

AO Spine North America Community News Summer 2020





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From the Editor

Dear Colleagues:

I know this is an anxious time for our AO Spine community worldwide and would like to share some words of wisdom from Lemony Snicket, *“At times the world may seem an unfriendly and sinister place but believe that there is much more good in it than bad. All you have to do is look hard enough and what might seem to be a series of unfortunate events may in fact be the first steps of a journey.”* And what a journey we are on together! In fact, we might even call it an adventure of the unknown.

As the nation opens up, COVID-19 virus impact continues to expand and the number of cases in North America continues to rise. There is a steady stream of new developments that reflect the uncertainties and challenges we are all facing. We realize that there is a good chance of a second wave of COVID-19 transmission in North America and we are doing our part to mitigate this transmission.

At AO Spine North America, we foresee that COVID-19 is not going away anytime soon. All educational courses in North America have been cancelled through the end of September 2020. Webinars and online learning have replaced in-person courses. Zoom has quickly become the new way to hold virtual meetings. Our highly anticipated Fellows Forum was cancelled and quickly replaced by Virtual Live Sessions where the fellows were able to present their research projects. We are excited by our new digital transformation project to better serve the needs of our surgeons. The AOSNA Board is pleased to announce the first female surgeon, Dr. Michelle Clarke from Mayo Clinic, to join the Board. This is an important and historic step forward for AOSNA.

I do hope that you enjoy this Summer Issue of the Community Newsletter. We always have room for improvement. If you have any comments, questions, or ideas for newsletter topics, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Brandon Lawrence". The signature is written in a cursive, flowing style.

Brandon Lawrence, MD

Editor

AO Spine North America Board and Committees



AO Spine North America Board and Committees

AOSNA Board

Michael Daubs—AOSNA Chair

Darrel Brodke—Past Chair
John DeVine—Education Committee Chair
Dan Sciubba—Research Committee Chair
Brandon Lawrence—Community Development Committee Chair
Dan Gelb—Fellowship Committee Chair
Michelle Clarke—Member-at-Large

AOSNA Education Committee

John DeVine—Education Committee Chair

Rick Bransford—Education Chair Elect
Ali Baaj
Michelle Clarke
David Gloystein
Gregory Grabowski
Michael Lee
Thomas Mroz

AOSNA Research Committee

Daniel Sciubba—Research Committee Chair

James Harrop—Research Committee Past Chair
Zorica Buser
Zoher Ghogawala
Shekar Kurpad
Jefferson Wilson

AOSNA Community Development Committee

Brandon Lawrence—Community Development Chair

Lali Sekhon—Community Development Committee Past Chair
Gurvinder Deol
Christina Goldstein
Avery Buchholz
Matthew Goodwin

AOSNA Fellowship Committee

Dan Gelb—Fellowship Committee Chair

Eric Klineberg—Fellowship Committee Chair Elect
Matthew Colman
Bradley Segebarth
Ryan Spiker
Michael Weber

Committee updates

AOSNA Education Committee

John DeVine, MD

Greetings from the AOSNA Education Committee. This has been an extraordinary last few months. The worldwide COVID-19 pandemic has affected our daily lives in numerous ways. Many of us have had shelter-at-home orders. Hospitals across the region have stopped elective patient encounters and many have been overwhelmed in hotspots that have strained the healthcare system in unprecedented ways. Likewise, AOSpine North America has made drastic changes as a result of the pandemic.

First, we have canceled all on-site courses and meetings through August 2020. Courses and meetings canceled include AOSpine Principles Courses for residents in Las Vegas and Toronto, the annual Fellows Forum in Banff, the Curriculum Work Group meeting in Nashville, and the Oral Board Review course in Chicago. At least one Faculty Education Program was also canceled. Second, we explored online platforms to continue to offer educational events and conduct meetings. The Fellowship Committee along with several members of other committees organized and promoted an online version of the Fellows Forum to allow the Spine Fellows to showcase their research projects in May. The Curriculum Work Group meeting was held virtually in May. Lastly, current projects include developing a virtual platform for the Oral Board Review Course if the ABOS decides to proceed with the Oral Board Exam scheduled for July.

A major concern going forward is the prospect of having to cancel the planned on-site educational activities from **September** – December 2020. These include the annual September Fellows Course supplemented with the Practice Essentials component, the fall Principles Course for residents, and the Managing Complications course. In the event these courses are canceled, our team will continue to explore virtual options for providing educational content for our learners.

This is my last update as Chair of the Education Committee. This experience has been one of the most rewarding endeavors of my professional career. I have worked alongside the Chair-Elect, Richard Bransford (Harborview Medical Center, UW), to facilitate a smooth transition in July 2020, at which time he will assume the role as Chair. The committee is in good hands!

I would also like to thank David Gloystein and Michelle Clarke for serving on the committee over the last three years. Their terms end June 30, 2020. They have been instrumental to the success of the committee. Both will be missed and not easily replaced.

Lastly, we added an advanced educational offering that was Co-Chaired by Rick Bransford and Jim Harrop. “Managing Complications: Clinically, Ethically, and Legally” was held December 6-7 in La Jolla, CA. It was a huge success. The feedback from the participants was overwhelmingly positive. The plan is to hold this event annually.

It was my pleasure serving you for the last three years as your Chair of the Education Committee. Stay safe.

AOSNA Research Committee

Daniel Sciubba, MD

Greetings from the AOSNA Research Committee. We hope that you, your families and your patients are as safe as possible given the unprecedented health crisis that has affected all of us. The pandemic has most certainly altered the ways in which we interact, handle business, treat patients and conduct research. Despite substantial challenges, I am happy to report that we have continued to advance the mission of the AO research during these difficult times.

Firstly, for some surgeons, decreases in spine surgery clinical volume has allowed time to write grants, finish manuscripts and expand collaboration with researchers. As many have embraced virtual meetings as a substitute for in-person meetings, we have all now become more adept at scheduling such meetings on a regular basis. As a result, multi-center and multi-national meetings that previously may have been considered logistically impossible are now regularly occurring to discuss research. My hope is that such technology will continue to augment our ability to collaborate on research projects even after this pandemic subsides.

Via virtual meetings, we have completed our yearly journal supplement to be published in the Global Spine Journal (GSJ), which is the official peer-reviewed journal of AOSpine. In this supplement, we will present original papers that cover predictive analytics and the economics of spine surgery. We are planning to begin putting together another supplement within the year to further cover new technological innovations in spine surgery like augmented reality in surgery, virtual reality in surgical training and robotics. We hope that original articles on these topics will continue to inform our AOSNA membership on cutting edge technologies.

During this pandemic, AOSNA research members were also able to partner with the AOSpine international regions to study the effects that COVID-19 has had on spine surgeons in North America, Latin America, Europe, the Middle East, Asia and the Pacific, and Africa. We thank all the AOSNA members who were able to complete surveys on their experiences with COVID-19. Your responses, combined with the responses from worldwide AOSpine members has led to various publications, many recently submitted, which will better inform our members about the impact the pandemic has had on spine surgery across the globe. Please be **on** the lookout for these publications.

Finally, although many institutions have been hampered by restrictions on research and clinical enrollment, we are beginning to see that such restrictions are now being lifted. Thus, we will continue our enrollment of multiple AOSNA sponsored studies. Specifically, we are almost at full enrollment for the I-spondy trial, which looks at patient outcomes following surgical treatment for isthmic spondylolysis. We hope to complete enrollment soon and provide preliminary data on our findings.

Please feel free to reach out to me personally if you are interested in AOSNA research in any way. We have set some ambitious goals over the next two years and would be excited to have as many members involved in research as possible.

Committee updates

AOSNA Fellowship Committee

Eric Klineberg, MD

I am excited to take over the Fellowship Committee for Daniel Gelb, who worked diligently to promote fellowship activities and developed a sense of community amongst the fellows. I am very appreciative of all of his efforts.

We have completed a fellows' self-assessment survey to look at fellows' core competencies and comfort with surgical procedures. Fellows were asked to complete a self-assessment survey at the beginning of their fellowship year (in September 2019) and towards the end of the fellowship year (April 2020). We then compared their scores at the beginning and the end of the year. It showed statistical significance and improvement for every procedure. We will start the Directors survey this Fall for some external validation of the fellows competence scores. We are also looking into developing a fellows' knowledge assessment test to be given at the beginning and end of the year. Brad Segebarth will lead a small task force to work further on this.

This fellowship cycle looks to be challenging due to the COVID pandemic, and social distancing. Fellowship activities have been curtailed for all in person courses, and we are all sad to miss the annual Banff fellows meeting. That being said, we have had a wonderful surprise: Virtual Banff. With a tremendous amount of work from Ron Costello, Chi Lam, and Elizabeth Walker, the Banff spirit carried on and we had 3 excellent sessions with fellows discussing their research projects and a presentation from Greg Mundis. The virtual course was well attended and had excellent participation. We will plan on returning to actual Banff in 2021, currently scheduled for March 25-27, 2021. Please reserve these dates on your calendars.

Alpesh Patel led an effort to investigate the effect of COVID-19 on the AO Spine fellowship experience. He created and administered a multi-dimensional survey and distributed to all current AO Spine fellows and fellowship directors across the U.S. and Canada. Survey questions addressed impact on education, and concerns regarding future employment. Fellows noted a 50% decrease in overall case volume since cancellation of elective surgeries. However, 95.5% of fellows did not expect COVID-19 to impact their ability to complete fellowship, although **one-quarter** were worried about securing a job come August. Certainly, we may see the effects of COVID on our fellows and education in the years to come. This paper is in submission.

The Fellows Webinar series has been really successful again this past year. We will have the Fellows Kick-off Webinar of the 2020/21 academic year on September 1, 2020, and are working on fleshing out the rest of the year.

We are working with our internal IT team to take our fellowship application online. This will allow for a more streamlined application and review process. We will plan on a similar number of funded and unfunded AO Spine fellowship sites.

We have a fellows cadaver meeting planned for San Diego in September that we will postpone to November. If in-person meetings are not possible, we will convert to a web-based platform focusing on indications. Rick Bransford and Ryan Spiker will lead this effort.

The Fellowship Committee continues to look for opportunities for current and former fellows to get together at national meetings to foster the sense of fellowship in community that is so crucial to AO Spine, however, this may need to be deferred until life after COVID becomes clearer.

AOSNA Community Development Committee

Brandon Lawrence, MD

Greetings from the Community Development Committee, what a unique last several months! The biggest disappointment was the cancellation of the Global Spine Congress but we are all looking forward to when we can get together again out of this virtual community that we have had to rely on. We have several updates and exciting new projects we are working on including the development of a Podcast series and the presentation of interesting cases that will be broadcast internationally. Please be sure to visit the [website](#) to see some of the changes over the last several months.

In addition to the recent launch of the new AO brand, the Community Development Committee has also released "The Top 5 articles" from the AO per quarter. This curated list of articles is an international effort with the most recent launch coming from the Middle East ([for AO Spine Plus members only](#)). Please use the link to see what they found to be the most interesting articles coming out in the literature in the first quarter of 2020. As a reminder, you can access these journals on the AO website. Keep on the lookout for the next set of curated articles for the second quarter of 2020!

As we move into summer, we at AO Spine North America are hopeful that everyone can stay safe, stay healthy and make the best of these unprecedented times. Many members want to contribute and there are lots of ways to do it. Members have opportunities to get involved in education, research, marketing and promotion, fellowship outreach and professional growth. For those interested in becoming more involved,

eric.klineberg@aosna.org or chi.lam@aosna.org

AOSNA continues to have a strong social media presence.

Make sure you visit and follow us!



facebook.com/AOSpine-North-America



AOSpine



@AOSpineNA



AOSpine_NA

Digital Transformation at AONA—The Why, How, and What?

By: Josh Block, AONA, Project Manager



AO North America is hard at work with a new and exciting project! We are undergoing a full digital transformation. But what does this mean, and how will it affect you? A digital transformation is a reimagining of business in the digital age, and that's just what we're doing. We are going through the complex and detailed processes of redesigning our website, drafting new communication and social media strategies, and rethinking our online presence. We've chosen to engage in this project because we are committed to serving the

Our new website will feature enhanced capabilities including a personalized experience for surgeons based on their clinical division and experience level, easy access to information about all AO North America initiatives, and increased integrations with the AO Foundation website.

In March, we began the digital transformation by interviewing 23 surgeons across all clinical divisions and levels of experience. From those interviews, we validated our hypotheses and learned new things about our surgeons' needs. Now, we're embarking on the bulk of the project! All members of the AONA staff and countless surgeons from the AO North America community are working together to make this project a reality. For now, watch for changes over the next few months in our marketing behaviors, and stay tuned for our new website which will be launching in October 2020.

needs of our surgeons and we want to offer them more of what they told us they want and need.



AOSNA Welcomes Two New Committee Chairs this Summer

Dr. Rick Bransford will take over for Dr. John DeVine as the new Chair of the AOSNA Education Committee. Dr. Bransford is a University of Washington Assistant Professor of Orthopedics and Sports Medicine. He earned his medical degree from Vanderbilt University School of Medicine and completed his internship and residency in orthopedics at the University of Washington. His clinical interests include spinal disorders and trauma surgery, general orthopedic surgery, third-world orthopedic disorders and education of third-world physicians.

Dr. Bransford has been involved with AOSpine since 1999 and has taught at over 40 AOSpine courses globally. At the University of Washington, he also serves as the Fellowship Director and works with the residents. "I think this has given me a solid perspective on the changing ways in which education is occurring. Education is being done in a very different way than the primary lecture formats of 10-15 years ago. I have been a part of really fine tuning the resident curriculum and courses that AOSpine North America offers and would love to see this be the 'go-to' for all neurosurgery and orthopedic programs."

STOP PRESS: Just as this issue was about to be released, Rick was awarded with the title of North American Spine Educator of the Year. Many congratulations Rick!



Rick Bransford, MD



Eric Klineberg, MD

Dr. Eric Klineberg will also start his official 3-year term as Fellowship Committee Chair this summer, whose position is currently held by Dr. Dan Gelb. Dr. Klineberg is an Associate Professor at the University of California, Davis, Department of Orthopaedic Surgery. His clinical interests include all aspects of spinal degeneration, deformity, tumor and fracture with a particular interest in adult/pediatric spinal deformity surgery. Dr. Klineberg's research interests focus on enhancement of spinal fusion with stem cells and proteins and he is also actively involved in clinical research investigating spinal deformity and outcomes.

In addition to serving as the Co-Fellowship Chair at UC Davis, he has also actively participated in many AOSpine courses as Faculty Educator, Educational Advisor, or Course Chair. Dr. Klineberg first became interested in the AO as a resident, training at the University of Washington and looked up to the educators that taught at the AO courses. "As I continue in my career, I have considered it a real privilege to be able to give back to our residents and fellows and teach them about the platform I love."

AOSNA Board Welcomes First Female Board Member



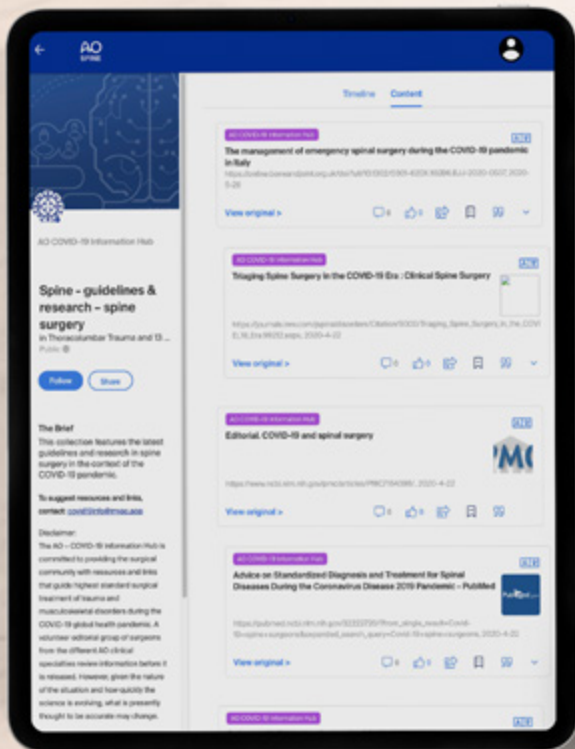
At the AO Spine North America Board retreat earlier this year, the AOSNA Board decided to open a two-year term, at-large position on the AOSNA Board that would be filled by an individual that could provide the Board a voice on gender representation in spine as well as expanding our neurospine surgery presence.

This is an initiative that has been of high importance for AO International as well. The AOSNA Board position was recently sanctioned by the AOSpine International Board, and we are very pleased to announce that **Michelle Clarke, MD** has agreed to fill the position.

Michelle has a proven history with AOSNA as a faculty educator, course chair, and has most recently served on the Education Committee.

Michelle is the Program Chair of neurosurgery at Mayo Clinic and is also pursuing her Masters of Education with a focus on contemporary medical education paradigms.

This is an important step forward for AOSNA. Please join us in welcoming Michelle to the AOSNA Board.



myAO: Your Digital Gateway to Expertise, Education, and Innovation

myAO offers you intuitive access to dependable knowledge when you need it. It is your pathway to personalized knowledge, critical insights from clinical experts, and verified videos on demand.

Everyone at myAO recognizes the need within our community for verified content relating to COVID-19.

The **myAO COVID-19 Information Hub** has been created in response to overwhelming demand from across our network for access to verified information about the virus in a clinical setting.

Curated by volunteer surgeons, these collections are continually being developed and improved.



AOSNA Research Committee publishes a *Global Spine Journal* Special Issue on “Quality Improvement and Spine Surgery”

New Special Issue:
Quality Improvement and Spine Surgery

“Medical care is transitioning from a volume based service to a value based Organization. This issue helps address some of the major topics and concerns as we evolve and transition into a patient centric healthcare system.”

- James S. Harrop, MD, FACS
Thomas Jefferson University

GLOBAL SPINE JOURNAL
Quality Improvement and Spine Surgery

Free online access

AO Spine North America is pleased to announce the release of the newest special issue “Quality Improvement and Spine Surgery” led by Dr. James Harrop and the AOSpine North America Research Committee. This issue, published in the *Global Spine Journal*, focuses on the improvement of quality healthcare for spine patients, improvements in quality for patient benefits, including the focus of value for health care expenditures. The issue is divided into several sections. The first section is an overview of the topic, the second section focuses how to improve the process involving spine surgery, the third section focuses on clinical issues and the final section is about quality-centric care and where it is presently and where it will be in the future.

The hope is that this focus issue will provide a baseline of evidence-based literature to help direct patient care and this will lead to further changes and discussions. Dr. Harrop said of the issue: “Medical care is transitioning from a volume-based organization. This issue helps address some of the major topics and concerns as we transition into a patient-centric healthcare system”. He also said, “This issue is for the patients and the aim is to improve patient care from volume-driven to value-based”.

Highlighted articles from the issue:

[“Anticoagulation and Spine Surgery”](#)

[“Ambulatory Surgical Centers: Improving Quality of Operative Spine Care?”](#)

[“The Impact of Artificial Intelligence on Quality and Safety”](#)

[“The use of Intraoperative Neurophysiological Monitoring in Spine Surgery”](#)

You can read the entire issue [here](#). You can also download the entire issue to your device to read offline later! We hope that you will enjoy reading this new and exciting special issue, we are pleased to add such a high quality issue to our collection of special issues.

AO North America's Faculty Pathway—Glimpses into “Your” Future

What is it and why is it important to You?

By: Sally Peters-Gaffney, Manager Faculty Relations

Historically, being a “faculty member” meant you were approved by the appropriate Education Committee and your name was placed on the faculty list to teach. Sometimes it took years to get a teaching invitation and for some it may never have happened. Why? Too many faculty, same people teaching several courses a year, not enough events and unfortunately, your name may have gotten lost in the shuffle.

Today, we are restructuring or rerouting what the term “faculty” means. How? We are creating a pathway that results in improving overall learning opportunities and creating roles for faculty members to assist us in creating and developing the new and strategic change of culture for AONA.

What changes/developments will happen for you? These are just a few.

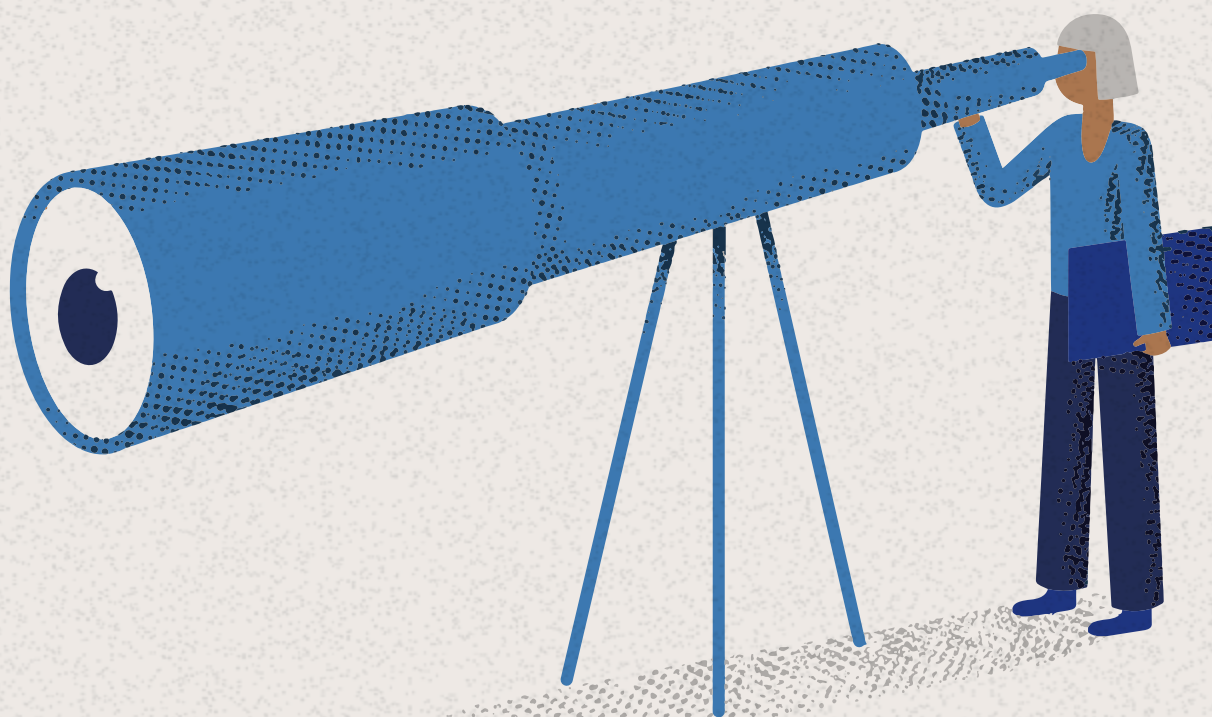
- A resource center for you that provides you with many materials, governance charts, and documents that you can access at any time
- Engagement—Providing you with other access points to stay involved besides teaching
- Establishing faculty relations (faculty recruitment) to promote AO North America
- Establishing one engagement application for all clinical divisions
- Discovering your special interest
- Obtaining “badges/tiers” of engagement
- Faculty Development (faculty education program, chair education program, leadership education program, coaching)

What is the outcome? Giving everyone a chance to participate and share their variety of skills (from social media, case development, firesides, webinars, research, or working with our community surgeons). These different opportunities (besides teaching) may be for you no matter whether you **are** a resident, fellow, or attending.

The AO is a community, a family, and we will find a “spot” for you to keep you actively engaged throughout your entire AO career. Join us.

All of the above is scheduled to be released along with our more interactive website (around October).

Join us and together we can become the “best ever.”



Tales of Telework

By: Andrea Mower, Chief Human Resources Officer—
AO North America



On March 13th the staff of the AO North America office in Wayne, PA started to work at home. At first, it was just a handful of people who were sent home, because of County mandates. By March 20th, the entire Wayne office was working at home. By March 23rd, Pennsylvania was officially on a stay-at-home order for two weeks. As of this writing, it remains in effect until further notice.

The hardworking team had to quickly pivot from a fully equipped office suite to a work-at-home space. For many, a designated space at home did not exist. Moreover, spouses, significant others, other family members, and children were suddenly at home as well. A college student home from school two months early definitely has an impact on the grocery and water bill!

The AO team made an exceptional transition in a very short time. On-line learning, already a top priority, became the full focus. The team is also fully immersed in an entire digital transformation for the organization which will allow members to have a fully interactive experience.

The team has been able to achieve their own professional development and training goals while working at home. Project Management, Advanced Computer Skills, and Management/Leadership Techniques are some of the subjects studied.

Staff meetings, via Zoom, allow everyone to “see” each other in “Brady Bunch” style windows.

Photography contests, dressing up during Zoom meetings, wearing new Team AO tee shirts, attending Yappy Hour with furry friends as well as the occasional funny email about the current situation are real morale boosters!

Despite these challenging times, this **is** an opportunity for creativity and innovation. Some of the best ideas and work output is happening right now! When faced with a challenge, AO employees rise to the top!

Congratulations to the 2020 Young Investigator Research Grant Awards

AO Spine North America Research Committee has awarded five Young Investigators a one-year grant of up to \$20,000 to help with their research. Their projects will be carried out during 2020/21 and the investigators will be invited to present their results at the 2021 Fellows Forum in Banff.

Congratulations to the winners—they certainly represent a significant contribution to the quality of research being performed in North America. For AOSNA, it is a pleasure to be able to invest in promising projects like these and to incentivize the members to actively take part in the scientific development of the region.

Mina Aziz (McGill University)

“Management of Metastatic Spinal Tumours Using Functional Implants for Local Drug Delivery”

John Berry-Candelario (Harvard Medical School)

“Healthcare Disparities in Spine: The Influence of Racial/Ethnic/Immigrant Populations and At-Risk Populations in Elective Spine Surgery and an Exploration of their Social Determinants”

Raphael Charest-Morin (University of British Columbia)

“Denosumab for Giant Cell Tumors of the Spine: Molecular Predictors of Clinical Response”

Matthew Goodwin (Washington University)

“The Role of Lactate in Intervertebral Disc Degeneration”

Jeffrey Mullin (University at Buffalo)

“Biomechanically Equivalent 3D Cervical Spine for Improved Planning and Safety of Subaxial Pedicle Screw Placement”

Congratulations



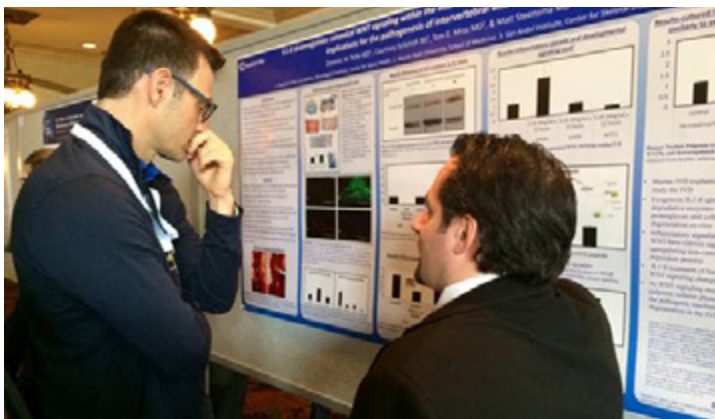
18th Annual Banff Fellows Forum Goes Virtual

The 18th Annual AOSNA Fellows Forum was originally scheduled to take place on March 19-22 in the beautiful Banff Springs Hotel in Alberta, Canada. In light of the evolving COVID-19 pandemic, and the fact that many institutions have implemented travel restrictions in order to limit exposure, the AOSNA board made the difficult decision to cancel the in-person Fellows Forum in Banff. Although many Fellows and Directors alike were disheartened by this decision, the AOSNA Board felt that it was the appropriate one given our highest priority is to ensure the health and safety of all our participants.

As this decision was made, the AOSNA Fellowship Committee quickly assessed options to take the Banff Fellows Forum online. A new [website](#) was created to provide a platform for Fellows and Directors alike to view and comment on the Fellows' abstracts and posters. The top scoring 10 abstracts and top 10 posters were invited to give oral presentations during the live Virtual Banff Zoom sessions on May 7, 14, and 21. The Fellows' oral presentations were scored by Faculty and Directors who participated in the Zoom sessions to help determine the winners of the 2020 Fellows Forum Awards. The live Zoom session on May 21 consisted of the fireside case discussions whereby fellows were able to present and discuss cases among their peers.

The 2020 Fellows Forum Awards were presented to Robert Owen, MD (University of Utah) for the best clinical abstract, Mina Aziz, MD (McGill University) for the best basic science abstract, and Mohammed Karaim, MD (University of British Columbia) for the best poster presentation. These three winners will receive an engraved plaque and will be invited to participate as Faculty in the 2021 Fellows Forum.

Congratulations to our Award Winners as well as the rest of the Fellows for their hard work and outstanding research presentations.



AOSNA Leadership Retreat Leads to Future Direction

In January 2020, over 20 spine surgeons gathered for two full days to not only review the impact of the current initiatives but also envision the future. Surgeon leaders comprised of Board and Committee members as well as early practice surgeons of diverse backgrounds. Small working groups focused on the importance of networking outside our areas of expertise, diversity and outreach, and how to provide the most impactful value to the spine surgeon community.

While AOSNA will continue to prioritize education and fellowship initiatives, new work will revolve around expanding female and neurosurgeon presence and leadership in our organization, developing engagement pathways for surgeons to be involved in research and content development, teaching, and leadership. Each of the committees—Fellowship, Education, Community Development, Research—are developing initiatives that align with our mission of promoting excellence in patient care and outcomes.

Associated & Recommended Readings

Dyer, J., Gregersen, H., & Christensen, C. (2019). *The innovator's DNA: Mastering the five skills of disruptive innovators*. Harvard Business Review Press.

The authors describe a new model for generating innovative ideas to solve a wide range of problems. Discussion, examples, case studies, and personal assessments assist readers to identify behavioral and cognitive skills which lead to a synthesis of novel ideas.

Ibarra, H. (2015). *Act Like a Leader, Think Like a Leader*. Harvard Business Review Press.

In Chapter 3, Ibarra focuses on the importance of networking outside of our domain or area of expertise in order to tap into creativity and expand our professional development and leadership. Ibarra asserts that productive leaders use networks to tap into novel ideas, connect people from different domains, and access markedly different viewpoints.





A New Era for Global Spine Journal: GSJ Receives Official 2019 Impact Factor and Brand New Cover

We are pleased to announce Global Spine Journal's official 2019 ranking and indexing in Clarivate's Journal Citations Report (JCR). GSJ is ranked in both the Orthopaedic Index and the Clinical Neurology Index with a score of 2.683.

This is a huge milestone for the journal and is a culmination of years of hard work. We would like to thank the GSJ editors, authors, reviewers, and readers. Without all of you, none of this would be possible.

This accomplishment is the result of the foresight and vision of the leadership of AO Spine, establishing GSJ as the first and only truly fully Open Access journal in the field of spine surgery that has received an Impact Factor. As we see other Open Access spine journals that are being started by other spine societies, this accomplishment truly defines GSJ as the pioneer in this area.

In line with this announcement we are also pleased to announce Global Spine Journal is receiving a brand-new cover. This cover serves as a refresh for the journal during this crucial time as GSJ moves into the future. This cover also comes in line with the new AO branding as well to usher in a new era for both the journal and the society. The August issue (Volume 10, issue 6) will be the first regular issue with the new cover.

Visit GSJ's website: <https://journals.sagepub.com/home/gsj>

Submit your work to GSJ: <https://mc.manuscriptcentral.com/gsjournal>

Follow GSJ on Social Media:

 Facebook: www.facebook.com/globalspinejournal

 Twitter: [@globalspinej](https://twitter.com/globalspinej)

Congratulations to the Graduating Fellows of 2019-2020

At the end of July, we bid farewell to the AOSNA fellows of 2019-2020 graduating from our 35 fellowship sites. On behalf of the AOSNA Fellowship Committee, we wish them much success and happiness in their next steps.

Graduating Fellow from Augusta University

Jacob Rumley, DO

Graduating Fellows from Cleveland Clinic

Jonathan Rasouli, MD
Eric Schmidt, MD
David Casper, MD
Jacob Hoffman, MD
Joseph Maslak, MD

Graduating Fellows from Columbia University

Joseph Lombardi, MD
Jun Kim, MD
Jay Reidler, MD, MPH
Andrew Vivas, MD
Anand Segar, BHB, MBChB, DPhil (Oxon), FRACS

Graduating Fellows from Emory University Orthopedics and Spine Center

Douglas Weinberg, MD
Alexander Ghasem, MD
Alexander Arzeno, MD
Hardeep Singh, MD

Graduating Fellows from the Hospital for Special Surgery

James Dowdell III, MD
Philip Louie, MD
Michael McCarthy, MD, MPH
Sohrab Virk, MD

Graduating Fellows from Johns Hopkins University

Joshua Lim, MD
Camilo Molina, MD
Hector Enrique Soriano-Baron, MD

Graduating Fellows from Harvard Orthopaedic Spine Surgery Fellowship

Zachary NaPier, MD
Jeffrey Konopka, MD
Chason Ziino, MD

Graduating Fellows from Mayo Clinic

Sandra Hobson, MD
Jad Bou Monsef, MD

Graduating Fellows from McGill University Health Centre

Oded Rabau, M Med
Rodrigo Navarro-Ramirez, MD, MSc

Graduating Fellows from Icahn School of Medicine at Mount Sinai

Murray Echt, MD
Brian Mercer, MD, MS

Graduating Fellows from Northwestern University

Felipe Ituarte, MD
Anan Shtewe, MD

Graduating Fellows from NYU Hospital for Joint Diseases

Yuval Baruch, MD
Robert Brenner, MD, MS
Uchechi Iweala, MD, MBA
Travis Philipp, MD
Jarid Tareen, MD

Graduating Fellows from OrthoCarolina Spine Center

Kirk Thompson, MD
James Stokman, MD

Graduating Fellows from Rush University Medical Center (Ortho and Neuro)

Sapan Gandhi, MD (ortho)
Krishn Khanna, MD (ortho)
Evan Sheha, MD (ortho)
Ziev Moses, MD (neuro)
Won Hyung A. Ryu, MD, MSc, MTM (neuro)

Graduating Fellows from San Diego Spine Foundation

Ryan Hoel, MD
Ruwan Ratnayake, MD

Graduating Fellows from Swedish Neurosciences Institute

Sven Fridler, MD
Ryan Goodmanson, DO
Erik Hayman, MD
Bilal Qutteineh, MD
Benjamin Schell, MD
Clifford Pierre, MD

Graduating Fellows from Thomas Jefferson University

Victor Sabourin, MD
Anthony Stefanelli, MD

Graduating Fellows from Toronto Western Hospital/ University of Toronto

Fan Jiang, BSc, MDCM, FRCS
Allan Martin, BSc, MD, PhD, FRCS
Colby Oitment, MD, BSc, FRCS
Anna Reinmuller, MD, MSc
Thorsten Jentzsch, MSc, Dr. med., MSc
Hananel Shear Yashuv, Dr, M Med (Surgery)

Jamie Wilson, BA, Bch, BMedSci, FRCS
Kazuya Yokota, MD, PhD

Graduating Fellow from University of Alabama at Birmingham

Doug Crowther, DO

Graduating Fellows from University of British Columbia

Oliver Lasry, MDCM, MSc
Supriya Singh, MD
Syed Mohammed Karim, MD

Graduating Fellows from University of Calgary

Michael Bond, MD, BSc, MHSc
Stuart McGregor, FRCS, MSc, MD
Faizal Kassam, MD, BSc, FRCS
Nathan Evaniew, MD, PhD, FRCS

Graduating Fellows from University of California at Davis

Hai Le, MD
Joshua Barber, MD

Graduating Fellows from University of California at San Francisco (Ortho and Neuro)

Kevork Hindoyan, MD (ortho)
Andrew Lee, MD (ortho)
Michael Venezia, DO (ortho)
Brenton Pennicooke, MD, MS (neuro)

Rory Mayer, MD (neuro)

Graduating Fellows from University of Maryland

Matthew Chin, MD, MS
David Love, MD
Scott McCarty, MD

Graduating Fellow from University of Missouri

Michael Ghassibi, DO

Graduating Fellow from University of Rochester

Jarren Section, MD

Graduating Fellows from University of Southern California

Jon Kimball, MD
Andrew Chung, DO
Elliott Min, MD

Graduating Fellows from University of Utah

Peter Shorten, MD
Robert Owen, MD

Graduating Fellow from University of Virginia

Ulas Yener, MD

Graduating Fellows from University of Washington

Kim Driftmier, MD
Derrick Foge, MD
Jonathan Kark, MD

Graduating Fellows from Washington University

Daniel Quinones, MD
Michael Reiter, MD
Sean Michael Rider, MD
Daniel Rubio, MD

Graduating Fellows from Weill Cornell Medical College

Franziska Anna Schmidt, MD
Sertac Kirnaz, MD
Raj Nangunoori, MD

Graduating Fellow from West Virginia University

Jason Harms, MD

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