Saving the World One Atom at a Time

Presented by ANS at the University of Illinois Urbana-Champaign

Proposal Updates for 2020

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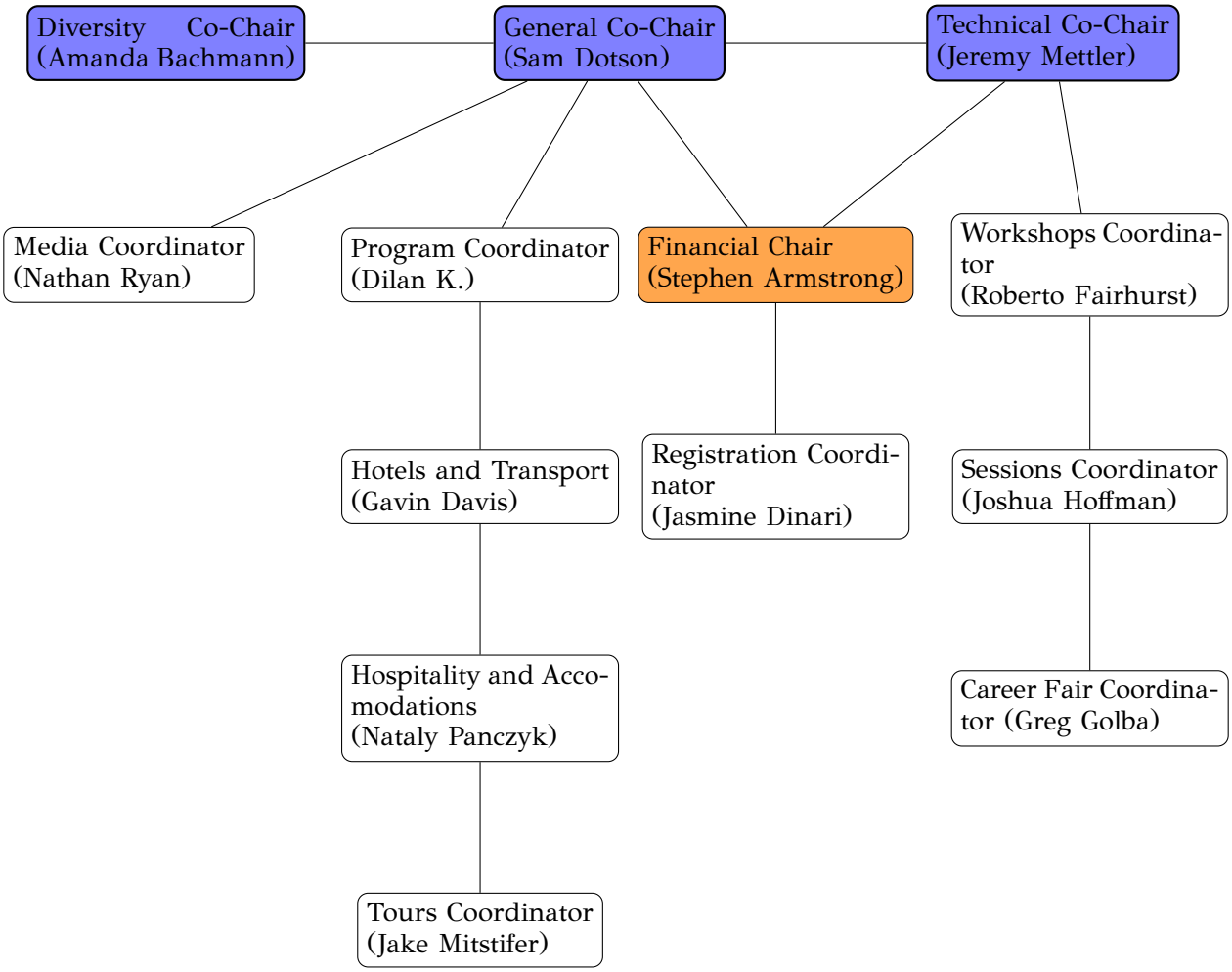

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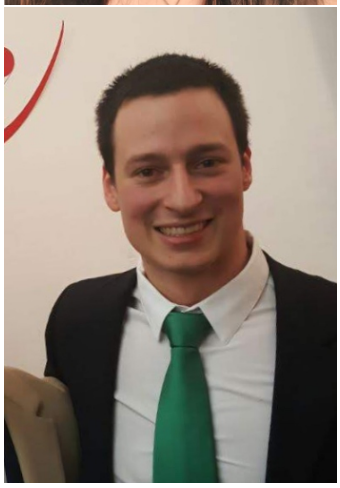

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Nathan is pursuing a B.S. in Physics from UIUC. He graduated in the top five of his high school class, while holding down a part time managerial position and running a research project at Argonne National Laboratory concurrent with his Sophomore through Senior years of Secondary Education. His first experience with Nuclear Physics was at the National Superconducting Cyclotron Laboratory where he worked with grad students on rare Cadmium isotopes. He has experience with building appealing website pages, as well as social media communications. He believes that an online presence for this event will supplement the success of an already great set of programs and individuals involved. He is excited to attend the upcoming ANS Student Conference at NC State in 2020.

ILLINOIS
NPRE
Grainger College of Engineering

September 30, 2019

Dear members of the American Nuclear Society Student Sections Committee:

The American Nuclear Society, University of Illinois at Urbana-Champaign Student Section (ANS-UIUC) is pleased to submit its proposal to host the 2021 ANS Student Conference. Our student section continues to grow and find new avenues for professional development, outreach, and research. This year we have many new faces and each of them brought an invigorating energy for nuclear engineering. ANS-UIUC is qualified and prepared to host a student conference that will motivate students to take on big challenges and engage with the nuclear science community in new ways.

Our theme is: Saving the World One Atom at a Time. This theme reflects the important role the nuclear sciences will play in solving many of the world's grand challenges. It also recognizes the atomic contributions we all make every day. Together, these contributions form the foundations of solutions to these grand challenges. It celebrates the people that make science possible by acknowledging that we come to this conference from an infinitude of backgrounds and experiences. It encourages us to widen our circles and include scientists and engineers with a diversity of thoughts. Finally, it inspires us to be active participants in the solutions to the world's problems.

This year we have added a Diversity Co-Chair to our leadership. We are devoted to making this conference as diverse and accessible as possible. This is a novel role for the ANS Student Conference and one we believe will become a staple in future conference proposals.

ANS-UIUC is ready and excited to take on the challenges of hosting a student conference. Thank you for considering our proposal to host the 2021 ANS Student Conference. We hope the message behind our theme resonates with the Student Sections Committee as strongly as it resonated with the students and faculty that made this proposal possible.

Thank you,

Sam Dotson
General Co-Chair

Jeremy Mettler
Technical Co-Chair

Nathan Reid
Diversity Co-Chair

ILLINOIS

THE GRAINGER COLLEGE OF ENGINEERING
Department of Nuclear, Plasma, & Radiological Engineering
216 Talbot Laboratory, MC-234
104 S. Wright St.
Urbana, IL 61801

To the ANS Student Conference Selection Committee,

As their faculty advisor, I enthusiastically support the University of Illinois ANS student section bid to host the 2021 ANS Student Conference.

The Illinois ANS Student Section is the most vibrant and active student section I have encountered and I have complete confidence in their capability to organize and execute an exceptional and successful student conference. Notably, this student chapter has an extraordinary membership which devotes enormous time and effort to nuclear advocacy and national involvement. The vibrance and drive of this student section has accordingly been consistently recognized with the Glasstone Award in 2016 (Best Section), 2017 (Honorable Mention), 2018 (Honorable Mention), and 2019 (3rd Place). Also, this student section enjoys strong departmental support from the Department of Nuclear, Plasma, and Radiological Engineering which will certainly help to ensure the success of this conference.

Additionally, this chapter has demonstrated their enthusiasm for the student conference through their attendance and performance at those hosted elsewhere. In recent years, 30-40 Illinois students typically attend the ANS student conferences where these Illinois attendees present research and receive awards accordingly. I have the utmost confidence in all three co-chairs and their vision for the conference.

Finally, 2021 will be an exciting time for students from around the country to be introduced to the Nuclear, Plasma, and Radiological Engineering Department at the University of Illinois. The department has undergone a period of exceptional growth, and now boasts a youthful, vibrant faculty. The resulting expansion of our research efforts and experimental facilities will provide a fresh take on nuclear, plasma, and radiological engineering today. Additionally, the College of Engineering has recently received a large naming donation to become the Grainger College of Engineering. This influx of support portends large scale initiatives on our campus which we look forward to showcasing.

It is with high hopes that I write this letter of support for the UIUC student section proposal to host the student conference. I hope you will not hesitate to ask if you have any questions regarding my support.

Sincere regards,

Kathryn Huff

Kathryn Huff
Assistant Professor
Nuclear, Plasma, & Radiological Eng.
U. Illinois at Urbana-Champaign

Contents

1 Judge Evaluation Sheet with Associated Page Numbers

PART I - GO/NO-GO (Objective Scoring) *Each item is either pass or fail. Optional items in italics - do not mark these as a FAIL.*		**Section Number**
Dates	minimum of 2 sets of dates is provided	3.1
	rationale for selection of dates is provided	3.1
	graphical calendar is included	Appendix A
Attendance	projected attendance figures are provided	7.1
	discussion is provided if attendance <400 or >600	3.5
	discussion of contingency plans is provided	3.4
Preliminary Program	graphical schedule is provided	Appendix C
	event descriptions are provided for all events	4
	event descriptions contain logistics notes	4
Facilities	facility descriptions are provided	2.3
	room requirements are estimated	Appendix D
	room requirements match attendance figures	Appendix D
	room requirements match event descriptions	Appendix D
	detailed schedule for each room is provided	Appendix C
	overall graphical schedule is provided	Appendix C
Hotels	2 sets of hotels are identified	3.5
	room cost per person is provided	3.5
	hotel capacities are provided	3.5
	map of hotels in relation to other facilities is included	Appendix E
Transportation	air travel to local airports is addressed	3.7.2
	ground transportation from airport to hotel is addressed	3.7.2
	ground travel from hotel to events is addressed	3.7.2
Budget	budget matches attendance figures	7.1
	budget matches event descriptions	7.3
	budget matches facility descriptions	7.3
	budget matches transportation descriptions	7.3
	fundraising plan is provided	7.5
	order of budget cuts is identified	7.4
Banking & Financial Oversight	banking method is identified	7.6
	financial oversight method is identified	7.6.1
	approach to tax-exempt status is explained	7.3
Committee Organization	org chart is provided	5
	names are present on org chart	5
	description of responsibilities is given for each position	5.1
	committee member experience is provided	5.2
	if chairs are new, letter of endorsement is provided	?
	decision-making process for committee is outlined	5.3
Schedule / Milestones	milestones, key tasks, and target dates are identified	5.5
	tasks are assigned to committee members	5.5
Staffing	number of day-of staff and rationale are provided	Appendix F
	roles of staff and reporting relationship are given	Appendix F
Liability	liability issues are addressed	Page 2
Support	letter from student section faculty advisor is included	Beginning
	letter from department head is included	Appendix H
	other letters are included	Appendix H
	pass or fail?	

Figure 2: Judge Evaluation Sheet with Associated Page Numbers

2 Saving the World One Atom at a Time

The future is nuclear. There are many grand challenges facing the world today and some have been designated existential threats to humanity. Young people today will witness the growing toll of anthropogenic climate change. As students, obstacles at the scale of the world climate crisis appear daunting and overwhelming. We believe that many solutions will come from the nuclear sciences. The ANS Student Conference is an opportunity for students and professionals to come together and share advances in critical technology and research dedicated to solving these problems. Nuclear, plasma, and radiological engineering will be central to many endeavors, whether the goal is solving the world's energy needs, developing technology that will take us to the stars, or curing cancer. By hosting this conference, we hope to inspire and motivate students in these engineering fields to tackle big problems. Saving the World One Atom at a Time reflects the fact that nuclear science is a powerful force in dealing with grand challenge problems. This theme also honors the individual, atomic, contributions from students, researchers, and professionals that are essential to progress. This conference is about science and engineering and it is about the people that make science and engineering possible. Students will hear from visionary speakers and leaders of the nuclear science community and come away with optimism for the future; knowing that they are saving the world one atom at a time.
There are three main goals of our theme and each of these goals will be the focus of a different day of the student conference.

1. Celebrate the people behind the science and engineering.
   Everyone that does science has a unique background, skillset, and experiences. People are what make science possible. Encouraging diversity and inclusivity in these areas, and others, improve creativity, productivity, and insights. We showcase this aspect of the conference with panels like *Science is People: How to Conduct Inclusive Research* and *Scientific Storytelling*.

2. Connect students and professionals to develop strong networks.
   This is the networking and professional-development-focused section of the conference. Beyond the job-seeking aspects, these networks enable the spread of ideas. Additionally, this evening builds on top of the previous night as we remember that our networks also consist of people. More diverse networks are better networks. This aspect of the conference is captured by workshops like *Developing Your Network*.

3. Inspire the next generation of nuclear engineers to take on grand challenge problems.

   The final day is the culmination of the conference and underpins the single unifying ideal. For many students, this conference might be the first time they are presenting research to their peers, mentors, and future employers. Everything about this conference should encourage students to take on challenges that seem bigger than they are in order to improve the world around them.

These goals and our theme motivated every decision in our conference proposal. The University of Illinois at Urbana-Champaign chapter of ANS would be honored to host the 2021 student conference. We hope to create an atmosphere that will galvanize students and professionals for the exciting future of nuclear engineering.

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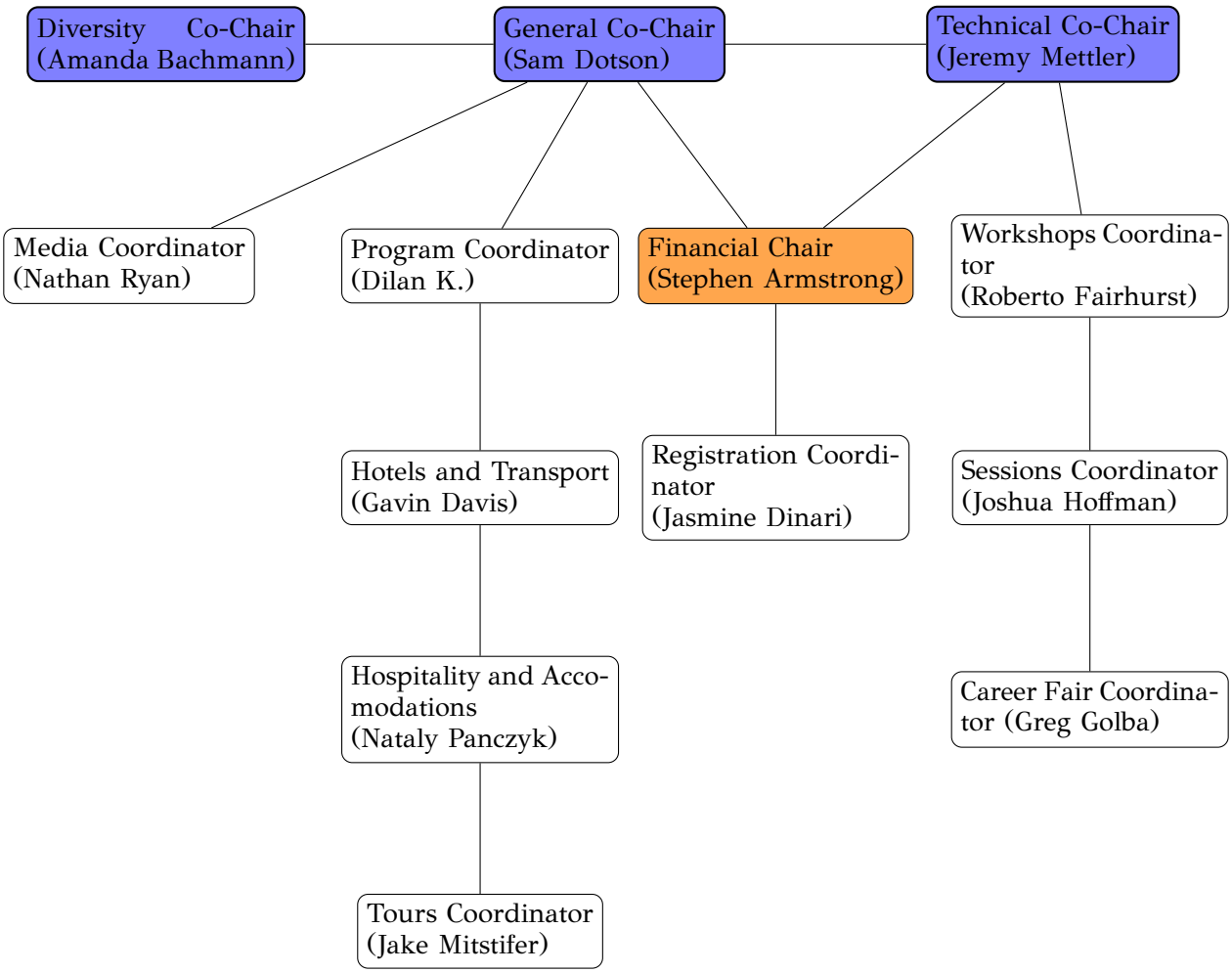

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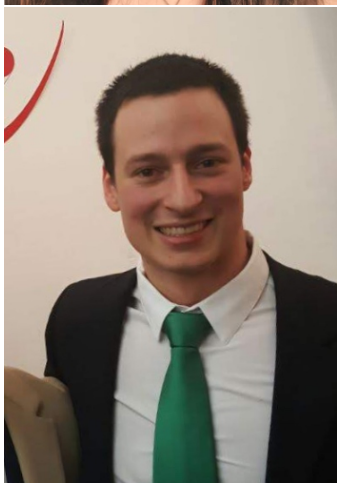

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