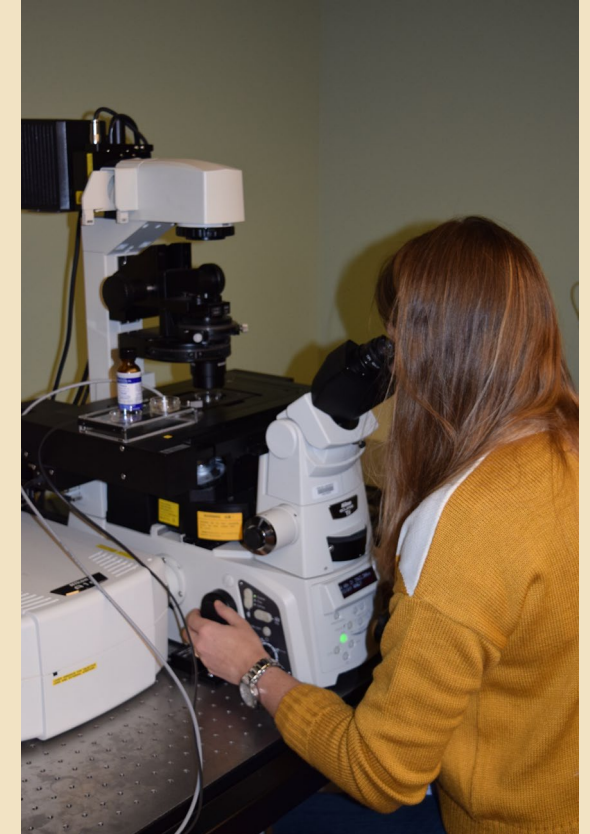
<http://www.abrf.org>





# Professional Opportunities

- Research Groups
  - Engage with colleagues to enable scientific collaborations
  - Connect with peers at annual meetings through scientific sessions, workshops and roundtables
  - Collaborate with corporate partners to support benchmarking of instruments and services
  - Provide a career path towards recognition and leadership in one's discipline
- *Journal of Biomolecular Techniques (JBT)*
  - Offers a platform for publication of research pertaining to core facilities
  - Provides an opportunity for publication of best practices in core facility management and operations





# Research Groups

Genomics	Proteomics, Metabolomics & Mass Spectrometry	Imaging/ Flow	Bioinformatics	Interest Networks
Next Generation Sequencing	Glycoprotein	Flow Cytometry	Genomics Bioinformatics	Antibody Technology
Genome Editing	Metabolomics	Light Microscopy	Proteome Bioinformatics	Workflow Interest Network
DNA Sequencing	Protein Sequencing			
Genomics	Proteomics			
Metagenomics	Proteomics Standards			



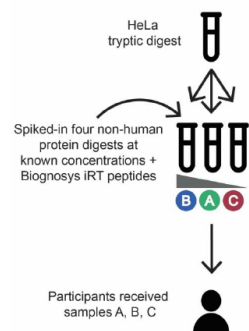
## Sample Research Group activities:

- New studies
- Posters
- Presentations
- Publications

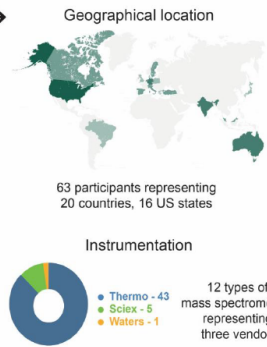
## Current Study: 2018 Evaluation of Data-Independent Acquisition (DIA) for Protein Quantification in Academic and Core Facility Settings.

2018

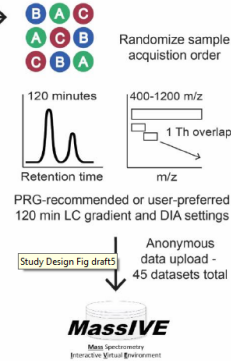
### Sample preparation by PRG



### Participant information

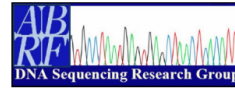


### Data acquisition and analysis



## 2020: Empowering Team Science

February 29 - March 3 | Palm Springs, CA



## Cross Site Evaluation of Sanger Sequencing Dye Chemistries



Molly J. Zeller<sup>1</sup>, Fred W. Kolling<sup>2</sup>, Jessica W. Podnar<sup>3</sup>, Yanping Zhang<sup>4</sup>, Jyothi Thimmapuram<sup>5</sup>, Yuriy O. Alekseyev<sup>6</sup>, Alex Deiluo<sup>4</sup>, Jeremy Niece<sup>1</sup>, Heather Deiderick<sup>3</sup>, Jun Fan<sup>7</sup>, Xiaoling Xue<sup>8</sup>, Lorena Pantano<sup>9</sup>, Jan Kieleczawa<sup>10</sup>, Stuart S. Levine<sup>11</sup>, Zachary T. Herbert<sup>12</sup>, Marie Adams<sup>13</sup>

1. University of Wisconsin Biotechnology Center 2. Geisel School of Medicine 3. UT Austin 4. University of Florida 5. Purdue University 6. Boston University 7. Marshall University 8. Indiana University School of Medicine 9. Harvard T.H. Chan School of Public Health 10. Wyzer Biosciences 11. Massachusetts Institute of Technology 12. Dana-Farber Cancer Institute 13. Van Andel Institute

### Abstract

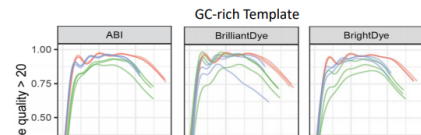
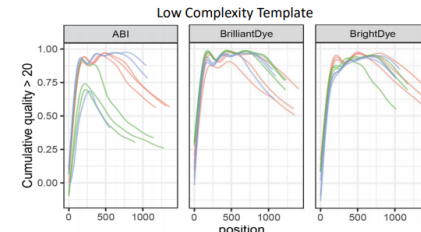
Sanger sequencing remains an essential tool utilized by researchers. Despite competition from commercial providers, many sequencing core facilities continue to offer Sanger sequencing services to their customer base. By reducing costs and providing rapid turnaround times, in-house Sanger sequencing remains a viable core service, often helping to subsidize more costly services such as next generation sequencing. While Applied Biosystems' BigDye™ Terminator chemistry was once the only solution available for Sanger DNA sequencing, several new products employing novel dye chemistries and reaction configurations have entered the market. Currently, it is unclear how these new chemistries perform on various DNA templates, including difficult templates or their amenability to commonly employed cost-saving measures such as dye dilution and reaction miniaturization. With this goal in mind, we compared the quality of Sanger sequencing data produced by kits available from several vendors using control and difficult-to-sequence DNA templates under various reaction conditions. This study will serve as a valuable resource to core facilities conducting Sanger sequencing, providing guidelines on appropriate protocols to use with each kit and determining the most cost effective solutions for Sanger sequencing while maintaining high quality results.

### Experimental Variables



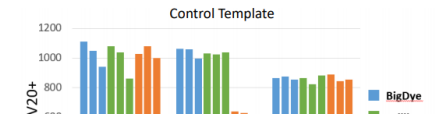
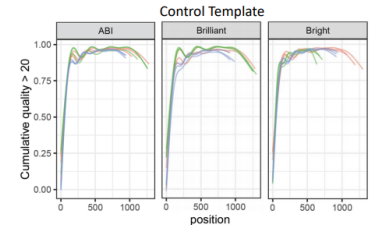
### Difficult to Sequence Templates

• Protocol 1 from Kieleczawa et al\*



### Drop In Ready

• Each site swapped **ONLY** the dye!  
• Each core used their own SOP.



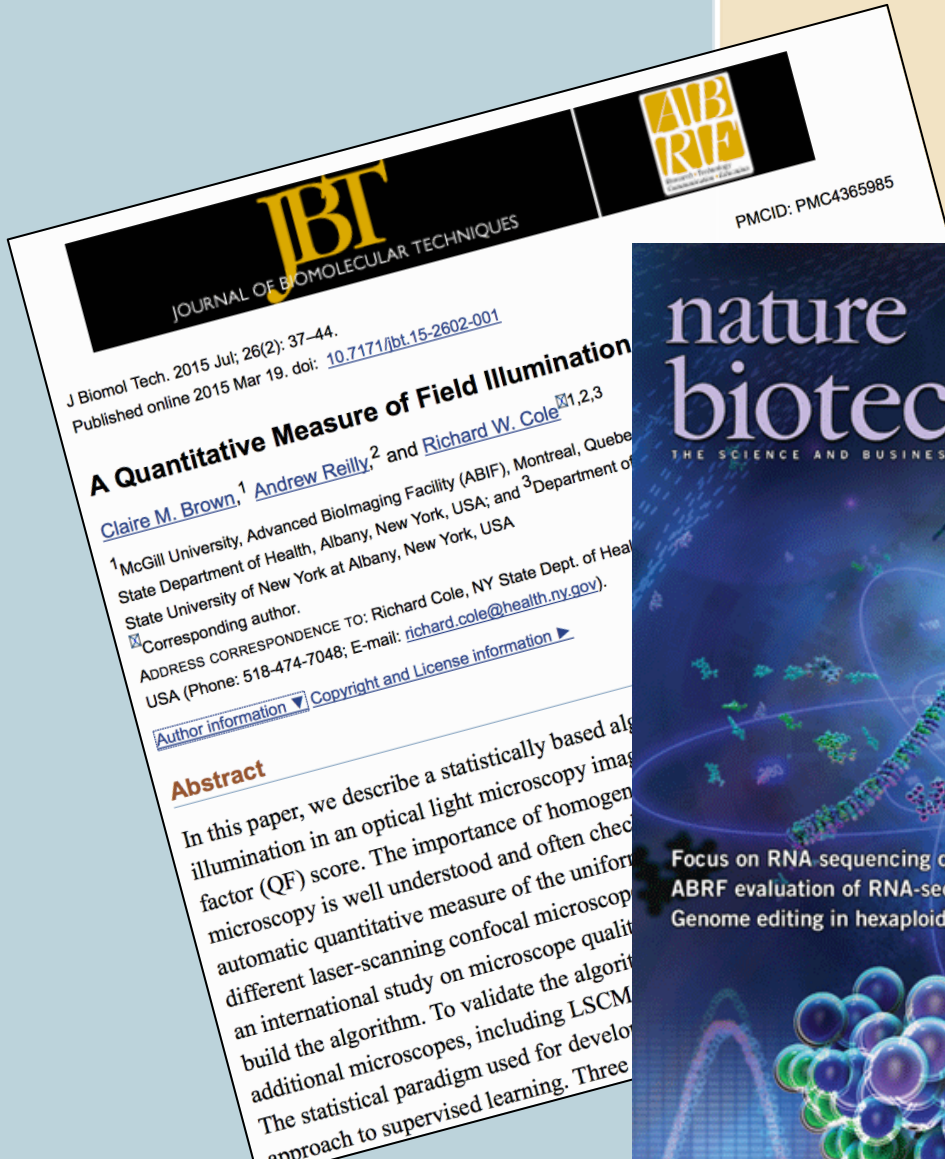
## COMMUNICATION

### ABRF Proteome Informatics Research Group (IPRG) 2016 Study: Inferring Proteoforms from Bottom-up Proteomics Data

Joon-Yong Lee,<sup>1</sup> Hyungwon Choi,<sup>2</sup> Christopher M. Colangelo,<sup>3</sup> Darryl Davis,<sup>4</sup> Michael R. Hoopmann,<sup>5</sup> Lukas Küll,<sup>6</sup> Henry Lam,<sup>7</sup> Samuel H. Payne,<sup>1</sup> Yasset Perez-Riverol,<sup>8</sup> Matthew The,<sup>6</sup> Ryan Wilson,<sup>1</sup> Susan T. Weintraub,<sup>9</sup> and Magnus Palmblad<sup>10,\*</sup>

<sup>1</sup>Pacific Northwest National Laboratory, Richland, Washington 99352, USA; <sup>2</sup>National University of Singapore, 117547 Singapore, Singapore; <sup>3</sup>Agilent Technologies, 121 Hartwell Ave., Lexington, MA 02421; <sup>4</sup>Janssen Research and Development, LLC, Spring House, Pennsylvania 19087, USA; <sup>5</sup>Institute for Systems Biology, Seattle, Washington 98109, USA; <sup>6</sup>Science for Life Laboratory, KTH - Royal Institute of Technology, 171 65 Solna, Sweden; <sup>7</sup>Department of Chemical and Biological Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong, China; <sup>8</sup>European Molecular Biology Laboratory, European Bioinformatics Institute, Wellcome Trust Genome Campus, Hinxton, Cambridge CB10 1SD, United Kingdom; <sup>9</sup>Department of Biochemistry and Structural Biology, The University of Texas Health Science Center, San Antonio, Texas 78229, USA; and <sup>10</sup>Center for Proteomics and Metabolomics, Leiden University Medical Center, 2300 RC Leiden, The Netherlands

This report presents the results from the 2016 Association of Biomolecular Resource Facilities Proteome Informatics Research Group (IPRG) study on proteoform inference and false discovery rate (FDR) estimation from bottom-up proteomics data. For this study, 3 replicate Q Exactive Orbitrap liquid chromatography-tandem mass spectrometry datasets were generated from each of 4 *Escherichia coli* samples spiked with different equimolar mixtures of small recombinant proteins selected to mimic pairs of homologous proteins. Participants were given raw data and a sequence file and asked to identify the proteins and provide estimates on the FDR at the proteoform level. As part of this study, we tested a new submission system with a format validator running on a virtual private server (VPS) and allowed methods to be provided as executable R Markdown or IPython Notebooks. The task was perceived as difficult, and only eight unique submissions were received, although those who participated did well with no one method performing best on all samples. However, none of the submissions included a complete Markdown or Notebook, even though examples were provided. Future IPRG studies need to be more successful in promoting and encouraging participation. The VPS and submission validator easily scale to much larger numbers of participants in these types of studies. The unique "ground-truth" dataset for proteoform identification generated for this study is now available to the research community, as are the server-side scripts for validating and managing submissions.

**JBT**  
JOURNAL OF BIOMOLECULAR TECHNIQUES

PMCID: PMC4365985

J Biomol Tech. 2015 Jul; 26(2): 37-44.  
Published online 2015 Mar 19. doi: [10.7171/jbt.15-2602-001](https://doi.org/10.7171/jbt.15-2602-001)

### A Quantitative Measure of Field Illumination

Claire M. Brown,<sup>1</sup> Andrew Reilly,<sup>2</sup> and Richard W. Cole<sup>1,2,3</sup>

<sup>1</sup>McGill University, Advanced Bioluminescence Facility (ABIF), Montreal, Quebec  
<sup>2</sup>State Department of Health, Albany, New York, USA; and <sup>3</sup>Department of  
State University of New York at Albany, New York, USA

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ADDRESS CORRESPONDENCE TO: Richard Cole, NY State Dept. of Health  
USA (Phone: 518-474-7048; E-mail: [richard.cole@health.ny.gov](mailto:richard.cole@health.ny.gov)).

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**Abstract**

In this paper, we describe a statistically based algorithm for measuring the quality of illumination in an optical light microscopy image. The quality factor (QF) score. The importance of homogeneous illumination is well understood and often checked by the user. However, automatic quantitative measure of the uniformity of illumination is not available. We present a different laser-scanning confocal microscope. We present an international study on microscope quality. We present a new algorithm to build the algorithm. To validate the algorithm, we used additional microscopes, including LSCM. The statistical paradigm used for development of the algorithm is supervised learning. Three

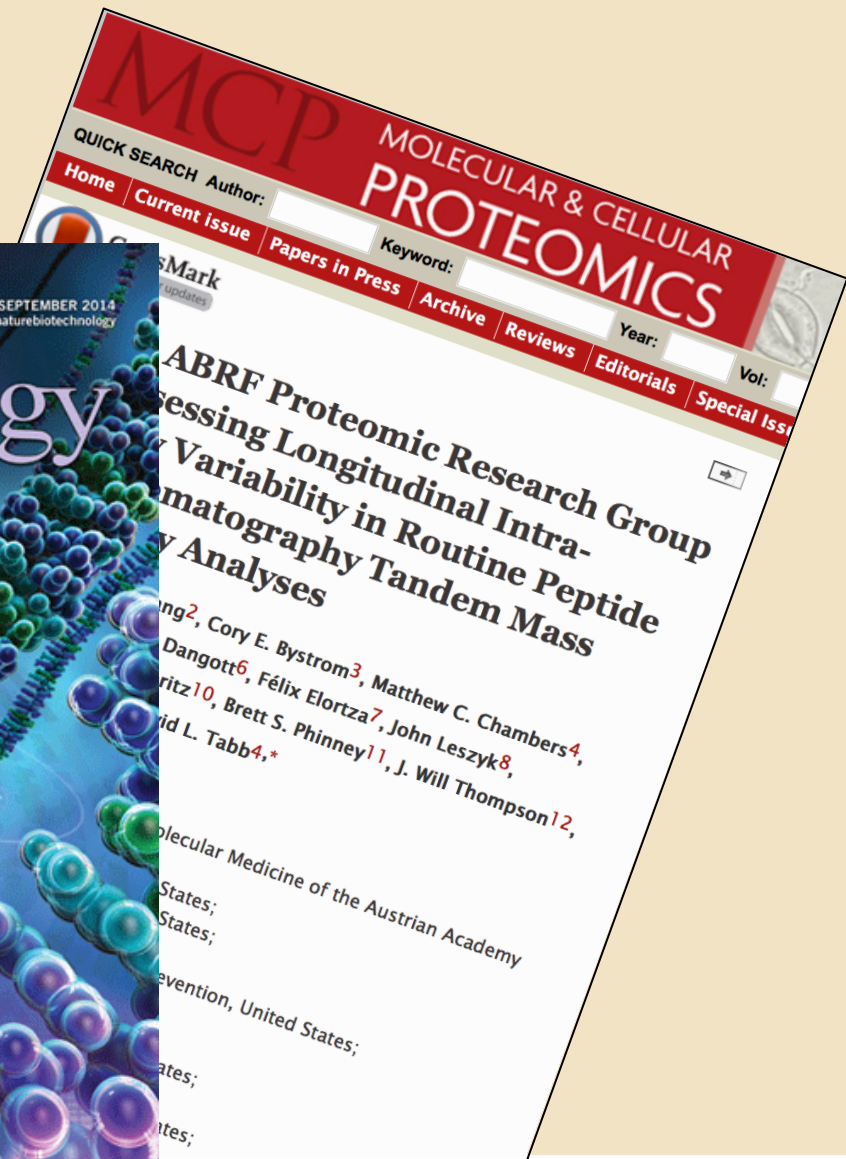


**nature  
biotechnology**

THE SCIENCE AND BUSINESS OF BIOTECHNOLOGY

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[www.nature.com/naturebiotechnology](http://www.nature.com/naturebiotechnology)

Focus on RNA sequencing quality control (SEQC)  
ABRF evaluation of RNA-seq  
Genome editing in hexaploid wheat



**MCP** MOLECULAR & CELLULAR  
**PROTEOMICS**

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Year:  Vol:

### ABRF Proteomic Research Group Assessing Longitudinal Intra- Laboratory Variability in Routine Peptide Mapping by Tandem Mass Spectrometry Analyses

Richard L. Tabb<sup>4,\*</sup>, Cory E. Bystrom<sup>3</sup>, Matthew C. Chambers<sup>4</sup>,  
Dangott<sup>6</sup>, Félix Elortza<sup>7</sup>, John Leszyk<sup>8</sup>,  
Brett S. Phinney<sup>1,1</sup>, J. Will Thompson<sup>12</sup>,  
Cory E. Bystrom<sup>3</sup>, Matthew C. Chambers<sup>4</sup>,  
Dangott<sup>6</sup>, Félix Elortza<sup>7</sup>, John Leszyk<sup>8</sup>,  
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The Association of  
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Facilities

## ABRF: A FASEB Member Society



- As a member society of FASEB, ABRF members are part of a global community of more than **130,000** scientists across **27** organizations
- FASEB advances legislative, regulatory and executive policy initiatives that promote progress and education in biological and biomedical sciences
- 2020-2021 FASEB-wide [Shared Research Resources Task Force](#) – Co-chaired by two ABRF members



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# Advocacy and Policy Impact

**FASEB**

Federation of American Societies For Experimental Biology



American Aging Association  
Research to Increase the Healthy Human Lifespan



Transforming Discoveries Into Therapies



The Association of Biomolecular Resource Facilities



American Association for Anatomy



ASSOCIATION FOR MOLECULAR PATHOLOGY



Society for Redox Biology and Medicine

THE AMERICAN ASSOCIATION OF IMMUNOLOGISTS



Environmental Mutagenesis and Genomics Society  
Synergistic Interactions for a Better World



Genetics Society of America



Reproduction... Where the Future is Conceived



American Federation for Medical Research  
Develop and mentor tomorrow's leaders in medical research



EST. 1960 AS THE TERATOLOGY SOCIETY



The American Society for Bone and Mineral Research



SOT Society of Toxicology

Creating a Safer and Healthier World by Advancing the Science and Increasing the Impact of Toxicology

ASCI THE AMERICAN SOCIETY FOR CLINICAL INVESTIGATION



US HUPHO

from genes to function

ASIP

American Society for Investigative Pathology



American Society for Nutrition  
Excellence in Nutrition Research and Practice



SOCIETY FOR LEUKOCYTE BIOLOGY



# Finding A Voice in Our Own Institutions

## *FASEB Maximizing Shared Research Resources Report*

Identified four key areas for  
improvement:

- Funding and business operations
- Discoverability and access
- Ability to meet evolving needs
- Facilitate career track and staff development



<http://tiny.cc/buw27y>



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# ABRF's Organizational & Group Memberships







- For all Core Facility personnel, plus additional engagement opportunities providing unique access for organizational members to the ABRF community
- Price for membership includes the entire institution

## Core Facilities Annual Membership

Up to 15	\$2,500
16-25	\$3,500
26-50	\$4,500
51-75	\$6,000
76-100	\$7,500
More than 100	\$10,000



Organizational Membership not for you?  
We offer Small Group Membership

## Small Group Membership

- For those institutions that may not have centralized resources for all core facilities, ABRF offers preferred membership rates for groups, facilitating additional core facility personnel in joining the ABRF community and leverage the wide range of networking and professional development benefits.
- Cost is per member

Number of ABRF Members	Annual Membership Dues
Small Group 2 – 10	\$90.00
Large Group 11 – 19	\$50.00



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## Save the Dates

- In-person and virtual participation options
- Access meeting content from your desktop

**ABRF2021**  
Supporting Interdisciplinary Science

March 7- 10, 2021  
Boston, MA

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The poster features a night-time photograph of a cable-stayed bridge with illuminated towers and cables, reflected in the water below. The city skyline is visible in the background. The text is overlaid on the image in white and yellow.



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Facilities

# Why ABRF? Hear from Your Colleagues...



**Phillip Hockberger**  
Northwestern University



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# Defining Excellence for Shared Resources Worldwide