



AMERICAN
ASSOCIATION FOR
ANATOMY

2020

YEAR IN REVIEW

RESPONDING TO THE CRISIS

COVID-19 was a gamechanger, forcing individuals and organizations around the world to rethink priorities, reimagine how to meet their missions, and discover new ways of connecting and collaborating. At AAA, we faced the realities of closed labs, classrooms, offices, and meeting spaces. But the pandemic couldn't close our minds or shut down our spirit, and we as an association and a membership launched new initiatives and forged new paths. It made for an extraordinary year.

The Association Responds...

Educators Helping Educators

Teaching professionals had to learn entirely new ways to deliver content to their students, and as anatomy courses transitioned from the classroom to the computer, AAA recognized that the ability to leverage each other's experience and advice would greatly enhance the speed and effectiveness of our teaching members.

A Virtual Community

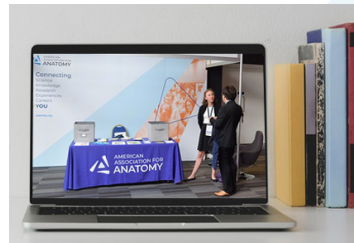
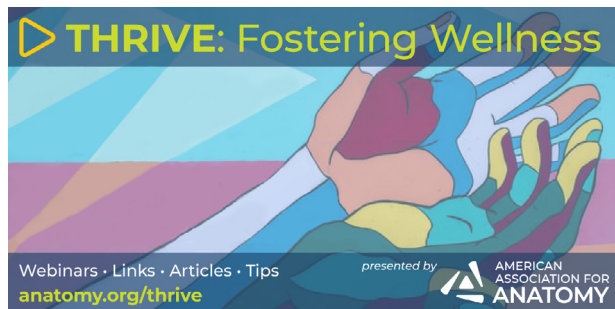
As your professional home, *connecting* is what we do ... and Virtual Anatomy, a new member community on Anatomy Connected, brought us all closer and made it easier to create virtual labs, share experiences and resources, and benefit from others' lessons learned. In April, we launched an exclusive [Online Teaching Resources](#) community where members could compare notes on how they converted an onsite course or lab into an online class; share what they learned from implementing specific technologies; address issues of privacy, ethics, and copyright; and crowdsource free tools for augmenting online teaching. In April, we developed and hosted three Zoom meetings facilitated by Stefanie Attardi (center), Oakland University William Beaumont School of Medicine; Cal Hisley (left), William Carey University; and Darren Hoffman (right), University of Iowa, to provide the anatomy community with an opportunity to share challenges, ideas, and concerns related to teaching anatomy in a virtual environment. Our **Virtual Anatomy community** remains a vital resource as we continue to operate under COVID protocols; be sure to join in and view the recordings, read a summary of eight themes that emerged during the meetings, and continue the conversation by posting or responding to community conversations.





Weekly Connections

In May, our monthly member newsletter went weekly, helping readers more quickly adapt to the virtual environment through more timely and frequent sharing of bite-sized news, scientific research, events, and resources. Anatomy Now Weekly also helped support member connections — particularly important as members couldn't gather in person or even visit their labs.



Healthy at Home

Mental health and emotional resilience were key components of thriving during long months of separation and quarantine, and AAA developed a suite of new online member resources, curated by and for the anatomy community. A combination of on-demand webinars presented topics ranging from work-life balance and equality to a series dedicated to helping anatomy educators deliver engaging instruction in an online environment. Mindfulness and meditation apps; articles, videos, and audio programming focusing on wellness, stress-reduction, and happiness; and connections with fellow members via At Home with AAA rounded out AAA's collection and helped members THRIVE during impossibly difficult times.

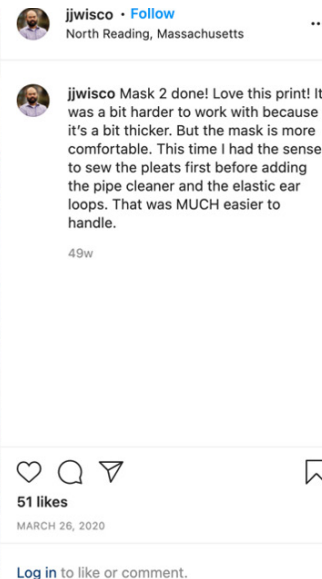
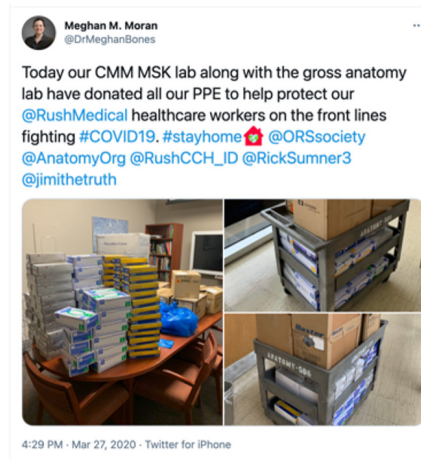


When the days are indiscernible and weeks feel like months, staying connected can feel elusive ... so with Anatomy Now Weekly's revised format and frequency, you can count on shorter, timelier newsletters every Wednesday — something to look forward to mid-week!"

Members Respond...

Making a Difference, One Donation at a Time

In the early weeks and months of the pandemic, securing PPE proved difficult in many regions of the country, and frontline hospital workers were often forced to make do with plastic bags and re-used masks, and cope with a shortage of gloves. AAA members answered the call for donations, with heartwarming stories of lending helping hands in ways big and small.



“

We provided all our gloves and surgical gowns to our Ministry of Health (Quebec) to help with the shortage of PPE for the health care workers, in light of COVID-19 crisis.”

— Geoffroy Noel, PhD, McGill University

“

A campus-wide PPE drive enabled us to donate 245,000 pairs of gloves, 47,500 gowns, 36,600 masks, and 50 cases of disinfectant wipes. We were happy to be a part of that for our campus at University of Colorado Anschutz Medical Campus!”

— Chelsea Goldberg, M.S., University of Colorado School of Medicine

“

The Anatomy program at University of the Incarnate Word School of Osteopathic Medicine (UIWSOM) has donated two cases of N95 masks to our residents and a 55 gallon drum of isopropanol to research labs in San Antonio to make hand sanitizer to be distributed to local hospitals and clinics.”

— Earlanda L. Williams, PhD, University of the Incarnate Word School of Osteopathic Medicine

▶ Diary of a Newbie:

What I Learned about Teaching Anatomy Online

Teachers and professors around the world discovered that teaching online was a whole new world, with even the most experienced admitting that they felt like first-year teachers all over again. Margaret McNulty, assistant professor of Anatomy, Cell Biology & Physiology, Indiana University School of Medicine, **found herself reflecting on** key realizations as she transitioned to an online classroom:

- 1 Be flexible.
- 2 Promote bonding.
- 3 Students appreciated individual variation.
- 4 Students relied on anatomic relationships.
- 5 Use your time wisely.
- 6 Start an FAQ board.
- 7 Focus on the silver linings.
- 8 Take advantage of radiological imaging.
- 9 In-person still matters.
- 10 Commit.

And,

- 1 Appreciate the students: their ability to adapt, ability to forgive, and willingness to learn.
- 2 Appreciate the other instructors/TAs/support staff. I honestly might've quit without them.

MEMBERS RESPOND (CONT'D)

Learning the Value of Face-to-Face STEM Teaching During COVID-19

Michelle Lazarus, associate professor, faculty of medicine, nursing and health sciences at Monash University, **also shared** her biggest takeaways from moving classrooms online:

- Digital learning is as effective for teaching anatomy as models or even dissections.
- Computer-aided instruction (CAI) may enhance anatomy learning outcomes when used as a supplement to traditional teaching methods.
- But, as some students begin pursuing their STEM degrees with significantly lower spatial abilities, are we deepening the divide between the “haves” and the “have nots” for these transferable workplace skills without tactile and practical learning opportunities?

COVID's Impact on Gross Anatomy Education

When COVID shut down our world and classrooms, members **Derek Harmon**, University of California, San Francisco; **Barbie Klein**, University of California, San Francisco; **Stefanie Attardi**, Oakland University William Beaumont School of Medicine; **Malli Barremkala**, Oakland University William Beaumont School of Medicine; **Danielle Bentley**, University of Toronto; **Gary J. Farkas**, University of Miami; **Kirsten Brown**, George Washington University; **Kelly Harrell**, Virginia Commonwealth University; **Jennifer Dennis**, Kansas City University College of Osteopathic Medicine; **Haviva Goldman**, Drexel University; **Joan Richtsmeier**, Pennsylvania State University; and **Chris Ramnanan**, University of Ottawa, in partnership with the Educational Affairs Committee, set out to document exactly how gross anatomy education was affected. Their Virtual Anatomy Survey ran for three months, and the resulting **analysis** — including tables with detailed data about the assessments and digital resources used — ensured that members could understand the repercussions of the seismic shift in teaching practices and share best practices.

Collaborating for the Greater Good

Pivot to Fall 2020 Webinars



On July 7 and 14, 2020, AAA hosted a two-part “Pivot to Fall 2020” webinar series, presented by the Association of Anatomy, Cell Biology and Neurobiology Chairpersons (AACBNC) and the Association of Medical School Neuroscience Department Chairpersons (AMSNDNC), to help anatomy educators succeed in delivering engaging instruction and experiences amid the COVID-19 pandemic. Both of the webinars — “Face-to-Face, hybrid, remote approaches to gross anatomy lab” and “Developing soft clinical skills in remote/hybrid anatomy lab” — are free and available on-demand.



While some teaching strategies and disciplines transferred seamlessly to the virtual environment, courses with practical-based experiences faced several challenges. In particular, many STEM (science, technology, engineering, mathematics and medicine) courses were confronted with re-creating in-person 3D laboratory experiences in a digital 2D environment.”

Still Sharing Science!

SCGDB Virtual Annual Meeting



The 43rd annual Society for Craniofacial Genetics and Developmental Biology (SCGDB) meeting was held on a virtual platform on October 19-20, 2020, which featured Career Development and FaceBase Workshops; presentations from award winners **Marilyn Jones**, Rady Children's Hospital San Diego, and **Kerstin Ludwig**, University of Bonn; and four scientific sessions covering molecular regulation, morphogenesis, translational biology, and signaling pathways in craniofacial development.

Two poster sessions — sponsored by AAA — allowed presenters to give eight-minute blitz presentations, with questions addressed to the presenter's personal meeting portal. AAA also presented six student awards: Congratulations to Post-doctoral fellows **Carrie Leonard**, University of Maryland, College Park; **Michi Kanai**, University of Colorado; and **Soma Dash**, Stowers Institute for Medical Research and to students **Lauren Bobzin**, University of Southern California; **Kimberly Diaz-Perez**; and **Beatriz Ibarra**.



The Society for Craniofacial Genetics and Developmental Biology (SCGDB) celebrated its first full year as an affiliate of AAA; the mutually beneficial partnership was created in 2019 and gives AAA members the ability to join SCGDB for just an additional \$10 per year. Affiliate members enjoy the advantages of the right to stand for office and vote in SCGDB elections, as well as eligibility for SCGDB Excellence in Craniofacial Research, service, travel, and other SCGDB-sponsored awards.”

Connecting Virtually

The second week in March 2020 is largely recognized as the timeframe that American life as we knew it shut down. WHO declared COVID-19 a pandemic, the NCAA canceled March Madness, schools around the country closed their doors, and businesses sent employees home. Restaurants closed, concerts were canceled, and meetings of every imaginable size were shuttered. AAA canceled all in-person events beginning in March and, while we didn't know then how long our radically changed personal and professional lives would remain in limbo, we knew that now more than ever our focus on connections had never been more important.

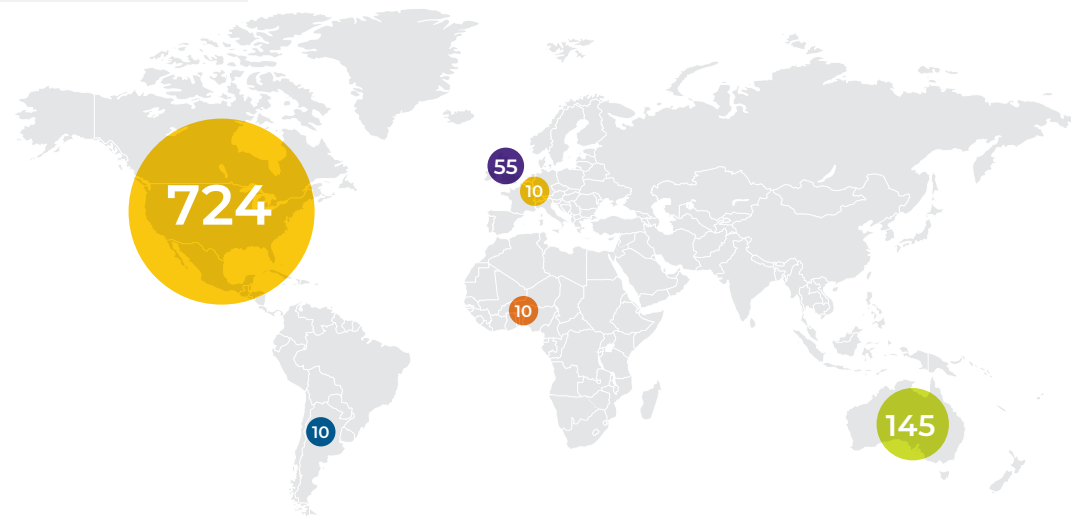
And connect we did ... with our staff and members devising new ways to share, learn from each other, and celebrate community.

International Twitter Chat

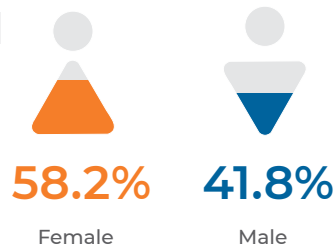
On March 4 and then again on July 7, the Ambassador Committee's Social Media Subcommittee planned AAA's first international "Beyond Borders" Twitter chats — #AnatChat — to help engage members who are unable to attend regional and annual meetings while examining anatomy education during the pandemic. On November 10, they replicated the effort but with the goal of celebrating arts in anatomy and scicomm.

The 24-hour conversations that rolled across the globe were enormously popular, enabling participants to share international perspectives on teaching anatomy and find new ways to engage with the Association.

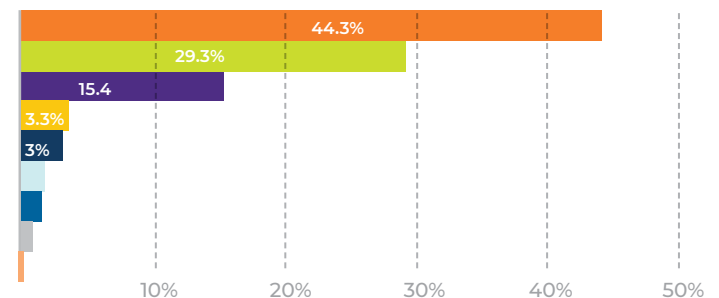
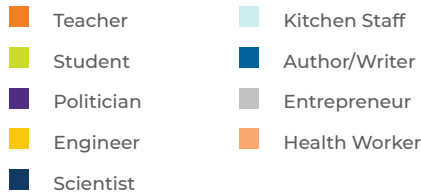
MENTIONS BY LOCATION



GENDER



TOP OCCUPATIONS



Source: Techwalker Free Social Search, 6:00 PM ET, March 5, 2020

Virtual Annual Meeting Week



AMERICAN
ASSOCIATION FOR
ANATOMY

April 6-10, 2020



EB 2020, originally scheduled April 4-7 in San Diego, CA, was cancelled due to the pandemic, but in its place, AAA found a welcome way to engage online with a **Virtual Annual Meeting Week** (VAMW). Participants from five continents took part in this groundbreaking five-day event featuring:

- 70 e-Posters
- 19 hours of video watched by 500 viewers on our YouTube channel
- 550+ Twitter conversations
- Competition, Achievement, Service, and Educator Awards
- Virtual Anatomy Lounge
- Research, articles, chats, and community!

“

Now more than ever, connections matter, especially when we can't meet collectively in person. I know the vibrancy of our annual meeting can't be replaced by online activities, but this awesome community still came together virtually to celebrate award recipients, present research, connect via social media, and share practical resources via our members-only online platform, Anatomy Connected.”

— Shawn Boynes, FASAE, CAE, Executive Director



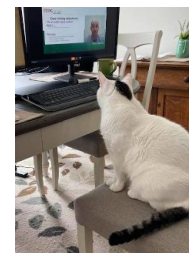
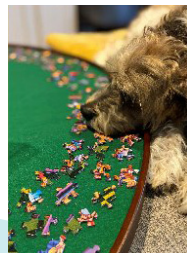
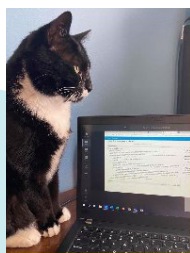
Congrats to 2020 BioArt Winners

Each day, scientific investigators produce thousands of images and videos as part of their research; however, only a few are ever seen outside of the laboratory. Through the BioArt competition, the Federation of American Societies for Experimental Biology (FASEB) aims to share the beauty and breadth of biological research with the public by celebrating the art of science. In April, winners for the **2020 competition** were chosen by a panel of members and announced during VAMW. Congratulations to:

- **Caitlin Yoakum**, University of Arkansas, for a microCT image of a juvenile squirrel monkey
- **Akinobu Watanabe**, New York Institute of Technology, for an image of a chicken embryo
- **Susan Motch Perrine**, **Joan Richtsmeier**, and **Kazuhiko Kawasaki**, Pennsylvania State University; and **Danny Chen** and **Hao Zheng**, University of Notre Dame, for a microCT scan of a mouse at embryonic day 14.5
- **Adam Hartstone-Rose** and **Edwin Dickinson**, North Carolina State University, for the first fascicle-by-fascicle digital dissection of lemur masticatory muscles
- **Brent Adrian**, **Heather Smith**, **Avery Williams**, **Aryeh Grossman**, and **Andrew Lee**, Midwestern University; and **Christopher Noto**, University of Wisconsin-Parkside, for an image of a paleohistological thin section from a 96 million-year-old fossil pond turtle shell.

At Home With AAA

Humans are social creatures, so when we all found ourselves at home, it seemed only natural that we found our curiosity piqued at how others were handling the lockdown. To help keep it all real, AAA launched [At Home With AAA](#) to help members see how *other members* — and staff — were coping, or not, while staying at home to stop the spread of COVID-19. With stories ranging from funny to anguished, calming to surprising, these shared moments brought us closer and reminded us that silver linings can be found in the most unexpected places.



My research & COVID-19

"I cannot go to the lab to collect data or use a computer with high processing capability. I am using this time to analyze existing data at home and prepare manuscripts." — **HABIBA CHIRCHIR**, Assistant Professor, Marshall University

Milestone delayed

"I had to postpone my wedding. It sucked. I was devastated. But I worked through it. And we **DID** get hitched, just a little later than scheduled!" — **JENNIFER DENNIS**, Associate Professor of Anatomy, Kansas City University

Tiring of technology

"Tiring of technology – I am really sick of Zoom meetings! Virtual does not do the job. You can not get inspired by your 13-inch computer monitor." — **MARTINE DUNNWALD**, Associate Research Professor, The University of Iowa

I don't need

"Negativity. Ain't nobody got time for that!" — **ANDREW CALE**, PhD Student, Indiana University School of Medicine

Mediocre milestone

"Celebrating my mother's birthday remotely was *not* great." — **"BENJI,"** Anonymous Anatomist (not a pooch 🐾)

I've forgiven myself for

"Not being able to be 100% awesome at all my roles simultaneously!" — **"GIADA,"** Anonymous Lecturer (not a celebrity chef 🍴)

Anatomy Lab Playlist



Music can lift us up, and in July, members submitted favorite songs for

a just-for-fun [Spotify playlist](#), which members could groove to and grow with while they were dissecting and prosecting! The hour-long eclectic mix is sure to make anyone smile, sing along, and throw a lab dance party!

A Mid-Year Check-In

On July 13, President **Rick Sumner** held a live, one-hour [Virtual Member Update webinar](#) to share what the Association was doing to support members during the COVID-19 pandemic and beyond, review 2019 highlights and 2020 goals, cover governance updates — including membership, advocacy updates, and finance highlights — and get a sneak preview into what to expect from meetings and journals in the latter half of the year. It was an important and additional way to keep us connected during a difficult year!

Speaking Out, Standing Up

Taking a Stand for Diversity, Equity, and Inclusion – and Standing Up Against Racism



It was a year of reckoning in the wake of the summer uprising provoked, in part, by the death of **George Floyd**. In June, **AAA** and our

affiliate, **SCGDB**, both issued strong statements decrying systemic racism. We also took concrete steps to help address diversity, equity, and inclusiveness within our own association.



We are appalled by racist events that expose the worst of humanity. We, the American Association for Anatomy, stand up against racism. We stand up with those upon whom it inflicts so much pain. We stand up to envision, create, and support the society and the future in which all are treated with the dignity that every body deserves."

Board Approves Proposal to Develop, Launch Anatomy Scholars Program for Underrepresented Minorities in 2021

In alignment with the Board's renewed commitment to diversity, equity, and inclusion (DEI), they unanimously approved a proposal by the DEI Committee to develop an **Anatomy Scholars Program** for underrepresented minorities. The effort will serve to counteract the outsized rate at which underrepresented minority (URM) STEM faculty leave academia early in their careers due to lack of mentoring and absence of peers. AAA will invest \$100,000/year for three years to establish a cohort of early-career URM peers in anatomy and provide a structured professional development program supported by mentoring.

Accepted applicants will participate in two years of localized and AAA mentoring, a specialized and culturally relevant curriculum, along with formal and informal networking. The Program is expected to launch in late 2021 with 10 early-career Scholars from URM.

Faces of Anatomy

In April, the Ambassador Committee's Social Media Subcommittee launched a **Faces of Anatomy** series, celebrating the anatomical sciences by featuring the historical and present-day achievements of those applying anatomy to advance medicine, scientific research, anatomy education, and related fields. Spearheaded by **Andrew Cale**, Indiana University, Purdue University Indianapolis and **Carissa Vinovskis**, Children's Hospital Colorado, the series shares the stories of famous and lesser-known figures from anatomical history mingling with current members and is now an ongoing **Facebook series**.



With thanks to the Anatomy Scholars Program Task Force:

Loydie Jerome-Majewska,
McGill University

Malli Barremkala, Oakland
University William Beaumont
School of Medicine

Allison Nesbitt, University of
Missouri, Columbia

Kimberly Topp, University of
California, San Francisco

Abhishek Yadav, Geisinger
Commonwealth School of
Medicine

Recognizing Muslim Contributions to Anatomy

On June 5, the website [MuslimHeritage.com](https://muslimheritage.com) shared an article — “An untold story: The important contributions of Muslim scholars for the understanding of human anatomy” — originally published in [The Anatomical Record](https://doi.org/10.1016/j.anrec.2017.06.001), Volume 300, Issue 6, June 2017. Researched and written by Howard University Ph.D. student **Malak A. Alghamdi**, along with her advisors, **Janine M. Ziermann** and **Rui Diogo**, the paper was a project of RuiDiogoLab to rebut racial narratives and stereotypes that are still prevalent not only within the media and broader public, but also in scientific publications and textbooks. Diogo noted that its publication on MuslimHeritage.com is “a great example of the power of AAA and of one of its journals, specially at a time that it is so important to contradict, with empirical data, racist narratives/stereotypes.”

Examining and Addressing Harassment

In June, the DEI Committee sponsored a webinar examining the National Academies of Sciences, Engineering, and Medicine’s (NASEM) 2018 report on the sexual harassment of women in STEM. The important conversation was led by **Billy M. Williams**, vice president for ethics, diversity, and inclusion at the American Geophysical Union (AGU) and President-Elect **Valerie DeLeon**, who discussed the effects of harassment on science, education, and health; and how organizations like NASEM, AGU, and AAA are taking action to eliminate harassment in STEM. The webinar is available to all members in our on-demand [webinar archives](#)!

Board Adopts Formal Anti-Harassment Policy



We commit to ensuring that the AAA mission is accomplished in an environment free from discrimination, harassment, bullying, retaliation, and in which individuals are always treated with dignity and respect. AAA takes all harassment and discrimination claims seriously and will not tolerate any violations. AAA can only meet its mission if all involved are held to the highest standards of ethical conduct and professionalism.”

— AAA Board of Directors, January 29, 2020

DIVERSITY AT THE PODIUM



“As a graduate student and postdoc, I’ve been privy to some incredible mentors. I was lucky enough to meet many more once I joined AAA. It was only when a sudden turn of events placed me in a classroom, outside of my lab-bench responsibilities, that I was awakened to the incredible power of diversity at the podium. I didn’t realize the impact my simply being there — at the podium — had until one of my top students of Mexican-American descent approached and said, ‘For the first time, I feel like I have someone who can relate to me and of whom I can ask questions about navigating through the sciences. I feel so good about it, inspired even, simply because you look like me.’”

— *Diana Rigueur, Ph.D., University of Southern California, Los Angeles*

ANATOMISTS WITH PRIDE



“As an out and proud educator, I strive to make sure that all of my LGBTQ+ students feel completely comfortable being their whole selves in my classroom. As an out and proud anatomist, I strive to make sure that sexual anatomy is not viewed only through a reproductive lens. As an out and proud person, my heart is full and unconflicted. I live one simple, honest, and beautiful life. Pride [month] is an annual reminder of these gifts, inherited from a generation of out and proud people before me.”

— *Darren Hoffmann, The University of Iowa Carver College of Medicine*

BLENDING CULTURES IN THE CLASSROOM



“In India, when it comes to education, there is no difference between male and female. Everybody gets equal opportunity. But it is extremely competitive. As a woman and scientist coming from a foreign country, I have unfortunately suffered from inequality [in the U.S.]. But then, to be honest, I also have gotten a lot of support. [I’ve also been surprised and impressed to discover that students in the U.S. always have the opportunity to pursue their education whenever they want to take it back up]. In India, if you get off track, you can’t come back.”

— *Soma Mukhopadhyay, lecturer at Augusta University in Georgia*

COVID-19 & Body Donation

The dissection of deceased human bodies is an essential teaching and learning tool, and — like so many things in 2020 — was enormously impacted by COVID when many universities and teaching hospitals in particularly hard-hit areas across the nation shut down their donor acceptance programs indefinitely, while others temporarily suspended their programs as they developed new policies to test donors for the virus and safeguard their staff.

As **Joy Balta, PhD**, assistant professor-clinical and director of Anatomical Services & Body Donation Program at The Ohio State University College of Medicine, wrote in a [feature article](#) in the July 1 Anatomy Now Weekly, “When the World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020, [our] Body Donation Program (OSU-BDP) noticed an exponential increase in queries about its impact on our program. We started receiving calls from donors, students, academicians, researchers, physicians, and other healthcare professionals involved in the donation process regarding our course of action. Just like everyone else, we simply were not ready for such an event.”

“At OSU-BDP, we reached out to colleagues through AAA’s Anatomy Connected and with physicians in different departments at OSU to compare best practices,” he added, “and we (*cont’d next page*)



In May, the International Federation of Associations of Anatomists (IFAA) released best practice guidelines for body donation programs during the novel Coronavirus pandemic, in recognition that human dissection is the “gold standard” for teaching and research in the anatomical sciences. AAA is a founding member of IFAA.



Human Body Donor Task Force Formed

In November, the Board of Directors recognized the importance of human body donation by formalizing what had been up to now an informal group of members with a strong interest in human body donation. Now officially known as AAA’s Human Body Donor Task Force, the group’s mission is to:

- **INCREASE** awareness about whole body donation for education and research,
- **ADVOCATE** for body donor best interests,
- **DEVELOP** and contribute to best practices,
- **STRIVE** to inform policymakers and regulatory efforts, and
- **SUPPORT** legal and ethical program operations and activities for educators, researchers, body donors, and our greater community.

Special thanks to Joy Balta for leading this effort and to all of the task force members for advocating on behalf of respectful and responsible human body donation.

Joy Balta, The Ohio State University
Thomas Champney, University of Miami
Chris Ferrigno, Rush University Medical Center
Laura Johnson, University of Missouri
Callum Ross, University of Chicago
Brandi Schmitt, University of California

COVID-19 & BODY DONATION (CONT'D)

developed a robust new protocol for our body donation process. Currently, all body donors are considered potential carriers of the virus upon admission and are quarantined in a designated area until they test negative. Moreover, if we have any immediate concerns on the cause of death of any donor, we conduct a COVID-19 test at the funeral home's premises, and the donor is only admitted into our program after we receive the negative results to safeguard staff but also fulfill the wishes of donors and needs of students."

In a **special report** entitled Gross Anatomy During the Pandemic, authored by **Melissa Carroll, PhD, MS**, George Washington University; **Darren Hoffmann, PhD**, University of Iowa; **James Karnes, PhD, PT**, Georgia Southern University; and **Sheryl L. Sanders, PhD**, Pacific University, for AAA, the authors also wrote of the significant change to donor programs, "While using technology to substitute for face-to-face instruction with dissection may appear to be an adequate educational alternative, instructors of anatomical sciences in general and human gross anatomy in particular argue that there is no substitute for use of [body donors] for the most effective student learning."

SPECIAL REPORT AUTHORS



Melissa Carroll, PhD, MS



Darren Hoffmann, PhD



James Karnes, PhD, PT



Sheryl L. Sanders, PhD

In 2020, AAA issued a **special report**, Gross Anatomy During the Pandemic, on the enduring value and importance of cadaver dissection as an instructional tool for future doctors and healthcare workers. The paper highlights the advantages of cadaver dissection that cannot be delivered virtually and are not possible or available with present technologies, including:

- Shared language and space
- The donor-cadaver as the 'first teacher'
- Death and sensory learning
- Surprising spatial relationships
- Enhanced learning through variation
- Technology acquisition vs. teaching time
- Cost considerations.



Cadaveric dissection must be safely available as a learning tool for anatomy ... While we have learned that virtual anatomy technologies are outstanding as reference resources and they provide students new ways to explore anatomy in their own homes, these benefits do not replace the many unique features of learning through cadaveric dissection and its lifelong impact on healthcare professionals. We must prioritize cadaver dissection as an essential learning experience."

— Melissa A. Carroll, PhD, MS; Darren S. Hoffmann, PhD; James L. Karnes, PhD, PT; and Sheryl L. Sanders, PhD. © 2020 American Association for Anatomy.

Beyond the Pandemic

Working for You, Working for Anatomy

Board Adopts Values to Underscore Mission & Vision

The pandemic consumed an enormous amount of time and resources, but at AAA, we knew we also needed to also keep looking inward to continue strengthening the core of who we are, who we strive to be, and how we will continue to serve and champion our members in what will likely remain a changed world post-pandemic. With that in mind, our Board of Directors took a hard look at our mission (“advancing anatomical science through research, education, and professional development”) and vision (“inspiring scientific curiosity and discovery”), and examined how we could further define what AAA stands for. To that end, the Board **adopted in 2020 a set of five values** that leadership, members, and staff shall model in making decisions, conducting financial oversight, collaborating with peers, and representing the Association:



RESPECT

Our international community respects differences, acts with professionalism, and upholds the mission, vision, values, and policies of the Association.

INCLUSION

We are firmly committed to welcoming, developing, and maintaining scientists and educators by embracing individuals with diverse life experiences.

INTEGRITY

Rooted in the scientific method, we support rigor in all aspects of anatomy research and education. We deeply respect the human body and honor those who entrust us with the ultimate gift.

DISCOVERY

Science binds us to a common purpose. Excellence guides our work. Inspiration fuels our curiosity. We approach our research, educational, and clinical practices as opportunities to advance science and medicine.

COMMUNITY

We are a community of peers – educators, researchers, and students of the anatomical sciences and related fields – that offers support and collaboration to fellow members, future members, healthcare and allied professions.

STRATEGIC PLAN

Approved by the Board of Directors, December 7, 2020

Our priority to look inward continued through the latter half of 2020, as the Board of Directors — guided by an expert facilitator — engaged in a series of discussions to update our strategic plan goals. The Board's overarching goal in the exercise was to build upon the goals established in 2017 while recognizing the changing landscape in which the Association must remain relevant, viable, and member-focused in order to advance anatomy. The new strategic plan — approved on December 7 — aligns with our mission, goals, and our newly adopted vision, and serves a roadmap for all leadership, committees, volunteers, and staff.

We encourage all members to read the strategic plan; reach out with any questions you might have, and (please!) use it as a guide for your engagement with the Association.

VISION: Inspiring scientific curiosity and discovery

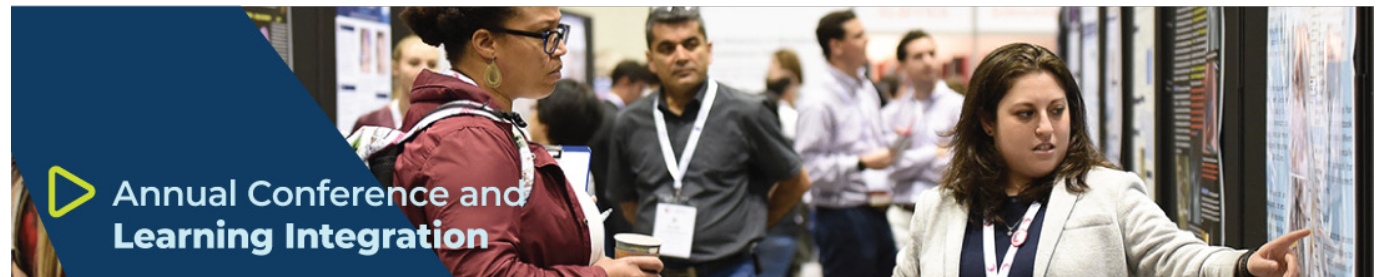
MISSION: Advancing anatomical science through research, education, and professional development

VALUES: Community, Respect, Inclusion, Integrity, Discovery



A. AAA unites diverse scientists, the public, and policymakers to advance education and research in anatomy, biology, and health-related fields.

1. Encourage scientists in anatomy-related fields to find a welcoming home in AAA.
2. Increase awareness of the value of the anatomical sciences across the broader scientific community.
3. Equip AAA members to inspire scientific curiosity through public outreach and science communication.
4. Advocate for supportive public policies and vital investments in research to advance anatomy as an essential science.



B. AAA connects a global community of anatomical scientists, educators, and students through annual and regional meetings, virtual learning, and scholarly publishing.

1. Establish an independent, standalone annual meeting that showcases the diversity of scientific and educational research in anatomy and related biological and biomedical sciences.
2. Increase active collaboration with other associations involved in anatomy and related sciences.
3. Integrate AAA's journals with the association's annual meeting and various learning experiences.
4. Establish a strategy for year-round virtual learning.



C. AAA strives to promote diversity, equity, and inclusion through its work within the association and by active engagement with other scientific societies and the public.

1. Increase representation and engagement of individuals from diverse and underrepresented groups as association leaders.
2. Identify and recognize diverse individuals through awards, grants, and scholarships.
3. Assist individuals from diverse and underrepresented groups in discovering, establishing, and advancing their careers in anatomy.
4. Join initiatives to ensure greater diversity and inclusion in the sciences and equity within society.



D. AAA will invest sufficient resources to strengthen the association's effectiveness, resiliency, and impact.

1. Obtain the staffing and technical capabilities to host an independent annual meeting.
2. Invest in the content, platforms, and technical expertise to expand AAA's virtual learning opportunities.
3. Implement a strategy to introduce the association to scientists and educators in anatomy-related fields.



EB 2022

Philadelphia | April 2–5 | 2022
AAA Annual Meeting



Change is the only constant, and on December 2, the elected leadership of AAA, the American Society for Investigative Pathology, and the American Society for Pharmacology and Experimental Therapeutics chose to **disband Experimental Biology (EB)** after 2022. The EB 2022 meeting will be held and co-hosted by all five societies in Philadelphia, as originally scheduled, but each society will hold stand-alone meetings from 2023 forward.

The decision to disband EB was spurred when two host organizations — the American Physiological Society and the American Society for Biochemistry and Molecular Biology — announced that they would part with EB after 2022, leaving the remaining host societies to decide their future course.

The Board convened several meetings and workshops to examine strategic viewpoints on the future of meetings, particularly through the lens of the COVID-19 pandemic experience. Among scientists, smaller meetings are often more appealing due to increased opportunities to collaborate and personally share research goals and outcomes. Additionally, and especially for the near future, people may simply be less willing to gather in groups that number in the tens of thousands.



Ethics and Professionalism In Teaching The Anatomical Sciences

Integrating medical ethics and anatomy has been a growing movement over the past decade in the U.S. and worldwide, and in 2020, two members — **Tom Champney**, University of Miami, and **Sabine Hildebrandt**, Harvard Medical School — along with **Jon Cornwall**, University of Otago — joined forces to assemble educational modules for those teaching or studying anatomy or biomedical courses. The free **online library** of resources was created, vetted, and edited with the express purpose of providing access to easily use, distribute, and integrate resources and raise awareness about specific ethical or professional issues.



Establishing our own annual meeting enables us to build it around our members, those who consider themselves anatomists as well as all those in anatomy-related fields whom we've welcomed into the organization in recent years and especially since our renaming. Anatomy really is a 'big tent,' foundational, and exciting discipline. Our new annual meeting will reflect that."

— Rick Sumner, AAA President



Our colleagues had the interest, and we had the expertise to gather and provide these resources as a service for our colleagues in a time-effective manner," said Sabine. "We've quoted literature and studies produced by colleagues, and three of us made a variety of modules available, including slides and more detailed units that are suited for traditional teaching all the way to small group discussions. We've been working with these topics for years, and we saw this as a project that needed further support. We also recognize it's not a project that will ever be done; we welcome new ideas and contributions to further increase the diversity of available material."

Connections & Civic Science

Never before have connections and collaborations felt so important. And while most face-to-face opportunities were lost beginning in March, it didn't stop us from continuing outreach and advocacy to bring our community together.

AAAS Family Science Days

In February, before COVID-19 overturned our lives, Members **Jason Mussell**, Louisiana State University, New Orleans; **Carissa Vinovskis**, Children's Hospital Colorado; **Shaun Logan**, Texas A&M University; and **Heather Richbourg**, University of California, San Francisco, along with staff member **Kelly Cox**, engagement manager, traveled to Seattle, Washington, to take part in **AAAS Family Science Days** and engage youth in unique and educational fun through hands-on activities and demonstrations.

Carissa, a member of the Ambassador Committee and a professional research assistant in pediatric endocrinology at Children's Hospital Colorado, said of the experience, "Our group of anatomists had the privilege to engage hundreds of children and their families, showing them hands-on how amazing their bodies are."

Heather, a student/postdoc director on the Board and a postdoctoral scholar in orthopaedic surgery at the University of California, San Francisco, added, "Inspiring future potential scientists, as well as increasing the basic science knowledge of the general population, is part of our responsibility as scientists and educators. Plus, seeing a child's face light up with pure awe over something you teach them is the ultimate icing on the cake."





SOCIETY CIVIC SCIENCE INITIATIVE

The Value of Civic Science

In September, we joined more than 25 other thought leaders and signed a statement on the value of civic science — outreach, science communication, public engagement, advocacy, or public participation in science — crafted by the Society Civic Science Initiative. It was an effort we were proud to join: Science plays a critical role in addressing many of the world's most pressing issues, from climate change, to global health threats, to economic inequality. But a wealth of scientific evidence on its own is not enough; for true progress on complex issues, we need strong relationships between science and the broader society. [Read the full statement!](#)

Advocating for Anatomists



We stood up against racism and sexual harassment. We threw our support behind civic science. Backed scientific freedom and scientific responsibility. And, we signed on to 19 advocacy letters in 2020, showing our support or opposition to specific pieces of legislation, policy, or actions proposed or enacted by Congress, the administration, or others. Letters and statements are an important part of our [advocacy strategy](#), as they clearly communicate our position, reflect members' expertise and interest, and formalize our Board of Directors' viewpoints, with every position requiring their vote and approval. All in all, it was a busy year in advocacy, with positions and statements covering a wide range of topics.



In the News

It was a big year behind the scenes *and* out in the world, as AAA named its first woman Editor-in-Chief and a new social media editor, while our journals saw impact factors rise and we released a special COVID-19 and anatomy education ASE issue.



Dr. Heather F. Smith

New Editor-in-Chief Selected for The Anatomical Record

Dr. Heather F. Smith Succeeds Dr. Kurt H. Albertine Following 15 Years of Growth

Following 15-years of unprecedented growth in publishing exciting discoveries in the fields of integrative anatomy and evolutionary biology, and establishing the journal as an international venue, AAA announced that beginning January 1, 2021, The Anatomical Record (AR) will have a new Editor-in-Chief (EIC) when **Dr. Kurt H. Albertine**, University of Utah, will be succeeded by **Dr. Heather F. Smith**, professor of anatomy and director of Anatomical Laboratories at Midwestern University (MWU) in Glendale, AZ. Dr. Smith has been an AAA member since 2007 and the first woman to serve as EIC of any of AAA's journals.



Dr. Jason Organ

Jason Organ named Social Media Editor

In May, we selected **Dr. Jason Organ** from the Indiana University School of Medicine as our newest social media editor of Anatomical Sciences Education, succeeding Dr. Gerard O'Keeffe, the inaugural SM editor. ASE Editor-in-Chief **Wojciech Pawlina** said of Organ's appointment, "His experience in social media is well aligned with the goals and strategies of ASE. I am excited to have Jason on the team."



Dr. Albertine expertly steered *The Anatomical Record* through numerous changes, queueing it up for Dr. Smith to build upon those innovations. Dr. Smith provided the search committee with many exciting, innovative approaches to publishing. Moreover, her selection as the next Editor-in-Chief underscores our commitment to diversity, equity, and inclusion in all aspects of the Association, including publishing. I personally look forward to the energy and insight she'll bring to the journal."

— Dr. D. Rick Sumner,
AAA president

Two Journals' Impact Factors Increase

In July, 2019 Impact Factor (IF) data were released for AAA's three journals, with *The Anatomical Record* (AR) and *Developmental Dynamics* (DD) showing an uptick:

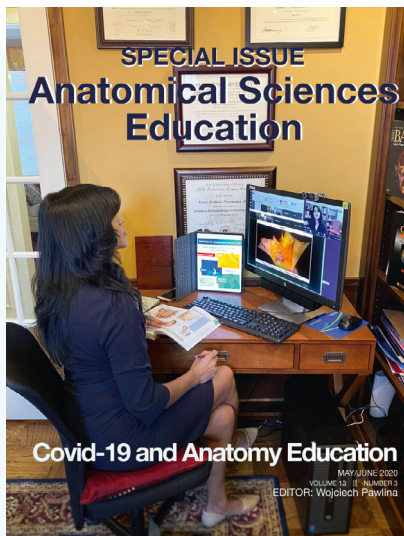
DD rose for the third straight year, achieving its **highest IF to date**.

Additionally, turnaround times from acceptance to publication were down to 16 days. Submissions were up 51.7% over 2018, with a 69.7% acceptance rate.

AR achieved its **highest IF since 2007**. Online proofing were implemented for both AR and DD.

Anatomical Sciences Education (ASE), while down slightly, reflects an increase in submissions and published articles for the fifth straight year. Moreover, the journal **retains its third-place ranking** in the Education, Scientific Disciplines category.

With the launch of the journals Hub in 2019 and improved search engine optimization (SEO), the three journals garnered **1.75 million downloads** last year, a 31% increase from 2018. Open access articles increased from 17 in 2018 to 33 in 2019.



Two Journals' Impact Factors Increase

ASE published a **special issue** — May/June 2020 — dedicated entirely to COVID-19 and Anatomy Education, featuring editorials, research reports, letters to the editor, articles, and relevant review. The publication was borne from the reality that neither academic nor clinical staff was prepared for the disruption of status quo brought on by COVID, and with no time to prepare, no benchmark to reference, and technology in the hands of a novice, there was impetus to turn pandemic retribution into creative opportunity. Several papers are dedicated to the COVID-19 pandemic and its impact on anatomy education; two studies from United Kingdom, Australia and New Zealand provide the landscape of changes implemented in anatomy teaching; and three letters to the editor discuss views of students and faculty on COVID-19 disruption of anatomy education in UK, Singapore, and India.

Membership

In a year of so much upheaval, nothing felt as good as stability in the storm, and our membership provided that much-needed steadying hand. It was an important show of the strength of our association even during a pandemic, allowing us to continue serving our membership at historically high levels, and ensuring the all-important strength of community when we as humans needed it most.

Group Membership

In 2020, we introduced a new membership option — the Institutional & Departmental Group Membership, which gives members the ability to:

- Save money on membership
- Provide professional development resources to all your staff and students
- Create opportunities for improving effectiveness in teaching, research, and publishing
- Take advantage of single invoice billing.

Each member who joins under the group rate will be provided their own login based on their email address, so that they can still access all resources and benefits individually.



The institutional rate plan is awesome because it allows me as a department chair to provide a very tangible benefit to faculty and trainees at a modest cost. One of the key steps in career management is membership and participation in scientific societies and this payment mechanism gives me an easy way to encourage this behavior."

— D. Rick Sumner, PhD, FAAA Rush University Medical Center Professor and Chair, Department of Cell & Molecular Medicine
The Mary Lou Bell McGrew Presidential Professor for Medical Research

Get the Group Rate

Join current participating institutions, simplify your membership, and connect colleagues and students to the tools and resources you've come to rely on. [Find out more](#) and contact [Liz Phares, senior membership services manager](#).

Participating institutions:

George Washington University
Michigan State University
Midwestern University
New York Institute of Technology
Rush University
Sam Houston State University, College of Osteopathic Medicine
Texas Tech University Health Sciences Center
University of Iowa
University of Nebraska Medical Center
University of Southern California

Around the World

57 countries on 6 continents



2230

2019 Number of Members
12/31/2019

2232

2020 Number of Members
12/31/2020



Even during the pandemic, membership grew by **22%** over the past 18 months — and we did our best to [welcome](#) each new member.

A Warm Welcome

Ambassador Committee Members **Alan Sakaguchi** and **Steven Skaggs** of UT Health San Antonio took welcoming new members to a new level over the summer, creating a unique, five-minute video to help members get registered on the website, as well as navigate through some of the site's best member resources and benefits. Members will learn how to get involved, search for other members, find archived weekly newsletters, get connected on social media, tune in to anatomy podcasts, tap into exclusive content, showcase their research, tune up their career, apply for a grant, or get in touch with staff. The video is now automatically sent to all new members and is available to view [online](#).

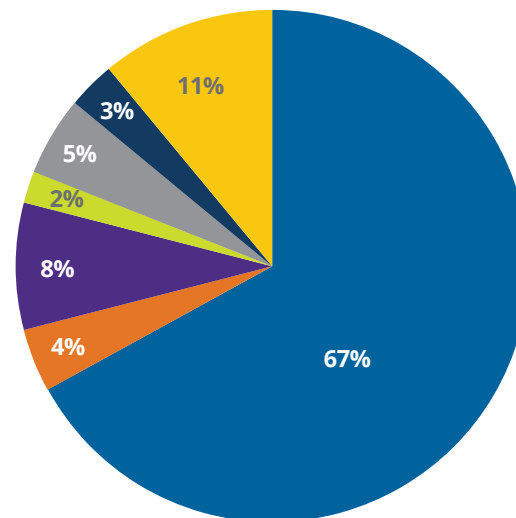
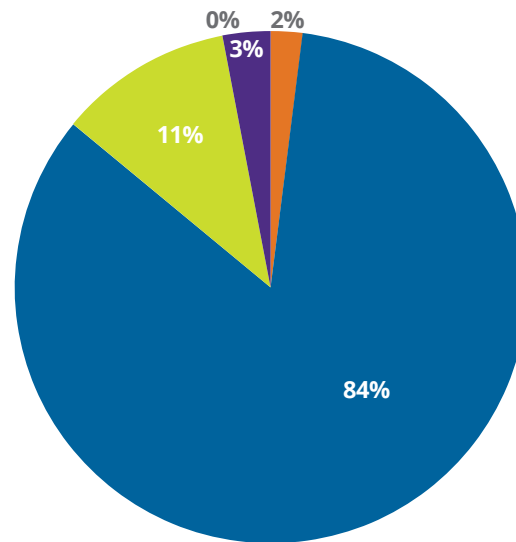
Thank you to Alan and Steven for your creativity and dedication to producing this video.

2020 Financials

Pandemic Relief for Members

AAA remains financially healthy and committed to supporting its members by investing in programs and services that strengthen our mission and strategic goals. These charts provide an overview of revenue sources and primary expense categories as of December 31, 2020 (unaudited).

Due to pandemic hardship and immediate need, AAA also extended membership for lapsed members and allowed existing student members to renew for free in 2020.



Income

\$1,420,303.28

Advertising/List Sales 2%

Royalty Income 84%

Membership Dues 11%

Annual Meeting Income 0%

Journal Print Fee Income 0%

Contributions 3%

Expense

\$1,769,084.91

General & Administrative 67%

Member Retention and Development 4%

Awards 8%

Committees & Governance 2%

Newsletters and Journals 5%

Website 3%

Meetings 11%



Awards, Grants, and Scholarships

Congratulations to the hundreds of AAA members who were honored during 2020 for their exemplary service, groundbreaking research, and innovative ideas for the future! AAA bestowed more than \$131,000 in 2020 for awards, research grants, and scholarships, ensuring that members are supported and recognized at every phase of their careers.

MAJOR AWARDS



A.J. Ladman Exemplary Service Award
Kimberly Topp, Ph.D., P.T.
University of California, San Francisco



Henry Gray Distinguished Educator Award
Mark F. Teaford, Ph.D.
Touro University, California



Henry Gray Scientific Achievement Award
Peeyush Lala, Ph.D., M.D.
Schulich School of Medicine & Dentistry at Western University (CAN)



Basmajian Award
Margaret A. McNulty, Ph.D.
Indiana University School of Medicine

C.J. Herrick Award in Neuroanatomy
Sergiu P. Pasca, M.D.
Stanford University

H.W. Mossman Award in Developmental Biology
Mayssa H. Mokalled, Ph.D.
Washington University in St. Louis



W.M. Cobb Award in Morphological Sciences
Kevin Weiner, Ph.D.
University of California, Berkeley

R.R. Bensley Award in Cell Biology
Stephen Brohawn, Ph.D.
University of California, Berkeley

Fellows Grant Award Program
Paul Gignac, Ph.D.
Oklahoma State University Center for Health Sciences

Fellows Grant Award Program
Loydie Jerome-Majewska, Ph.D.
McGill University Health Centre Research Institute (CAN)

Postdoctoral Fellowship
Aidan Couzens, Ph.D.
University of California, Los Angeles

Postdoctoral Fellowship
Colin Kenny, Ph.D.
University of Iowa Carver College of Medicine

Postdoctoral Fellowship
Ryan Knigge, Ph.D.
University of Missouri School of Medicine

Education Research Scholarship
Kathryn DeVeau, Ph.D.
The George Washington University School of Medicine & Health Sciences

FELLOWS

Elizabeth Brainerd
Brown University

Paul FitzGerald
University of California, Davis School of Medicine

Tamara Franz-Odenaal
Mount Saint Vincent University (CAN)

Douglas Gould
Oakland University William Beaumont School of Medicine

Dominique Homberger
Louisiana State University College of Science

Peeyush Lala
Schulich School of Medicine & Dentistry at Western University (CAN)

Dee Silverthorn
The University of Texas at Austin Dell Medical School

Andrea Taylor
Touro University California

Short-Term Visiting Scholarships

Eddiong Akang, University of Lagos

Kristin Stover, West Virginia School of Osteopathic Medicine

Jacqueline Webb, University of Rhode Island

Emily Lessner, University of Missouri, Columbia

Ann Zumwalt, Boston University

BEYOND AAA: MEMBERS MAKING AN IMPACT

The following members were recognized for their contributions by the broader scientific community:

AAAS FELLOWS

Joan Richtsmeier, Pennsylvania State University

Karen Sears, University of California, Los Angeles

Human Anatomy and Physiology Society (HAPS) President's Medal

Valerie O'Loughlin, Indiana University

Association of American Medical Colleges (AAMC) Women in Medicine, Medical Education Honoree

Rebecca Fisher, University of Arizona College of Medicine, Phoenix

Association of American Medical Colleges (AAMC) Women in Medicine, Medical Education Honoree

Lisa Lee, University of Colorado Anschutz Medical Campus

10 years on AAA staff

Colby Shultz, Director, Meetings and Education

Governance

AAA held its annual election for the Board of Directors in January, with four new members joining the Board in April.

BOARD OF DIRECTORS

President

Rick Sumner, Ph.D.

Rush University Medical Center, Chicago, IL

President-Elect

Valerie DeLeon, Ph.D.

University of Florida, Gainesville, FL

Past President

Philip Brauer, Ph.D.

Kansas City University of Medicine and Bioscience, Kansas City, MO

Program Co-Chairs

Ralph Marcucio, Ph.D.

University of California, San Francisco, San Francisco, CA

Joan Richtsmeier, Ph.D.

The Pennsylvania State University, University Park, PA

Directors

Julia Boughner, Ph.D.

University of Saskatchewan, Saskatoon, SK, Canada

Anne Burrows, Ph.D.

Duquesne University, Pittsburgh, PA

Claudia Krebs, M.D., Ph.D.

University of British Columbia, Vancouver, BC, Canada

Shaun Logan, Ph.D.

Texas A&M University, Dallas, TX

Maria Serrat, Ph.D.

Marshall University, Huntington, WV

Ann Zumwalt, Ph.D.

Boston University, Boston, MA

Student/Postdoc Directors

Madeleine Norris, Ph.D.

Western University, London, ON, Canada

Diana Rigueur, Ph.D.

University of Southern California, Los Angeles, CA

Secretary/Treasurer

Bryon Grove, Ph.D.

University of North Dakota School of Medicine and Health Sciences, Grand Forks, ND

Publications Chair (Non-Voting, Ex-Officio)

Kem Rogers, Ph.D.

Western University, London, Ontario (CAN)

Committee Chairs

Ambassador Committee

Kristjan Thompson, Mercer University School of Medicine

Committee for Early-Career Anatomists (CECA)

Victoria Roach, Oakland University William Beaumont School of Medicine

Diversity, Equity, and Inclusion Committee

Loydie Jerome-Majewska, McGill University

Educational Affairs Committee

Andrew Notebaert, University of Mississippi Medical Center

Finance Committee

Bryon Grove, University of North Dakota of Medicine and Health Science

Journal Trust Fund & Investment Committee

Raj Ettarh, California University of Science and Medicine

Nominating Committee

Phil Brauer, Kansas City University of Medicine and Bioscience

Professional Development Committee

Polly Husmann, Indiana University School of Medicine

IN MEMORIAM



AAA honored the legacies of several leaders of the anatomy community in 2020; please join us in remembering the many accomplishments and contributions of the following AAA members:

John Fallon

George Leichnetz

John Pauly

Muhammad Musa

David Brynmor Thomas

Sherry Eldridge

Zena Werb

Program Committee

Co-Chairs **Joan Richtsmeier**, Pennsylvania State University, and **Ralph Marcucio**, University of California, San Francisco

Publications Committee

Kem Rogers, Western University Canada

Scientific Affairs Committee

Katherine Yutzey, Cincinnati Children's Hospital

AAA Representatives for Council of Faculty and Academic Societies (CFAS):

Bertha Escobar-Poni, Loma Linda University

Rebecca Lufler, Tufts University School of Medicine

AAA Representatives for Federation of American Societies for Experimental Biology (FASEB):

Board of Directors: **Andrea Taylor**, Touro University

Journal Editorial Board: **Melissa R. Andrews**, University of Southampton

IT Subcommittee: **Geoffrey Guttman**, University of Medicine and Health Sciences

Science Policy Committee: **Joseph Yost**, University of Utah

Science Policy Committee, Early Career Representative: **Habiba Chirchir**, Marshall University

Excellence in Science Award Committee: **Tina Tootle**, University of Iowa