201th Division Meeting Minutes

Dynamics Systems and Control Division, ASME International

American Control Conference 2022, Atlanta, GA

Contacting the Division: dscd.exec@gmail.com

Date and Time: Wednesday, June 8, 2022 at 7:00 pm – 9:30 pm (ET)
Light refreshments will be served between 6:30-7:00 pm

In-person Location: Atlanta Marriott Marquis, Room **Marquis Ballroom A**

Virtual meeting option via Zoom:

Topic: DSCD General Division Meeting Time: Jun 8, 2022 06:00 PM Eastern Time (US and Canada) Join Zoom Meeting https://utah.zoom.us/j/92201342947 Meeting ID: 922 0134 2947 Passcode: **ACC2022** One tap mobile +16468769923,,92201342947# US (New York) +13017158592,,92201342947# US (Washington DC) Dial by your location +1 646 876 9923 US (New York) +1 301 715 8592 US (Washington DC) +1 312 626 6799 US (Chicago) +1 669 900 6833 US (San Jose) +1 253 215 8782 US (Tacoma) +1 346 248 7799 US (Houston) Meeting ID: 922 0134 2947 Find your local number: https://utah.zoom.us/u/abWLFgUMAt	Join by SIP 92201342947@zoomcrc.com Join by H.323 162.255.37.11 (US West) 162.255.36.11 (US East) 115.114.131.7 (India Mumbai) 115.114.115.7 (India Hyderabad) 213.19.144.110 (Amsterdam Netherlands) 213.244.140.110 (Germany) 103.122.166.55 (Australia Sydney) 103.122.167.55 (Australia Melbourne) 64.211.144.160 (Brazil) 69.174.57.160 (Canada Toronto) 65.39.152.160 (Canada Vancouver) 207.226.132.110 (Japan Tokyo) 149.137.24.110 (Japan Osaka) Meeting ID: 922 0134 2947 Passcode: 8788317 Join by Skype for Business https://utah.zoom.us/skype/92201342947

201th Division Meeting Minutes
Dynamics Systems and Control Division, ASME International
American Control Conference 2022, Atlanta, GA
Contacting the Division: dscd.exec@gmail.com

Date and Time: Wednesday, June 8, 2022 at 7:00 pm – 9:30 pm (ET)
In-person Location: Atlanta Marriott Marquis, Room M304

A G E N D A and MINUTES

7:00 pm 1. Chair's welcoming remarks Jordan Berg

Jordan started the meeting at 7:00 pm and welcomed everyone.

7:05 pm 2. Approval of minutes Kam Leang

Kam made a motion to approve the meeting minutes from the Fall 2021 meeting. Jordan second the motion. Votes: 43 YES, 0 NO and 0 ABSTAIN. Minutes were approved.

7:10 pm 3. Announcements
3.1 NSF updates Eduardo Misawa

Eduardo gave brief updates on NSF funding and made an announcement about upcoming opportunities that the DSCD community may find of interest. He encouraged everyone to reach out to him for more info.

7:20 pm 4. DSCD Community Meetings and Events
4.1 Survey Results and ASME TEC Meeting Jordan Berg

Jordan summarized details of recent survey results sent to DSCD community, and he presented overview of ASME TEC meeting slides (see attached). He noted that the meeting with TEC will take place in mid July.

4.2 Holding future division meetings Jordan Berg

Jordan asked members what their preference was for holding future fall Division meetings. Several members noted that MECC would be a good option. Jordan asked for a vote to see who would be in favor of holding fall meeting at MECC. Vote for holding fall Division meeting at MECC was 50 YES; 0 NO; 0 ABSTAIN.

	4.3 Holding future DSCD Awards Ceremony	Xiaobo Tan/ Jingang Yi

Xiaobo mentioned that ASME supported and approved DSCD Awards Ceremony to be held at MECC. Barbara confirmed ASME's approval. Roberto gave update on the activities of the Honor and Awards Committee and summarized how papers are to be nominated for Kalman Best Paper award. He also reminded members to make nominations for upcoming awards.

7:50 pm 5. Select Division updates/activities
(rapid 5-mins/each updates, for more info see attached detailed reports)

	5.1 Newsletter report	Huazhen Fang /Shu-Xia Tang/ Changliu Liu

Huazhen gave the newsletter update. No comments or questions were raised.

	5.2 Treasurer's report	Rajesh Rajamani

Raj gave an update on the division's budget. He noted that the ExComm will further discuss the budget and upcoming requests during the next ExComm meeting. ExComm will prioritize student support, as well as support for industry involvement for activities proposed by division members.

	5.3 Technical Committee report	Marcia O'Malley

Marcie gave update on TC activities. See slides for details.

	5.4 ASME updates/Robotics Technical Group	Barbara Zlatnik/Manish Kumar

Barbara gave updates on ASME activities. See slides for details. Manish summarized ASME's Robotics Technical Group and their focus to identify new opportunities in robotics to help engage community members.

	5.5 2022/2023 ACC report	Minghui Zheng/ Jun Zhang

Minghui gave updates on ACC. See attachment for details.

	5.6 2022/2023 AIM report	Kok-Meng Lee

Kok-Meng gave updates on AIM and upcoming AIM 2023 conference in Seattle. See slides for details.

	5.7 DSCD PodCast Series	Hao Su/Yao Mao

Jingang Yi

Hao gave update on PodCast Series and encourage members to subscribe to get last updates.

5.8 MECC 2022 — Qingze Zou

Qingze gave update on MECC 2022 in Jersey City. He encouraged everyone to attend.

5.9 DSCD Website — Diane Peters/Alireza Mohammadi/Barbara Zlatnik

Diane gave update on DSCD website. See document for details.

5.10 ASME J. Dynamic Systems, Measurement and Control (JDSMC) — Ranjan Mukherjee

Ranjan gave updates on JDSMC. See document for details. One division member asked about benchmark for success. Ranjan note that impact factor is a good measure for success, and he plans to continue to improve JDSMC's standing.

5.11 ASME/IEEE Trans. on Mechatronics (TMECH) — Jingang Yi

Jingang gave brief update on TMECH. See attached slides.

5.12 ASME Letters in Dynamic Systems and Control (LDSC) — Peter Meckl

Peter gave updates on LDSC. See slides for details.

5.13 ASME J. of Autonomous Vehicles and Systems (JAVS) — Vladimir Vantsevich

Vlad gave updates on JAVS. See slides for details.

9:00 pm 6. Open discussion

Jordan opened the floor for additional discussions. No other topics were discussed.

9:30 pm 7. Closure (Passing the gavel)

Jordan passed the gavel and welcomed new Division Chair, Xiaobo Tan. Jordan thanked everyone for attending and closed the meeting.

Attached Written Detailed Reports

1.	Treasurer's report	Rajesh Rajamani
2.	Newsletter report	Huazhen Fang/Shu-Xia Tang/Changliu Liu
3.	Technical Committee report	Marcia O'Malley
4.	ASME updates	Barbara Zlatnik
5.	2022/2023 ACC report	Minghui Zheng/Jun Zhang
6.	2022/2023 AIM report	Kok-Meng Lee
7.	DSCD PodCast Series	Hao Su/Yao Mao
8.	MECC 2022	Qingze Zou
9.	ASME J. of Dynamics Systems, Measurement, and Control	Ranjan Mukherjee
10.	ASME Letters in Dynamic Systems and Control (LDSC)	Peter Meckl
11.	ASME J. Autonomous Vehicles and Systems (JAVS)	Vladimir Vantsevich
12.	Transactions on Mechatronics (TMECH)	Jingang Yi
13.	Secretary's report: Membership numbers	Kam Leang
14.	American Automatic Control Council (AACC) Report	Santosh Devasia
15.	DSCD Website	Diane Peters/Alireza Mohammadi/Barbara Zlatnik
16.	Honors and Awards Committee	Roberto Horowitz

* Pending submission

200th Division Meeting Minutes
Dynamics Systems and Control Division, ASME International
Fall 2021
Contacting the Division: dscd.exec@gmail.com

Date and Time: Monday, October 25, 2021 at 7:00 pm – 9:30 pm (ET)
Meeting hosted via Zoom

A G E N D A

7:00 pm 1. Chair's welcoming remarks Jordan Berg

Jordan welcomed everyone to the meeting.

7:05 pm 2. Approval of minutes Kam Leang

Kam presented the meeting minutes from the Division meeting during ACC 2021 and asked if there were questions or comments. No questions or comments were raised. Kam made a motion to approve the minutes. Jordan second. Kam sent a vote through zoom. Minutes were approved with 30/38 attendees voted YES.

7:10 pm 3. Recognition of service to DSCD Jordan Berg

Jordan recognized members' services to the community. See slides for details.

7:15 pm 4. Select Division updates/activities
(rapid 5-mins/each updates, for more info see attached detailed reports)

Updates were given. Please see slides for details.

4.1 Newsletter report Tuhin Das/Huazhen Fang

4.2 Treasurer's report Rajesh Rajamani

	4.3 Technical Committee report	Marcia O'Malley
	4.4 ASME updates	Barbara Zlatnik
	4.5 2021/2022 ACC report	Satadru Dey/ Minghui Zheng
	4.6 2021/2022 AIM report	Kok-Meng Lee
	4.7 DSCD PodCast Series and PodCast Producers	Hao Su/ Jingang Yi
	4.8 MECC 2021	Junmin Wang
	4.9 Awards Ceremony/Honors and Awards	Roberto Horowitz
8:15 pm	5. Division discussions	
	5.1 Future DSCC cancellation	Jordan Berg

Jordan summarized his slides, see attached.

Jordan opened the floor for discussion: Roberto H. -- it's important to anchor Nyquist Lecture and Awards Ceremony to some conference. George C. -- feels strongly that student participation and papers/presentations are important, especially connected to grants for funding. Unique aspect of academic community. Hosam F. -- feels like the community deserves a strong conference for networking, awards ceremony, etc. Junmin W. -- virtual meetings can be challenging but also useful to accommodate certain circumstances. Xiaobo T. -- notes that virtual meetings have broader reach and convenience of attendance. Strongly encourages people to come up with other ideas. Xu C -- announced plans to hold MECC 2022 and encourages the community to participate. Bin Y -- notes that MECC is doing well so could be something to consider as a venue, especially the international community involvement. Santosh D. noted in the chat box: "Since MECC is similar to ACC, having the meeting at MECC sounds good.". Eduarto M. supports by stating: "Since MECC is similar to ACC, having the meeting at MECC sounds good." Autl K. expressed that "ASME Conferences are not back in person quite yet. Planned to launch in person after mid-April 2022." Barbara noted that: "ASME Conferences are not back in person quite yet. Planned to launch in person after mid-April 2022." Roberto H. asked in the chat: "Can H&A Awards and Nyquist lecture be hold at the MECC?" Jordan answered by stating that Roberto's question depends on ASME's decision. If the Division articulates this as a preference it may help show support. George C. -- mentions the

Straw poll was given (81% participated). Results are: 44/49 yes, 2/49 NO, 3/49 ABSTAIN. Question: "As a DSCD member, I support holding Awards Ceremony/Nyquist Lecture at MECC".

Based on these results, the ExComm will pursue the Nyquist Lecture and Awards Ceremony at MECC.

5.2 Supporting ASME's Mission, Vision, and Strategic Priorities — Jordan Berg

Jordan discussed the division's focus to support ASME's mission, vision, and strategic priorities. He pointed out that ExComm and ASME leadership have met to discuss plans for connecting with the ASME TEC.

5.3 Updates on new initiatives from journals

Updates for publications were given. See slides for details.

5.3.1 TMECH — Ranjan Mukherjee

5.3.2 LDSC — Peter Meckl

5.3.3 JAVS — Vladimir Vantsevich

9:00 pm 6. Announcements

6.1 NSF updates/announcements — Irina Dolinskaya

Irina summarized NSF programs of interest to the DSCD Community. Eduardo noted that changes in C&P need to be updated with NSF. Miroslav K praised NSF's efforts and gave his input on contributions of the DSCD community. Irina noted the successful collaboration with the CS community through the FRR program.

6.2 DSCD open positions — Santosh Devasia

Santosh presented nominations, see attached.

9:15 pm 7. Open discussion

Jordan called for an open discussion. No discussion.

9:30 pm 8. Closure

Jordan closed the meeting at 9:21 pm.

Attached Written Detailed Reports

1. Treasurer's report — Rajesh Rajamani
2. Newsletter report — Tuhin Das/Huazhen Fang
3. Technical Committee report — Marcia O'Malley

4.	ASME updates	Barbara Zlatnik
5.	2021/2022 ACC report	Satadru Dey/ Minghui Zheng
6.	2021/2022 AIM report	Kok-Meng Lee
7.	DSCD PodCast Series	Jingang Yi/Hao Su
8.	MECC 2021	Junmin Wang
9.	Journal of Dynamics Systems, Measurement, and Control	Ranjan Mukherjee
10.	ASME DSC Letters	Peter Meckl
11.	J. Autonomous Vehicles and Systems	Vladimir Vantsevich
12.	Transactions on Mechatronics	Xiaobo Tan
13.	Student Travel Awards	Nicole Abaid
14.	Secretary's report	Kam Leang
15.	American Automatic Control Council (AACC) Report	Santosh Devasia
16.	DSCD Website	Diane Peters
17.	Honors and Awards Committee	Roberto Horowitz

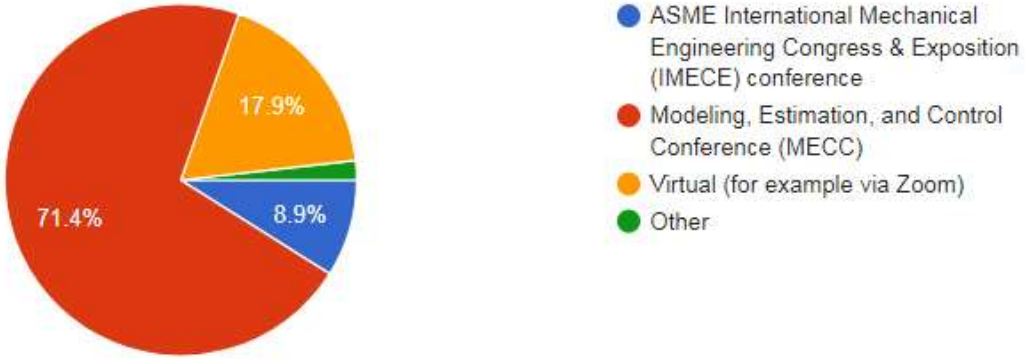
* Pending submission

DSCD Community Survey Results

Survey sent to ~650 DSCD Members through DSCD Google Listserve
Received 56 responses

1. What is your preference for holding the annual Fall General Division Meeting? Hold meeting at:

56 responses



If you selected "Other" above, please provide details or additional input

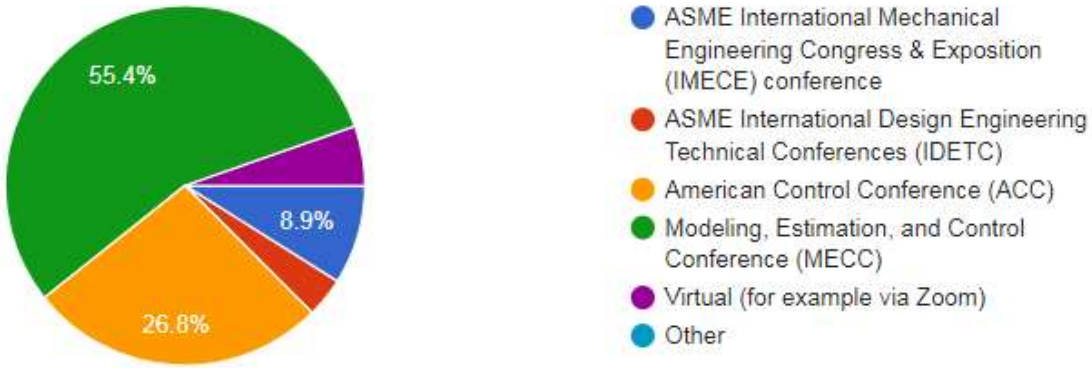
2 responses

If it's at one of these conferences, it would be nice to make it hybrid for those who aren't able to travel for whatever reason.

in MECC and over Zoom at the same time.

2. Where should the DSCD Awards Ceremony be held?

56 responses

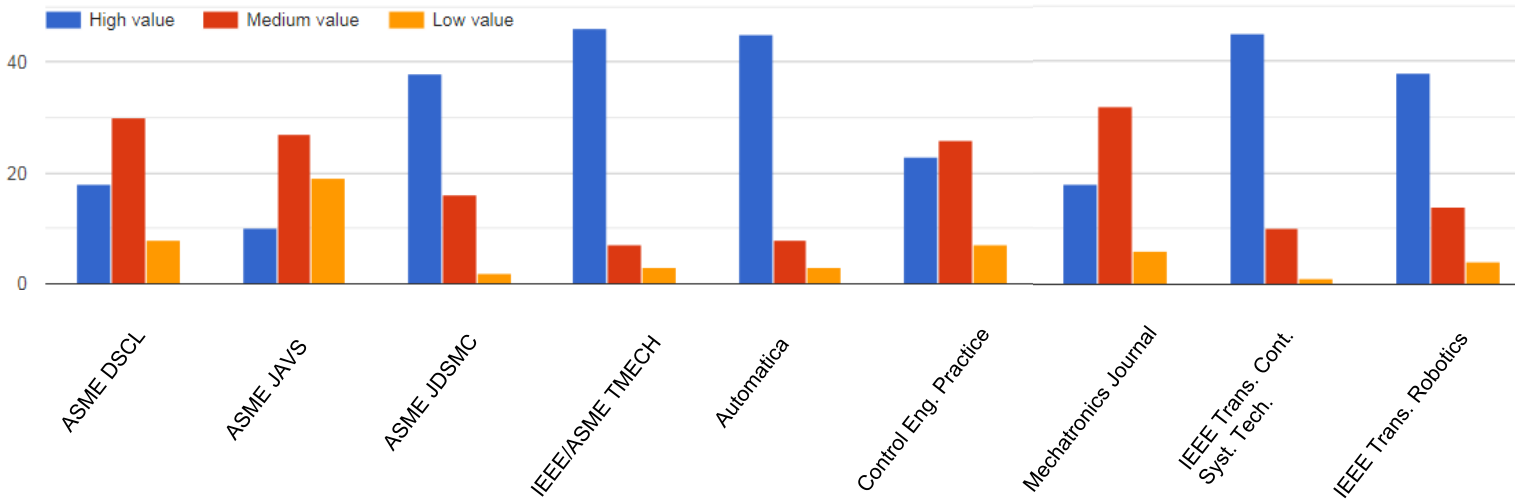


If you selected "Other" above, please provide details or additional input

1 response

MECC would be my second choice.

3. How do you value these journals?



Please provide any comments on journals related to the community

4 responses

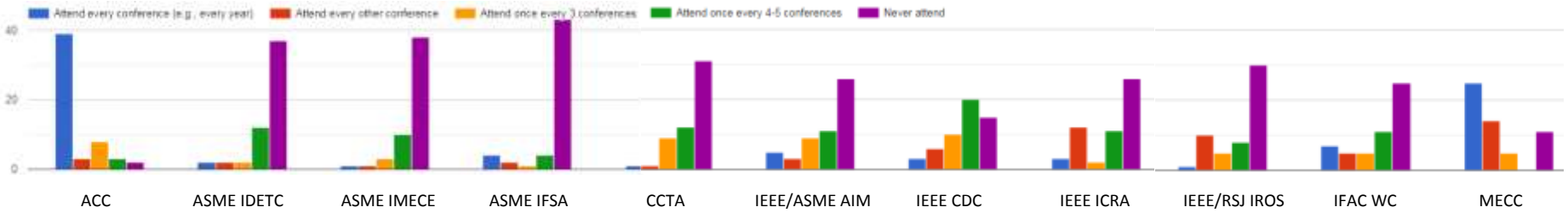
IEEE Transactions on Automation Science and Engineering

why not include other dynamic and control journals: such as IEEE Transactions on Automatic Control; IET related journals; IEEE transactions on automation science and engineering

ASME needs to listen to the editors on how to improve journal quality. The editors publish in journals, while the ASME staff does not understand technical journals. I have heard editors complain for decades that ASME will not listen to them. ASME journals lack the visibility of other journal such as IEEE.

Some of those journals are IFAC (Elsevier) and should be listed as such.

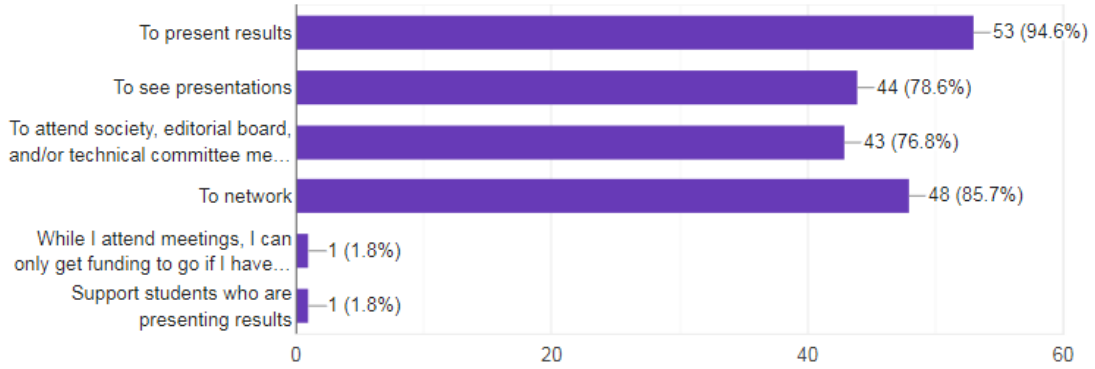
4. How frequently do you attend the following conferences?



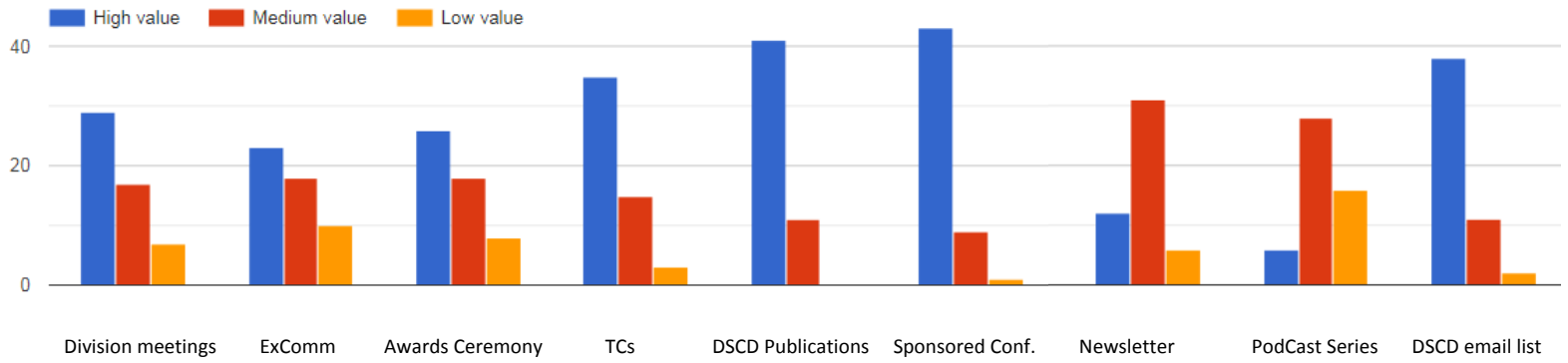
5. The reasons you attend conferences are (select all that apply):

Copy

56 responses



5. What value do the following ASME DSCD activities provide to you?



How can any of the activities listed above be improved?

Doing the meetings at the same time as a conference would help.

Those of us at smaller universities have some special challenges with doing research. Maybe the division could help to facilitate networking that could lead to partnerships. This would allow those of us at PUI's or master's universities to work with colleagues who have access to doctoral students, and help us get more research done and perhaps provide a pipeline for our talented undergrads and MS students who are interested in a doctorate.

I listed DSCD sponsored conferences as being high value because I really enjoyed the DSCC, but with it gone, I don't really attend any others. I'm still hoping MECC could become sponsored by ASME rather than IFAC but not sure if that is possible.

News letter need to be more often and we all need to have our students contribute.

Try to catch the emerging technological hot spots and improve the quality of the journals and conferences.

ASME HQ to stop meddling with division activities -they are making the benefits for the members worse.

ASME Journal Tool is not very good and frustrating. Also, there are politics-driven restrictions on who can be a reviewer based on nationality/location rather than scholarship.

ASME Journal submission system needs renovation. It is too outdated and inefficient. ASME needs to embrace more efficient systems such as the manuscriptcentral like many other journals.

Add quality; reduce length of meetings and events substantially for efficiency

6. What else can the division do to better support the community?

12 responses

1. more student competition activities with given or flexible topics 2. more workshop and training on technical and career development

See comment above.

I think a good website for the community is critical for organizing activities. The current website seems not good for communications. Maybe something similar to the applied mechanics division will help: https://imechanica.org/

To clarify on #1. I would either prefer MECC or IMECE for our Fall meeting (it wouldn't let me choose both). I like IMECE because I have other colleagues in different areas than controls there. However if that means dealing with ASME, and MECC is free of ASME I would vote MECC. I used to like that ACC was all the degrees doing controls (IEEE, AIAA, ASME, etc.) and IMECE was all the various ME areas (thermal, fluids, design, and controls). I would also strongly avoid virtual - too many other things distract me if I am not at the conference.

All-in on MECC

Improve our technical strengths in emerging areas and attract broad audiences.

Have its own flagship annual conference like MECC or old DSCC.

Better promote the community to the broader scientific community.

Continue supporting students and young members. This is the most important thing the division has done, historically, by far. The focus on students and young members in DSCD has historically been stronger than almost any of our peers, partly because it doesn't take a lot of work to make a huge difference and partly because some of our peers have not always been consistent about investing even the bare minimum amount of work needed for establishing viable student/young member programs in their own societies and conferences. We have been leaders in this area - consistently, for decades now. Let's not lose sight of that.

Strive to improve the ranking of its flagship journals and diversify and strenghten (at the same time) the AE and senior editorial board.

Increase awards and recognitions, student scholarship opportunities, and emphasize the quality of conference venues.

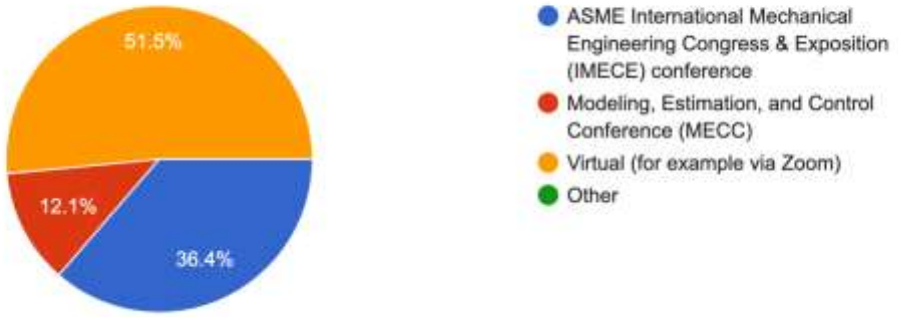
survey is a great idea, keep up the good work

DSCD Community Survey Results

Survey sent to 3200 Primary and Secondary DSCD Members through ASME database
Received 33 responses

1. What is your preference for holding the annual Fall General Division Meeting? Hold meeting at:

33 responses



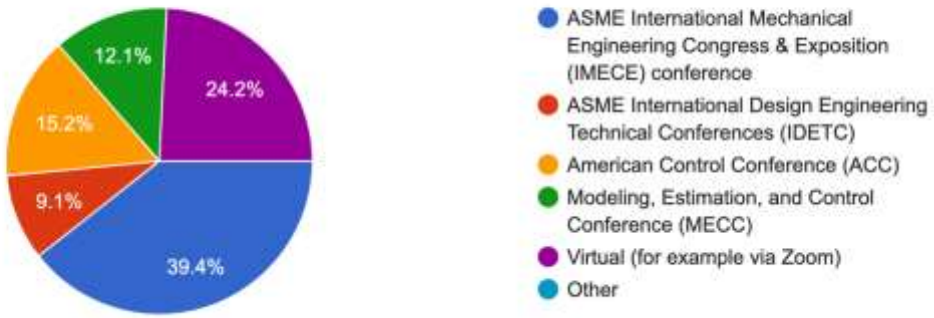
If you selected "Other" above, please provide details or additional input

0 responses

No responses yet for this question.

2. Where should the DSCD Awards Ceremony be held?

33 responses

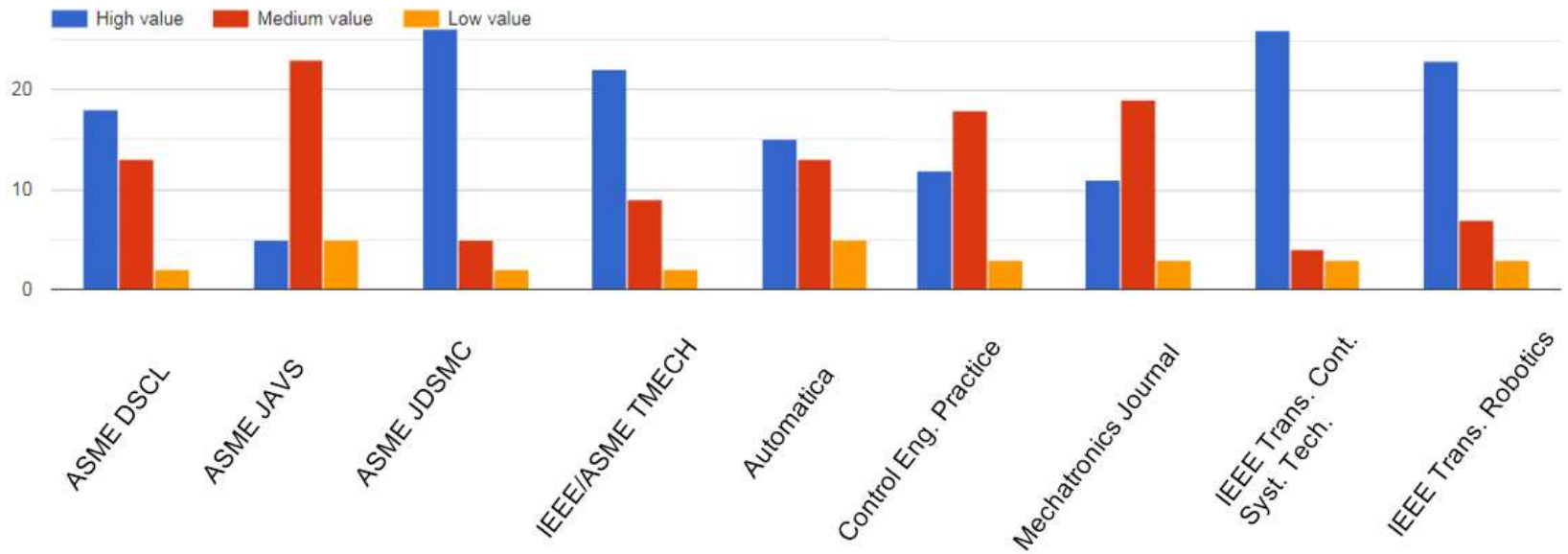


If you selected "Other" above, please provide details or additional input

0 responses

No responses yet for this question.

3. How do you value these journals?



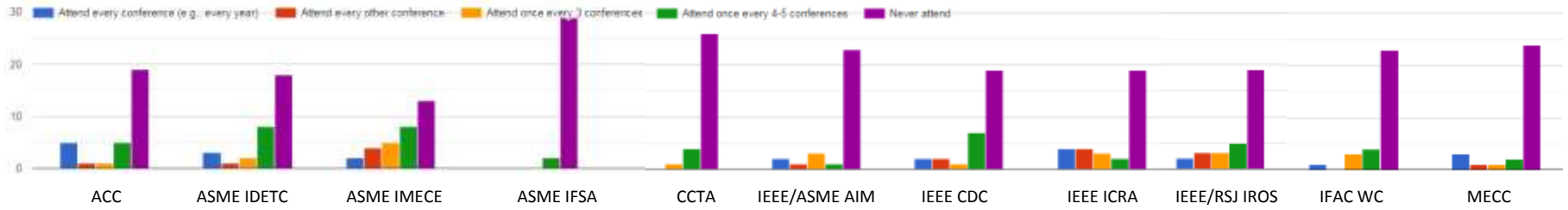
Please provide any comments on journals related to the community

2 responses

I dont get any of the above journals

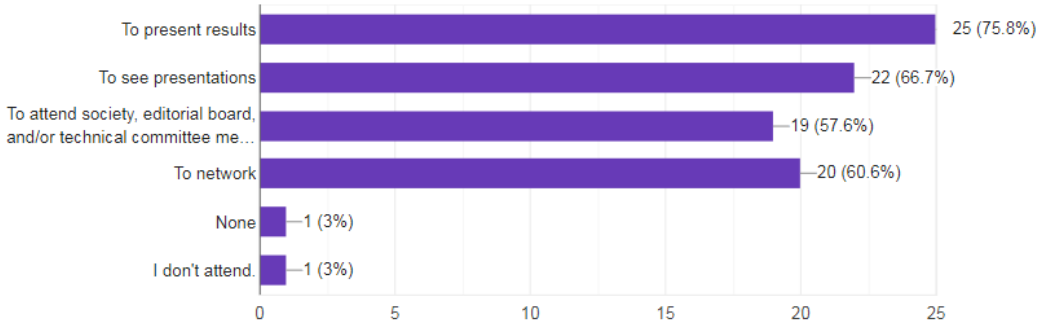
My preferences above have to do with the topic that is not close to my field, rather than of the quality of the journal

4. How frequently do you attend the following conferences?



5. The reasons you attend conferences are (select all that apply):

33 responses



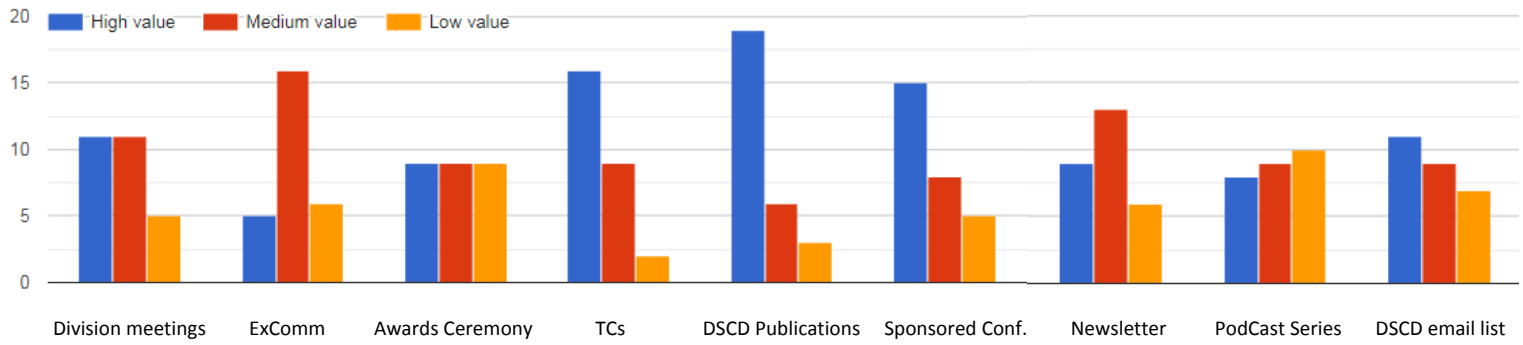
If you selected "other" above, please provide details

2 responses

extracurricular activity, never attended

Often the papers presentations are not engaging. Often a paper is read by someone who can hardly speak english, with no elaboration or visual aide.

5. What value do the following ASME DSCD activities provide to you?



How can any of the activities listed above be improved?

2 responses

Make them cheaper

No comment

6. What else can the division do to better support the community?

6 responses

Active and regular communication

Have a few more virtual events in terms of case studies or different research to help engagement.

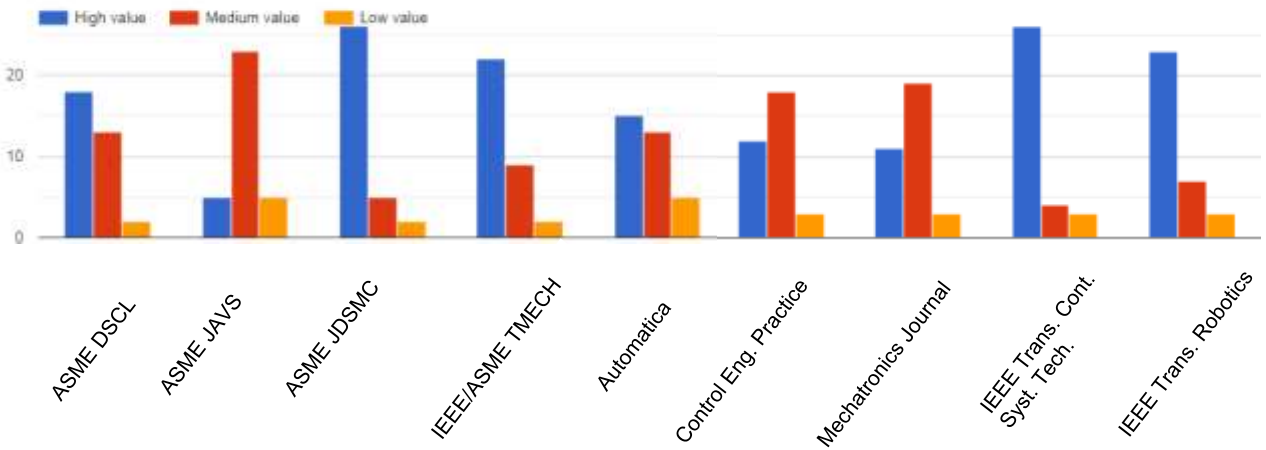
Running webinars on latest technologies

Provide background briefings to legislators for technical regulations. Encourage technical regulations.

No comment

Aware the members of future relevant events

3. How do you value these journals?



Division Activities

Presented by ASME DSCD ExComm

Jordan Berg (Chair), Santosh Devasia (Past Chair), Xiaobo Tan (Vice Chair)
Jingang Yi (Senior Member), Marcia O'Malley (Junior Member)
Kam Leang (Secretary) and Rajesh Rajamani (Treasurer)

Division goals and activities

DIVISION ACTIVITIES	DIVISION GOALS									
	Communicate	Bridge other societies	Interact with other ASME subunits	Engage DSCD community	Disseminate technical work	Mentor members	Outreach with industry	Involve students	Policy and standards	Recruit new members
Website/ newsletters	✓			✓						✓
Division meetings	✓			✓				✓		✓
TC activities				✓			✓	✓		✓
PodCast Series	✓			✓	✓					
Conferences	✓			✓	✓	✓	✓	✓		✓
Publications	✓			✓	✓					
Division committees				✓		✓				✓
Division-sponsored activities	✓			✓	✓	✓	✓	✓		✓
TEC interaction	✓			✓	✓		✓			
Activity to support policy and standards										

DSCD Activities and Programs

- Website, newsletter, and division meetings
- Technical Committees
- DSCD PodCast Series
- Publications
- Conferences
- Honors and Awards
- Engaging and recruiting
- Outreach with industry experts
- Joint activities with TEC groups (Robotics TEC group, Design Engineering Division, etc..)
    - Public policy
    - Government relations
    - Cross-sector collaboration
    - TEC Talks
- Communication Tools
- Community Engagement
- Technical Content

Updates on the DSCD Newsletter

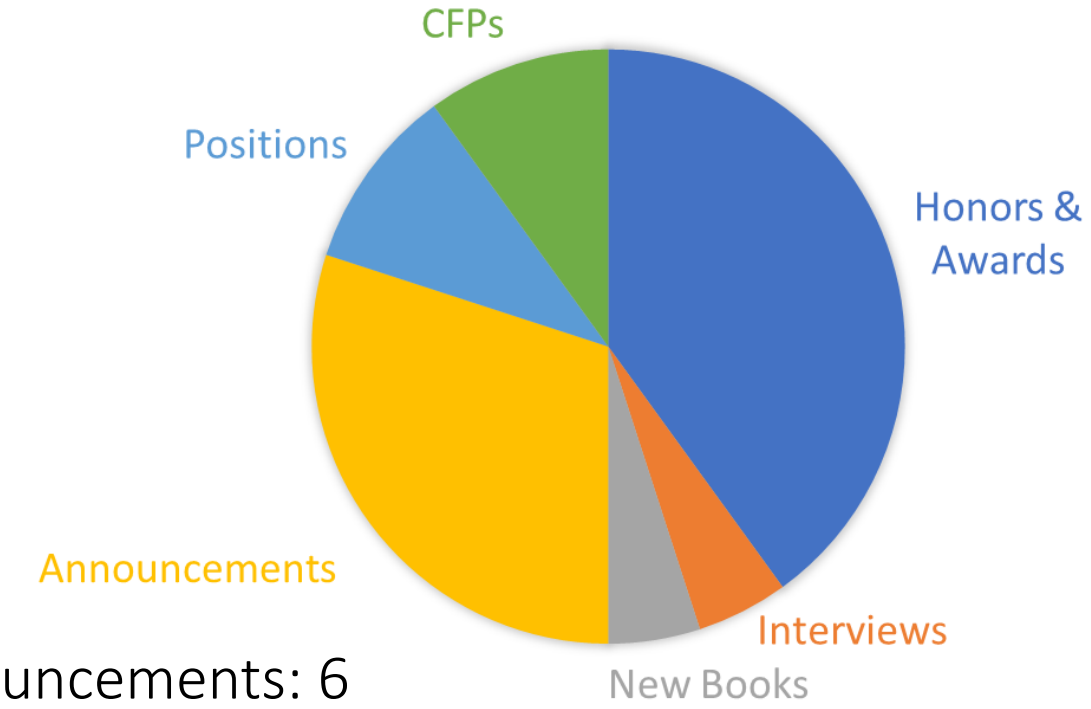
Huazhen Fang

Shuxia Tang

Changliu Liu

Overview of 2021 Newsletter Summer/Winter Issues

- Published 20 messages in total



- Categories
  - Honors & Awards: 8
  - Interviews: 1
  - New books: 1
  - TC/conference/workshop/journal announcements: 6
  - Position announcements: 2
  - CFPs of upcoming special issues/focused sections in journals: 2

What's Next for 2022?

- Make the Newsletter a people-centered platform to connect and serve all DSCD colleagues

- Expand the scope and category portfolio
  - New faces spotlight
  - Featured articles (trends, perspectives, opinions, etc.)
  - Memorials
  - *Open to suggestions*

- Actively solicit contributions and messages from the community

How to Help US Do Better?

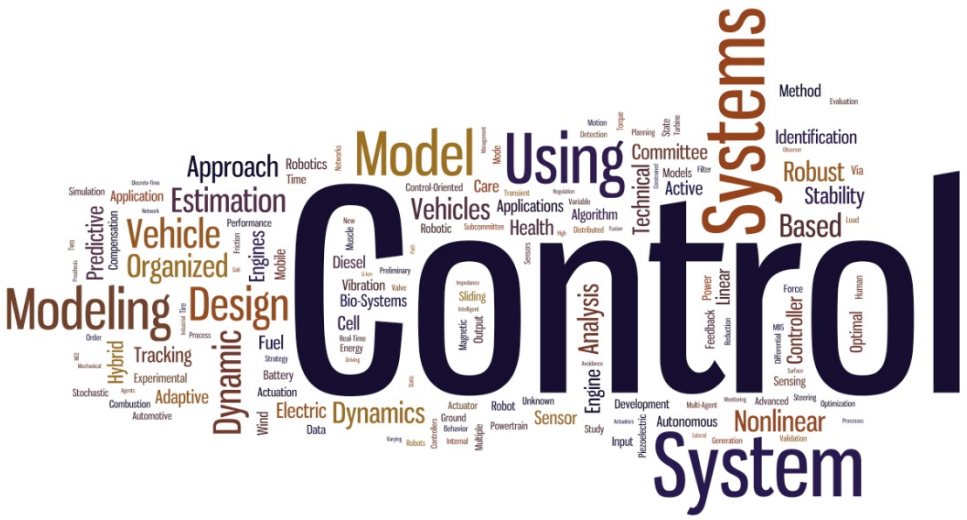
- Never hesitate to send us your messages.
  - Your submission, our passion!

- “Hesitate” to say no if we solicit your contribution.

- Send us your suggestions

ASME DSCD Newsletter Updates for 2021

	Summer	Winter	Total Number
New Journals	1 IEEE Open Journal of Control Systems.	0	1
Honors & Awards	2 Prof. Marcia O'Malley, named Associate Dean for Research and Innovation and recipient of Presidential Mentoring Award at Rice University in 2021. Prof. Rajesh Rajamani's research featured in IEEE Spectrum and on National Public Radio.	6 DSCD 2021 Rufus T. Oldenburger Medal received by Prof. Shankar Sastry, Thomas Siebel Professor of Computer Science, Depts. of Elec. Engg. & Computer Sci- ences, Bioengineering, and Mechanical Engineering, University of California, Berkeley. DSCD 2021 Yasundo Takahashi Education Award received by Prof. Tarunraj Singh, Department of Mechanical & Aerospace Engineering University at Buffalo. DSCD 2021 Young Investigator Award received by Prof. Scott Moura, Clare and Hsieh Wen Shen Endowed Distinguished Professor, Department of Civil & Environmental Engineering, University of California, Berkeley. DSCD 2021 Nyquist Lecture received by Prof. Dawn M. Tilbury, Departments of Mechanical Engineering and Electrical Engineering & Computer Science, University of Michigan. DSCD 2021 Rudolf Kalman Best Paper Award received by Zhanhong Jiang, Venkatesh Chind, Adam Kohl, Atul Kelkar and Soumik Sarkar. Prof. Rajesh Rajamani Elevated to IEEE Fellow.	8
Interviews	1 Robotics—Origin, Myths, Current Trends, and Opportunities - Prof. Clarence W. de Silva.	0	1
New Books	1 Force and Position Control of Mechatronic Systems, Tong Heng Lee, Wenyu Liang, Clarence W. de Silva, Kok Kiong Tan Springer, 2021.	0	1
Announcements	4 The inaugural Modeling, Estimation and Control Conference (MECC 2021). IEEE/RAS Technical Committee for Telerobotics. MECC 2021 Workshop : Safe Control and Learning under Uncertainty. CFPs for Upcoming Focused Sec- tions/Special Issues in Journals.	1 2022 Modeling Estimation and Control Conference, MECC 2022	5
Position Announcements	0	2 Faculty Position in Spaceflight Engineering at UC Davis. Faculty Position in Advanced Manufacturing Science and Engineering at UC Davis.	2
CFPs for Upcoming Focused Sections/Special Issues in Journals	0	2 IEEE/ASME Transactions on Mechatronics (TMECH)- The Third Edition of Focused Section on TMECH/AIM Emerging Topics. IEEE Vehicular Technology Magazine – Special Issue on Recent Advances Automated Driving Technologies.	2



DSCD Newsletter SUMMER 2021

August 31, 2020

DYNAMIC SYSTEMS AND CONTROL DIVISION NEWSLETTER

IN THIS ISSUE

Editor's Note

Dear colleagues,

As we bring the summer 2021 newsletter of ASME DSCD, we hope that all members of the community are safe and healthy. This issue reports several exciting news and updates.

We introduce the IEEE Open Access Journal of Control Systems, which is a new journal that aims to publish high-quality papers on the theory, design, optimization, and applications of dynamic systems and control. The journal announces a special section on Machine Learning and Control.

In Honors and awards, Dr. Marcia O'Malley was named Associate Dean for Research and Innovation for the George R. Brown School of Engineering at Rice University, effective May 1, 2021. In addition, we report Dr. Rajesh Rajamani's research on smart bicycles that has received wide publicity. It was featured in IEEE Spectrum as well as on the NPR.

We report the release of a book titled *Force and Position Control of Mechatronic Systems* by *Tong Heng Lee, Wenyu Liang, Clarence W. de Silva and Kok Kiong Tan*.

We next post an announcement from the IEEE/RAS Technical Committee for Telerobotics and an MECC workshop announcement on Safe Control and Learning under Uncertainty. This is followed by calls for papers in two upcoming focused sections/special issues, in *IEEE Open Access Journal of Control Systems* and in *IEEE/ASME Transactions in Mechatronics.*

We hope all DSCD members enjoyed a happy and relaxing summer 2021. Thank you for your continued support of the DSCD Newsletter and we look forward to your future submissions.

Best Regards,
Editor: Tuhin Das, University of Central Florida
Associate Editor: Huazhen Fang, University of Kansas

New Journal

IEEE Open Journal of Control Systems

The IEEE Open Journal of Control Systems is a new publication of the IEEE Control Systems Society. The journal aims to publish high-quality papers on the theory, design, optimization, and applications of dynamic systems and control.

The Editorial Board demonstrates the breadth of areas covered within the journal. The journal's main mission is the promotion of open access to all control systems research and education publications, including software, and data. Some journal highlights include:

- Special emphasis areas are the interplay between data science and control, and the interdisciplinary connection of dynamic systems and controls with diverse applications in biological, social, cognitive, and cyber-physical systems.
- New publication categories will be featured in addition to regular papers, including overview, position, open software/testbed tutorial papers, and reproducible papers in dynamic systems and controls.
- Upcoming Special Sections and Issues covering topics such as Brain networks, and Human-Robot Interaction will be announced soon.

See page 5 for Special Section on Machine Learning and Control

Honors and Awards

Prof. Marcia O'Malley, named Associate Dean for Research and Innovation and recipient of Presidential Mentoring Award at Rice University in 2021.

Marcie O'Malley was named Associate Dean for Research and Innovation for the George R. Brown School of Engineering at Rice University, effective May 1, 2021.

She received the Rice University Presidential Mentoring Award for 2021. She will be a keynote speaker at the upcoming 45th Mechanisms and Robotics Conference at the 2021 IDETC, and a plenary speaker at the 21st International Conference on Control, Automation and Systems (ICCAS 2021).

Marcia O'Malley received the B.S. degree in mechanical engineering from Purdue University in 1996, and the M.S. and Ph.D. degrees in mechanical engineering from Vanderbilt University in 1999 and 2001, respectively. She is currently Professor of Mechanical Engineering and of Computer Science at Rice University and directs the Mechatronics and Haptic Interfaces Lab. She is an Adjunct Associate Professor in the Departments of Physical Medicine and Rehabilitation at both Baylor College of Medicine and the University of Texas Medical School at Houston. Additionally, she is the Director of Rehabilitation Engineering at TIRR-Memorial Hermann Hospital, and is a co-founder of Houston Medical Robotics, Inc. Her research addresses issues that arise when humans physically interact with robotic systems, with a focus on training and rehabilitation in virtual environments. In 2008, she received the George R. Brown Award for Superior Teaching at Rice University. O'Malley is a 2004 ONR Young Investigator and the recipient of the NSF CAREER Award in 2005. She is a Fellow of the American Society of Mechanical Engineers.

Web: http://omalleym.web.rice.edu/

Prof. Rajesh Rajamani's research featured in IEEE Spectrum and on National Public Radio.

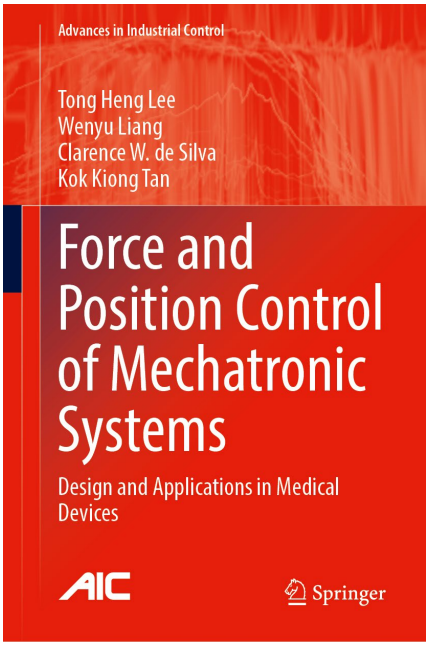
A "smart bicycle that protects itself" developed in Prof. Rajamani's laboratory at the University of Minnesota has received much publicity recently. It was featured in IEEE Spectrum and on National Public Radio. You can read more about the smart bicycle at:

https://spectrum.ieee.org/tech-talk/transportation/safety/smart-bike-protects-itself-against-collisions

Prof. Rajamani is the Benjamin Y.H. Liu / TSI Applied Technology Chair, Mechanical Engineering at the University of Minnesota, Minneapolis. His research focuses on the design of estimation algorithms, sensors and controllers for smart and autonomous systems.

Web: https://cse.umn.edu/me/rajesh-rajamani

New Book



Force and Position Control of Mechatronic Systems,
Tong Heng Lee, Wenyu Liang, Clarence W. de Silva, Kok Kiong Tan
Springer, 2021

Mechatronic systems have been increasingly used in many industrial and medical applications, where they are designed to work for various tasks in different environments. Significantly, many applications are required to carry out the contact operation and handle the interaction between the mechatronic systems and the environments (contacting objects) in order to complete the specific task successfully, such as grasping, polishing, assembly, robotic surgery, injection, etc. During the contact operation, the interaction force needs to be regulated carefully to avoid the undesirable effects and ensure the success of the performed task. As a consequence, force control is needed and designed delicately to meet specific requirements and achieve desired performance. To achieve an appropriate or desired interaction, force feedback control is an effective way to regulate contact behavior. In recent years, various force feedback schemes have been reported, which show good effectiveness of applying force controller in different applications. The explicit force controllers can achieve low force overshoot good force tracking performance, especially when the contact model is established accurately. However, it is noted that the motion/position of the actuation system is unconstrained or uncontrolled for pure force controllers (i.e., only the force is controlled directly). To deal with the applications where both force control and position control are required, force and position control is the major approach. This book offers a systematic coverage of theoretical and practical aspects of force and position control, which gives the readers an overview on the concepts, design, and implementation approaches of such control system. The book consists of nine chapters. The first chapter introduces the general concepts and technologies related to the force sensing, interaction modeling, and control strategy. In the following chapters, the novel ideas and innovations related to the force estimation and the force and position control (including direct force control, force-position control and impedance control) are reported in detail. In summary, this book gives an overview of the force and position control techniques; shows the readers several recent innovations on the design and implementation of the force control and the force and position control for mechatronics; and uses the practical applications as case studies where detailed experimental verifications and results are given. From the book, one may learn to design and implement new techniques of force control or force and position control for mechatronic systems, especially, medical devices. May the force be with you!

Announcements

IEEE/RAS Technical Committee for Telerobotics

The IEEE/RAS Technical Committee for Telerobotics, is pleased to announce that several platforms are now operational to promote the results of your research and distribute the news of your activities. We encourage you to consider the following opportunities:

* Follow the TC on Twitter:
https://lnkd.in/dip_-Fp

* Visit us:
https://lnkd.in/d2zpsnv

* Join us on LinkedIn:
https://lnkd.in/dYxF6ha

* Become a TC member:
https://lnkd.in/dMWEyaH

* Submit your telerobotics-related news to the TC monthly newsletter:
https://lnkd.in/dgkQSiW

The TC newsletter collects news and updates on all telerobotics-related research and activities and will disseminate them on a monthly basis.

* The TC can help promote your telerobotics-related research on Twitter/LinkedIn if you "mention" or "tag" the TC's social media handles when you post a permanent link to the full text of your publication (on arXiv.org, ResearchGate, IEEEXplore, your website, other repositories, etc.)

* TC webpage: https://lnkd.in/dRdTdkn

Chairs: Mahdi Tavakoli, Keehoon Kim S. Farokh Atashzar, Alireza Mohammadi

MECC Workshop : Safe Control and Learning under Uncertainty

This is a full-day workshop that aims to bring together researchers who work in the field of safe control and learning under uncertainties. We will discuss recent

progress in the development of safe control methods (including control barrier functions, Hamilton Jacobian reachability analysis, safe set algorithms, potential field methods, sliding mode methods, etc.) and safe learning controllers that use these safe control methods as safety monitors or safety shields.

Topics for submission include (but are not limited to):

- Safety assurance under uncertainty
- Learning and synthesizing control barrier functions for unknown dynamic systems
- Uncertainty quantification for unknown systems
- Safety assurance during both exploitation and exploration
- Safe and efficient exploration during safe learning
- Applications of safety-critical learning and control

More information is available at our website: https://sites.google.com/view/safe-control

For more details and important dates, see page 7.

CFPs for Upcoming Focused Sections/Special Issues in Journals

IEEE Open Journal of Control Systems *– Special Section on Machine Learning and Control* (*See page 5*)

IEEE/ASME Transactions on Mechatronics (TMECH) *- The Third Edition of Focused Section on TMECH/AIM Emerging Topics* (*See page 8*)

The Dynamic Systems and Control Division Newsletter is published twice annually (summer & winter) to the division's email list. Please submit your items for publication by e-mail to the editorial office:

Editor: Tuhin Das, University of Central Florida, Tel: 407-823-5792, E-mail: Tuhin.Das@ucf.edu

Associate Editor: Huazhen Fang, University of Kansas, Tel: (785) 864-8126, E-mail: fang@ku.edu

Call for Papers:

IEEE Open Journal of Control Systems

Special Section on Machine Learning and Control

The *IEEE Open Journal of Control Systems* is a new publication of the IEEE Control Systems Society. The journal aims to publish high-quality papers on the theory, design, optimization, and applications of dynamic systems and control. The Editorial Board on the back of this brochure demonstrates the breadth of areas covered within the journal.

The journal's main mission is the promotion of open access to all control systems research and education publications, including software, and data. Some journal highlights include:

- *Special emphasis areas* are the interplay between data science and control, and the interdisciplinary connection of dynamic systems and controls with diverse applications in biological, social, cognitive, and cyber-physical systems.
- *New publication categories* will be featured in addition to regular papers, including overview, position, open software/testbed tutorial papers, and reproducible papers in dynamic systems and controls.
- *Upcoming Special Sections and Issues* covering topics such as Brain networks, and Human-Robot Interaction will be announced soon. Special sections such as the one below are not exclusive of other areas in control.

Article Processing Fees (APCs):

Standard flat rate fee of $1850
(No excess page charge)

Discounts:
IEEE Members 5%
IEEE CSS Members 20%

Special Offer: APCs waived for the first 20 accepted papers

Submission site:

opening in September at
`https://css.paperplaza.net/`

Becoming involved:

To become a reviewer or AE, go to `http://ieeecss.org/publication/open-journal-control-systems`, (CSS-OJCS) and/or contact the EiC

Special Section on the intersection of Machine Learning and Control

Unprecedented technological advances have fueled the creation of devices that can collect, generate, store, and transfer large amounts of data. This massive, data outpour is profoundly changing the way in which complex engineering problems are solved, calling for the conception of of new interdisciplinary tools at the intersection of machine learning, dynamic systems and control, and optimization. While the repurposing of control theories building on new Machine Learning methods can be highly successful, Dynamic Systems and Control can greatly contribute to analyze and devise novel adaptive, safety-critical controllers with performance guarantees. This special issue aims to contribute to this growing area of interest, and calls thus for papers in this topical area. The submission of papers in this area will open in September. For more detailed information, please visit:

`http://ieeecss.org/publication/open-journal-control-systems`

IEEE OJCS Editorial Board

IEEE OJCS EDITOR-IN-CHIEF

IEEE OJCS ADVISORY EDITORIAL BOARD

IEEE OJCS SENIOR EDITORS

IEEE OJCS ASSOCIATE EDITORS

Workshop Title: Safe Control and Learning under Uncertainty

We are now accepting submissions to the **Safe Control and Learning under Uncertainty** workshop, to be held virtually on Oct. 24, 2021 with the **Modeling, Estimation and Control Conference**.

This is a full-day workshop that aims to bring together researchers who work in the field of safe control and learning under uncertainties. We will discuss recent progress in the development of safe control methods (including control barrier functions, Hamilton Jacobian reachability analysis, safe set algorithms, potential field methods, sliding mode methods, etc.) and safe learning controllers that use these safe control methods as safety monitors or safety shields.

Topics for submission include (but are not limited to):

- Safety assurance under uncertainty
- Learning and synthesizing control barrier functions for unknown dynamic systems
- Uncertainty quantification for unknown systems
- Safety assurance during both exploitation and exploration
- Safe and efficient exploration during safe learning
- Applications of safety-critical learning and control

More information is available at our website: https://sites.google.com/view/safecontrol

*** Submissions ***
Our workshop accepts **extended abstracts** (2 pgs excluding references) and **short/position papers** (4 pgs excluding references) in IEEE two column format. Papers will undergo a single-blind peer review process, and accepted papers and posters will be hosted on our website. We are a non-archival workshop, meaning we also accept iterations on previous or ongoing work.

*** Important Dates ***
Sep. 15, 2021 first submission deadline
Sep. 25, 2021 acceptance notification
Oct. 10, 2021 final version submission deadline

Organizers
Changliu Liu, Carnegie Mellon University
Wenlong Zhang, Arizona State University
Jianyu Chen, Tsinghua University
Masayoshi Tomizuka, University of California, Berkeley

IEEE/ASME TRANSACTIONS ON MECHATRONICS

AIM 2021 DELFT

First Call for Papers

The Third Edition of Focused Section on TMECH/AIM Emerging Topics

Submissions are called for the Third Edition of Focused Section (FS) on TMECH/AIM Emerging Topics. This Focused Section is intended to expedite publication of novel and significant research results, technology and/or conceptual breakthrough of emerging topics within the scopes of TMECH (www.ieee-asme-mechatronics.org). It also provides the rapid access to the state-of-the-art of TMECH publications within the mechatronics community.

The submitted paper must not exceed 8 TMECH published manuscript pages, excluding photos and bios of authors, and will be subject to a peer review process in the standard of TMECH. All final accepted papers from submissions to the Focused Section will be published in August Issue of TMECH in 2022 and will be presented in the 2022 IEEE/ASME International Conference on AIM (AIM 2022, aim2022.org). The rejected papers from submissions will be transferred to the Program Committee of AIM 2022 for further review and consideration as contributed conference papers.

The review process for submissions to this Focused Section will be conducted in up to two rounds with one Major/Minor Revision allowed, and the final decision falls into one of the following two categories:

1. Accept for publication in Focused Section. In this case, the paper will be accepted by AIM 2022 concurrently for presentation only with full information of the paper to be included in the preprinted proceeding of AIM 2022. The final publication in TMECH, however, will be subject to the completion of presentation in AIM 2022 with paid full registration fee.
2. Reject for publication in Focused Section (after the first or second round). In this case, the paper, as well as all review comments, will be forwarded to the Program Committee of AIM 2022 for further consideration. A final Accept/Reject decision will then be made by the Committee as a contributed conference paper for AIM 2022.

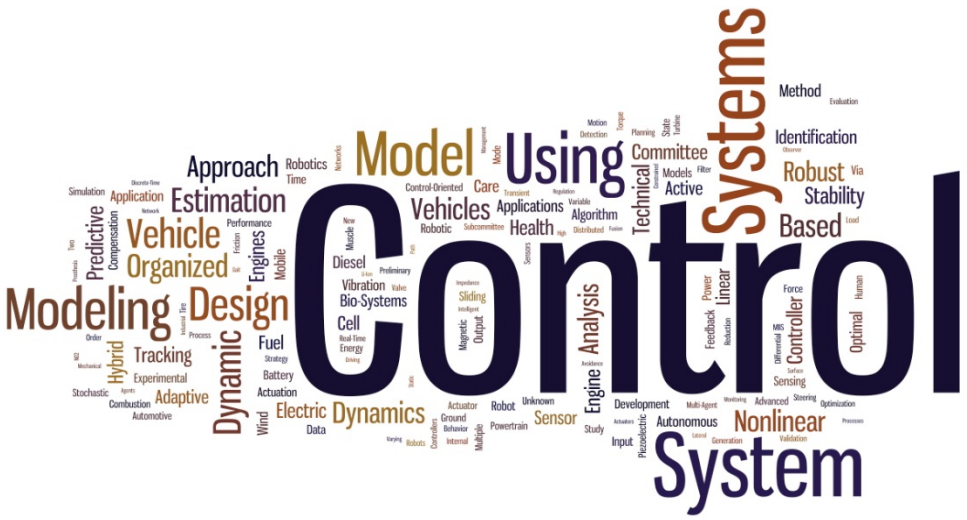
Manuscript preparation
Papers must contain original contributions and be prepared in accordance with the journal standards. Instructions for authors are available online on the TMECH website.

Manuscript submission
Manuscripts should be submitted to TMECH online at: mc.manuscriptcentral.com/tmech-ieee, selecting the track 'TMECH/AIM Emerging Topics'. The cover letter should include the following statement: This paper is submitted to the Third Edition of Focused Section on TMECH/AIM Emerging Topics. The full information of the paper should be uploaded concurrently to AIM 2022 online at: ras.papercept.net/conferences/scripts/start.pl., noted with the given TMECH manuscript number in the designated area.

Submission/Review/Decision Timeline (tentative):

Opening Date of TMECH/AIM FS Submission Site (first submission):	November 1, 2021
Closing Date of TMECH/AIM FS Submission Site (first submission):	January 5, 2022
Full Information of TMECH/AIM FS Paper Submitted to AIM Site:	January 5, 2022
First Decision for TMECH/AIM FS Submission:	March 1, 2022
Revised TMECH/AIM FS Submission Due by:	March 26, 2022
Final Decision for TMECH/AIM FS Submission:	May 1, 2022
Final Version of TMECH/AIM FS Submission Due by:	May 15, 2022
Publication of Focused Section in TMECH:	August 2022

Contacts: For any questions related to this Call for Paper, please contact:
Xiang Chen, xchen@uwindsor.ca, Senior Editor of TMECH,
Toshiaki Tsuji, tsuji@ees.saitama-u.ac.jp, Program Chair of AIM 2022.



DSCD Newsletter WINTER 2021

January 05, 2022

DYNAMIC SYSTEMS AND CONTROL DIVISION NEWSLETTER

IN THIS ISSUE

Editor's Note

Dear colleagues,

As we bring the winter 2021 newsletter of ASME DSCD, we hope that all members of the community are safe and healthy. This issue reports several exciting news and updates.

In Honors and awards, we report the DSCD awards for 2021, which includes the Rufus T. Oldenburger Medal conferred to Prof. Shankar Sastry, the Yasundo Takahashi Education Award conferred to Prof. Tarunraj Singh, the Young Investigator Award conferred to Prof. Scott Moura, the Nyquist Lecture given by Prof. Dawn Tilbury and the Rudolf Kalman Best Paper Award conferred to Zhanhong Jiang, Venkatesh Chind, Adam Kohl, Prof. Atul Kelkar and Prof. Soumik Sarkar.

We next post an announcement of the upcoming MECC 2022, along with a call for paper. Position announcements are reported next. This is followed by calls for papers in two upcoming focused sections/special issues, in *IEEE/ASME Transactions on Mechatronics (TMECH)* and in the *IEEE Vehicular Technology Magazine.*

We hope all DSCD members enjoyed a happy and relaxing winter break and wish everyone a happy new year 2022. Thank you for your continued support of the DSCD Newsletter and we look forward to your future submissions.

Best Regards,
Editor: Tuhin Das, University of Central Florida
Associate Editor: Huazhen Fang, University of Kansas

Honors and Awards

DSCD 2021 Rufus T. Oldenburger Medal

Shankar Sastry

Thomas Siebel Professor of Computer Science

Depts. of Elec. Engg. & Computer Sciences, Bioengineering, and Mechanical Engineering

University of California, Berkeley

Citation: For fundamental contributions to the foundations of nonlinear, adaptive and hybrid control, control of robots and vehicles, and for contributions to control and robotics education.

Shankar Sastry is currently the Thomas Siebel Professor of Computer Science. He is also the director of the Blum Center for Developing Economies, a Center spanning the ten campuses of the University of California, dedicated to the use of technology and innovative business models to lift people out of poverty. He is also the co-Director of the C3 Digital Transformation Institute (C3DTI), a data sciences institute spanning Berkeley, UIUC, CMU, Chicago, MIT, Princeton, Royal Institute of Technology, Stockholm, and Stanford. C3DTI is an institute aimed to develop the science and technology of digital transformation in societal systems such as in health care, energy systems, transportation systems. Additional he has helped launch a new FHL Vive Center for Enhanced Reality for exploring the boundaries between augmented reality and real scenes with applications to autonomy, performance arts, and education. He has faculty appointments in the departments of Electrical Engineering and Computer Sciences, Bioengineering and Mechanical Engineering. From 2007-2018 he was the Dean and Roy W. Carlson Professor of Engineering. From 2004 to 2007 he was the Director of CITRIS (Center for Information Technology in the Interests of Society) an interdisciplinary center spanning UC Berkeley, Davis, Merced and Santa Cruz. He has served as Chairman, Department of Electrical Engineering and Computer Sciences, University of California, Berkeley from January, 2001 through June 2004. From 1999-2001, he was the Director of the Information Technology Office at the Defense Advanced Research Projects Agency (DARPA) in Arlington, VA. Dr. Sastry received his Ph.D. degree in 1981 from the University of California, Berkeley. He was on the faculty of MIT as Asst. Professor from 1980-82 and Harvard University as a Gordon Mc Kay professor in 1994.

His areas of personal research are AI and Machine Learning, resilient cyber physical systems, mechanism design and incentive theory for the digital transformation system of complex societal scale systems networks, cybersecurity, autonomous robotic vehicles and robots, computer vision, nonlinear and adaptive control, control of hybrid and embedded systems. He is also deeply committed to the use of technology to lift people out of poverty as testified by his work with USAID, PhilDev, and other international foundations through his directorship of the Blum Center for Developing Economies. From 2006-2017 he led a ten-year NSF Science and Technology Center (with multi-university partners), TRUST (Team for Research in Ubiquitous Secure Technologies) and its successor five-year center 2013-19, FORCES (Foundations of Resilient Cyber Physical Systems).

He has coauthored about 600 technical papers. He has co-authored or co-edited 10 books, including Adaptive Control: Stability, Convergence and Robustness (with M. Bodson, Prentice Hall, 1989) and A Mathematical Introduction to Robotic Manipulation (with R. Murray and Z. Li, CRC Press, 1994), Nonlinear Systems: Analysis, Stability and Control (Springer-Verlag, 1999), and An Invitation to 3D Vision: From Images to Models (Springer Verlag, 2003) (with Y. Ma. S. Soatto, and J. Kosecka)., and Generalized Principal Component Analysis (Springer Verlag, 2016 with R. Vidal and Y. Ma). Dr. Sastry served as Associate Editor for numerous publications, including: IEEE Transactions on Automatic Control; IEEE Control Magazine; IEEE Transactions on Circuits and Systems; the Journal of Mathematical Systems, Estimation and Control; IMA Journal of Control and Information, International Journal of Adaptive Control and Signal Processing; Journal of Biomimetic Systems and Materials, the IEEE Proceedings. Dr. Sastry was elected to the National Academy of Engineering in 2001 the American Academy of Arts and Sciences in 2004, Fellow of IEEE in 1994, and International Federation of Automatic Control Fellow in 2016.

He received the President of India Gold Medal in 1977, the IBM Faculty Development in 1983, the NSF Presidential Young Investigator Award in 1985. He got the Eckman Award of the American Automatic Control Council in 1990, and the Ragazzini Award for Distinguished Accomplishments in teaching in 2005. He received an M. A. (honoris causa) from Harvard in 1994, an honorary Ph.D. from KTH, the Royal Institute of Technology, Stockholm in 2007, an honorary Ph.D. from the Royal Institute of Technology, Stockholm in 2008, a Ph.D. Honoris causa from the University of Waterloo, Canada in 2016, and a Laurea Dottorato honoris causa from Politecnico di Torino in 2018, and the Berkeley Citation in 2018. He has also received the distinguished Alumnus Award of the Indian Institute of Technology in 1999, the International House at UC Berkeley, and the David Marr prize for the best paper at the International Conference in Computer Vision in 1999.

He has been a member of the Air Force Scientific Advisory Board from 2002-05 and the Defense Science Board in 2008 among other national boards. He has been on the Scientific Advisory Boards of the National Science Foundation, Engineering Directorate, Lockheed Martin

Corporation and the United Nations Secretary General, the World Economic Forum Global Development Council, Interwest LLC, and Eriksholm Otticon. He is currently on the corporate boards of C3.ai, HCL Technologies, and Lexmark Corporation. He has supervised about 70 doctoral students and over 50 MS students to completion, as well as over 30 post-doctoral scholars. His former advisees occupy leadership roles on the faculties of many major universities in the United States and abroad.

DSCD 2021 Yasundo Takahashi Education Award

Tarunraj Singh

Department of Mechanical & Aerospace Engineering

University at Buffalo

Citation: In recognition of his excellence and creativity in teaching and graduate student mentoring in the field of dynamics and controls and particularly in the areas of command shaping, vibrations and precision motion control.

Tarunraj Singh earned his Ph.D. at the University at Waterloo in Canada and is currently a professor in the Mechanical and Aerospace Engineering department at the University at Buffalo. His work focuses on precision motion control in the presence of uncertainty, nonlinear estimation, acoustic metamaterial, and global sensitivity analysis. He has authored a textbook on command shaping entitled "Optimal Reference Shaping for Dynamical Systems." Some of his applications include control of hard disk drives, forecasting of volcanic ash plumes, controller design for Type 1 diabetes, and optimal control of UxVs.

Singh is a fellow of the American Society of Mechanical Engineers and the American Association for the Advancement of Science and has been recognized with the Northeastern Association of Graduate Schools Graduate Teaching Award, and SAE Ralph Teetor Award. He has also been a von Humboldt Fellow, NASA summer faculty Fellow, a Fellow of the Japanese Society for the Promotion of Science, and a von Karman Fellow.

DSCD 2021 Young Investigator Award

Scott Moura

Clare and Hsieh Wen Shen Endowed Distinguished Professor

Department of Civil & Environmental Engineering

University of California, Berkeley

Citation: For outstanding contributions in estimation, learning, and optimization of energy systems including electrochemical batteries, automated and electric vehicles, and clean energy systems.

Scott Moura is the Clare and Hsieh Wen Shen Endowed Distinguished Professor in Civil & Environmental Engineering and Director of the Energy, Controls, & Applications Lab (eCAL) at the University of California, Berkeley. He also currently serves as Chair of Engineering Science and Faculty Director of PATH (starting in January 2022). He received the B.S. degree from the University of California, Berkeley, CA, USA, and the M.S. and Ph.D. degrees from the University of Michigan, Ann Arbor, in 2006, 2008, and 2011, respectively, all in mechanical engineering. From 2011 to 2013, he was a Post-Doctoral Fellow at the Cymer Center for Control Systems and Dynamics, University of California, San Diego. In 2013, he was a Visiting Researcher at the Centre Automatique et Systèmes, MINES ParisTech, Paris, France. His research interests include control, optimization, and machine learning for batteries, electrified vehicles, and distributed energy resources.

Dr. Moura is a recipient of the National Science Foundation (NSF) CAREER Award, Carol D. Soc Distinguished Graduate Student Mentor Award, the Hellman Fellowship, the O. Hugo Shuck Best Paper Award, the ACC Best Student Paper Award (as advisor), the ACC and ASME Dynamic Systems and Control Conference Best Student Paper Finalist (as student and advisor), the UC Presidential Postdoctoral Fellowship, the NSF Graduate Research Fellowship, the University of Michigan Distinguished ProQuest Dissertation Honorable Mention, the University of Michigan Rackham Merit Fellowship, and the College of Engineering Distinguished Leadership Award.

DSCD 2021 Nyquist Lecture

Dawn M. Tilbury

Departments of Mechanical Engineering and Electrical Engineering & Computer Science

University of Michigan

Dawn M. Tilbury received the B.S. degree in Electrical Engineering from the University of Minnesota in 1989, and the M.S. and Ph.D. degrees in Electrical Engineering and Computer Sciences from the University of California, Berkeley, in 1992 and 1994, respectively. In 1995, she joined the Mechanical Engineering Department at the University of Michigan, Ann Arbor, where she is currently Professor, with a joint appointment as Professor of EECS and a Core Member of the Robotics Institute. Her research interests include smart manufacturing systems and humans interacting with automated vehicles. She was elected Fellow of the IEEE in 2008 and Fellow of the ASME in 2012, and is a Life Member of SWE. From 2017-2021, she was on leave from the University of Michigan, serving as Assistant Director for Engineering at the US National Science Foundation (NSF).

Nyquist Lecture: Cyber-physical manufacturing systems: Leveraging data for improved quality and resiliency

ABSTRACT: Cyber-physical systems, in which computation and networking technologies interact with physical systems, have made great strides into manufacturing systems. By increasing the amount of automation, at multiple levels within a factory and across the enterprise, cyber-physical manufacturing systems enable higher productivity and higher quality, as well as lower costs. Real-time data from the factory floor populates "digital twins", resulting in resilient systems that can respond and adapt to disturbances and other environmental changes.

DSCD 2021 Rudolf Kalman Best Paper Award

Zhanhong Jiang[1], Venkatesh Chind[1], Adam Kohl[1], Atul Kelkar[2] and Soumik Sarkar[1]
1 Department of Mechanical Engineering, Iowa State University
2 Department of Mechanical Engineering, Clemson University

For their paper:
"Supervisory Control and Distributed Optimization of Building Energy Systems," published in the *ASME Journal of Dynamic Systems Measurements and Control*, October 2020, vol. 142 / 101008-1.

Prof. Rajesh Rajamani Elevated to IEEE Fellow

Prof. Rajesh Rajamani from the University of Minnesota was elevated to the status of IEEE Fellow in November 2021. This award is in recognition of his contributions to estimation and vehicle control in intelligent transportation systems. The IEEE Fellow grade is the highest grade of membership in IEEE. Each year, following a rigorous evaluation procedure, the IEEE Board of Directors confers a select group of recipients (less than 0.1% of voting members) with the IEEE Fellow title.

Prof. Rajamani is the Benjamin Y.H. Liu / TSI Applied Technology Chair, Mechanical Engineering at the University of Minnesota, Minneapolis. His research focuses on the design of estimation algorithms, sensors and controllers for smart and autonomous systems.

(https://cse.umn.edu/me/rajesh-rajamani)

2022 Modeling Estimation and Control Conference, MECC 2022

Modeling, Estimation and Control Conference 2022 (Jersey City, NJ, Oct 2-5, 2022)
MECC 2022
Sponsored by AACC IFAC

The second Modeling, Estimation and Control Conference (MECC 2022), sponsored by the American Automatic Control Council (AACC) and co-sponsored by the International Federation of Automatic Control (IFAC), will be held October 1-5, Saturday – Wednesday, 2022, at the Westin Hotel in Jersey City, NJ, United States. On behalf of the MECC 2022 Organizing Committee, AACC, and IFAC, we cordially invite you to participate in the conference and enjoy a unique opportunity to network with colleagues. (*See CFP on page 6*)

MECC 2022 aims to serve the scientific and engineering communities with interests in modeling, estimation, and control of cross-disciplinary mechanical systems; to provide a platform for dissemination and discussion of the state of the art in relevant research areas; and to create opportunities for networking with colleagues. The conference features conference awards, contributed sessions, invited sessions, workshops, special sessions, plenary talks, keynote speeches, student programs, as well as committee meetings, industry programs, and social functions.

MECC 2022 invites (1) manuscripts that report original research on all aspects of modeling, estimation, and control; and (2) proposals for invited, special, and tutorial sessions, and workshops on emerging topics. Exhibits from both industries and research labs are welcome. All manuscripts and proposals will be peer-reviewed through PaperCept (https://ifac.papercept.net), and all accepted papers must be presented at the conference by an author of the paper. MECC 2022 conference proceedings will be published via the IFAC-PapersOnLine which is open access and indexed in EI, Scopus, Web of Science, and INSPEC.

The tentative deadline for special and invited session proposals and tutorial and workshop proposals is April 4th, 2022, and April 8th, 2022 for contributed and invited papers. The notification of paper acceptance is available on June 27th, 2022. Please visit the conference website at http://mecc2022.a2c2.org/ for more details.

With only 20 minutes ride from the Newark International Airport and its location at the bank of Hudson River facing Manhattan downtown skylines, the conference venue at Westin-Jersey City Newport provides the state-of-the-art environment and support to all attendees to enjoy the conference and the surround areas including New York City via the adjacent PATH Metro or Ferry.

The MECC 2022 organizing committee are making every effort towards a fruitful, memorable, and successful conference. We look forward to your participation in October 2022 in Jersey City, USA!

Qingze Zou, General Chair
Xu Chen, Program Chair

Position Announcements

Faculty Position in Spaceflight Engineering at UC Davis
(***See:*** https://recruit.ucdavis.edu/JPF04472)

Faculty Position in Advanced Manufacturing Science and Engineering at UC Davis
(***See:*** https://recruit.ucdavis.edu/JPF04586)

CFPs for Upcoming Focused Sections/Special Issues in Journals

IEEE/ASME Transactions on Mechatronics (TMECH) *- The Third Edition of Focused Section on TMECH/AIM Emerging Topics* (*See page 7*)

IEEE Vehicular Technology Magazine *– Special Issue on Recent Advances Automated Driving Technologies* (*See page 8*)

The Dynamic Systems and Control Division Newsletter is published twice annually (summer & winter) to the division's email list. Please submit your items for publication by e-mail to the editorial office:

Editor: Tuhin Das, University of Central Florida, Tel: 407-823-5792, E-mail: Tuhin.Das@ucf.edu

Associate Editor: Huazhen Fang, University of Kansas, Tel: (785) 864-8126, E-mail: fang@ku.edu

Advisory Committee
Masayoshi Tomizuka, University of California, Berkeley
Galip Ulsoy, University of Michigan, Ann Arbor
George Chiu, Purdue University
Anna Stefanopoulou, University of Michigan, Ann Arbor

Steering Committee
Junmin Wang, University of Texas, Austin
Hosam K. Fathy, University of Maryland, College Park
Atul Kelkar, Clemson University
Jiong Tang, University of Connecticut

General Chair
Qingze Zou, Rutgers the State University of New Jersey
Program Chair
Xu Chen, University of Washington
Conference Editorial Board Chair
Qian Wang, Pennsylvania State University
Invited Sessions Chair
Yaoyu Li, University of Texas - Dallas
Workshops/Tutorial Chair
Zongxuan Sun, University of Minnesota
Finance Chair
Tuhin Das, University of Central Florida
Registration Chair
Douglas Bristow, Missouri University of Science and Technology
Exhibit Chair
Kenn Oldham, University of Michigan
Publicity Chair
Manish Kumar, University of Toledo
Publication Chair
Chinedum Okwudire, University of Michigan, Ann Arbor
Local Arrangement Chair
Cong Wang, New Jersey Institute of Technology
Students/Young Member Chair
Ellen Yi Chen Mazumdar, Georgia Institute of Technology

International Co-Chairs
Tom Oomen, Eindhoven University of Technology
Soo Joen, University of Waterloo
Qingsong Xu, University of Macau
Yuen Kuan Yong, University of Newcastle, Australia

Call for papers: 2022 Modeling, Estimation and Control Conference (MECC 2022)

October 1-5, 2022 (Saturday – Wednesday), at Westin Hotel in Jersey City, NJ, United States.
The second Modeling, Estimation and Control Conference (MECC 2022), sponsored by the American Automatic Control Council (AACC) and co-sponsored by the International Federation of Automatic Control (IFAC), will be held October 1-5, Saturday – Wednesday, 2022, at Westin Hotel in Jersey City, NJ, United States. On behalf of the MECC 2022 Organizing Committee, AACC, and IFAC, we cordially invite you to participate in the conference and enjoy a unique opportunity to network with colleagues.

MECC 2022 aims to serve the scientific and engineering communities with interests in modeling, estimation, and control of cross-disciplinary mechanical systems; to provide a platform for dissemination and discussion of the state of the art in relevant research areas; and to create opportunities for networking with colleagues. The conference features conference awards, contributed sessions, invited sessions, workshops, special sessions, plenary talks, keynote speeches, student programs, as well as committee meetings, industry programs, and social functions.

MECC 2022 invites (1) manuscripts that report original research on all aspects of modeling, estimation, and control; and (2) proposals for invited, special, and tutorial sessions, and workshops on emerging topics. Exhibits from both industries and research labs are welcome. All manuscripts and proposals will be peer-reviewed through PaperCept (https://ifac.papercept.net), and all accepted papers must be presented at the conference by an author of the paper. MECC 2022 conference proceedings will be published via the IFAC-PapersOnLine which is open access and indexed in EI, Scopus, Web of Science, and INSPEC.

All IFAC Affiliates will be offered a discount on the registration rate. In addition, registration discounts will be offered to those who belong to any one of AACC's 9 member societies: AIAA, AIChE, ASCE, ASME, APS, IEEE, ISA, SCA, and SIAM.

Accepted papers will be published in the proceedings of the event using the open-access IFAC-PapersOnLine series hosted on ScienceDirect (https://sciencedirect.com/). To this end, the author(s) must grant exclusive publishing rights to IFAC under a Creative Commons license when submitting the final version of the paper. The copyright belongs to the authors, who have the right to share the paper in the same terms allowed by the end user license, and retain all patent, trademark and other intellectual property rights (including research data). Substantially extended versions of the conference paper can be submitted to journals of the above AACC member societies, with IFAC and non-IFAC journals. To read more, please visit IFAC publications guidelines for conferences at https://www.ifac-control.org/publications/Editors%20Guide.

More detailed information will be provided at the conference website: https://mecc2022.a2c2.org.

IEEE/ASME TRANSACTIONS ON MECHATRONICS

Call for Papers

The Third Edition of Focused Section on TMECH/AIM Emerging Topics

Submissions are called for the Third Edition of Focused Section (FS) on TMECH/AIM Emerging Topics. This Focused Section is intended to expedite publication of novel and significant research results, technology and/or conceptual breakthrough of emerging topics within the scopes of TMECH (www.ieee-asme-mechatronics.org). It also provides the rapid access to the state-of-the-art of TMECH publications within the mechatronics community.

The submitted paper must not exceed 8 TMECH published manuscript pages, excluding photos and bios of authors, and will be subject to a peer review process in the standard of TMECH. All final accepted papers from submissions to the Focused Section will be published in August Issue of TMECH in 2022 and will be presented in the 2022 IEEE/ASME International Conference on AIM (AIM 2022, aim2022.org). The rejected papers from submissions will be transferred to the Program Committee of AIM 2022 for further review and consideration as contributed conference papers.

The review process for submissions to this Focused Section will be conducted in up to two rounds with one Major/Minor Revision allowed, and the final decision falls into one of the following two categories:

1. Accept for publication in Focused Section. In this case, the paper will be accepted by AIM 2022 concurrently for presentation only with full information of the paper to be included in the preprinted proceeding of AIM 2022. The final publication in TMECH, however, will be subject to the completion of presentation in AIM 2022 with paid full registration fee.
2. Reject for publication in Focused Section (after the first or second round). In this case, the paper, as well as all review comments, will be forwarded to the Program Committee of AIM 2022 for further consideration. A final Accept/Reject decision will then be made by the Committee as a contributed conference paper for AIM 2022.

Manuscript preparation
Papers must contain original contributions and be prepared in accordance with the journal standards. Instructions for authors are available online on the TMECH website.

Manuscript submission
Manuscripts should be submitted to TMECH online at: mc.manuscriptcentral.com/tmech-ieee, selecting the track 'TMECH/AIM Emerging Topics'. The cover letter should include the following statement: This paper is submitted to the Third Edition of Focused Section on TMECH/AIM Emerging Topics. The full information of the paper should be uploaded concurrently to AIM 2022 online at: ras.papercept.net/conferences/scripts/start.pl., noted with the given TMECH manuscript number in the designated area.

Submission/Review/Decision Timeline (tentative):

Opening Date of TMECH/AIM FS Submission Site (first submission):	November 1, 2021
Closing Date of TMECH/AIM FS Submission Site (first submission):	January 5, 2022
Full Information of TMECH/AIM FS Paper Submitted to AIM Site:	January 5, 2022
First Decision for TMECH/AIM FS Submission:	March 1, 2022
Revised TMECH/AIM FS Submission Due by:	March 26, 2022
Final Decision for TMECH/AIM FS Submission:	May 2, 2022
Final Version of TMECH/AIM FS Submission Due by:	May 15, 2022
Publication of Focused Section in TMECH:	August 2022

Contacts: For any questions related to this Call for Paper, please contact:
Xiang Chen, xchen@uwindsor.ca, Senior Editor of TMECH,
Toshiaki Tsuji, tsuji@ees.saitama-u.ac.jp, Program Chair of AIM 2022.

IEEE VTS
Connecting the Mobile World

SPECIAL ISSUE

IEEE VEHICULAR TECHNOLOGY Magazine
Connecting the Mobile World

IMPACT FACTOR 10.384

Recent Advances in Automated Driving Technologies

IMPORTANT DATES

- Manuscript Submission by **11 February 2022**
- First Round Reviews **13 May 2022**
- Second Round Submissions **30 June 2022**
- Second Round Reviews / Editorial Decisions **26 August 2022**
- Final Articles Due **6 September 2022**
- Publication **December 2022**

GUEST EDITORS

Basilio Lenzo
University of Padua, Italy

Ricardo de Castro
University of California Merced, USA

Yan Chen
Arizona State University, USA

Shaobing Xu
University of Michigan, USA

Xudong Zhang
Beijing Institute of Technology, China

We live in the era of the advent of automated vehicles. These machines will bring dramatic changes to both the automotive industry and everyday life, revolutionizing the concept of passenger mobility. Perception is crucial for an autonomous vehicle, and presents important challenges, many of which are still to be addressed. The choice of sensors is pivotal, yet there is still no general consensus on what the "best" sensory equipment should consist of. Perception-related information is then used to make timely decisions on path planning and vehicle dynamics control, to ensure efficient and safe vehicle behavior. In this context, the importance of the role of machine learning algorithms is increasing quickly, in the generation of trajectories perceivable as "natural" by the car occupants for example, or in object recognition.

This Special Issue encourages researchers working in this field to share their latest developments on sensing and perception, path planning and decision making, machine learning and control using data-driven learning or physics-driven algorithms, focusing on technologies directly applicable to autonomous vehicles. The topics of interest include, but are not limited to:

- **Sensors**, including vision-related equipment such as cameras, radars, lidars, ultrasounds and digital image processing challenges, as well as inertial measurements for vehicle dynamics
- **Cooperative perception** technologies, sensor fusion techniques and their specific peculiarities, vehicular network technologies for data transmission
- **Motion planning** frameworks and technologies, including indoor and outdoor navigation, decision making, trajectory following
- **Artificial intelligence** techniques, including machine learning, deep learning, neural networks, training and robustness issues, algorithmic stability, safety and standardisation, challenges related to public trust and acceptance
- **Motion control algorithms**, including advanced control for longitudinal, lateral and vertical vehicle dynamics communications
- **Modeling and simulation methods** to assess vehicle automated driving functions, including virtual and experimental/field testing techniques and implementations in embedded systems
- **Diagnosis and fault estimation** of safety-critical vehicular sub-systems, actuators and sensors of automated vehicles
- **Connected vehicles**, exploiting connectivity with other vehicles and infrastructure in the design of vehicular control and estimation functions
- **Standardization** opportunities in vehicle automated driving, including analysis of existing standards and discussion of future standardization needs, such as safety metrics of automated vehicles
- **Application case-studies** in passenger cars, off-road vehicles, heavy-duty vehicles, buses, bikes, etc.

Submitted papers should contain state-of-the-art research material presented in a tutorial or survey style. All manuscripts should adhere to the IEEE VTM guidelines at http://www.ieeevtc.org/vtmagazine/submission.php. Authors should submit a PDF version of their complete manuscripts to http://mc.manuscriptcentral.com/vtm-ieee.

DSCD Financial Update

Rajesh Rajamani

University of Minnesota

DSCD Treasurer

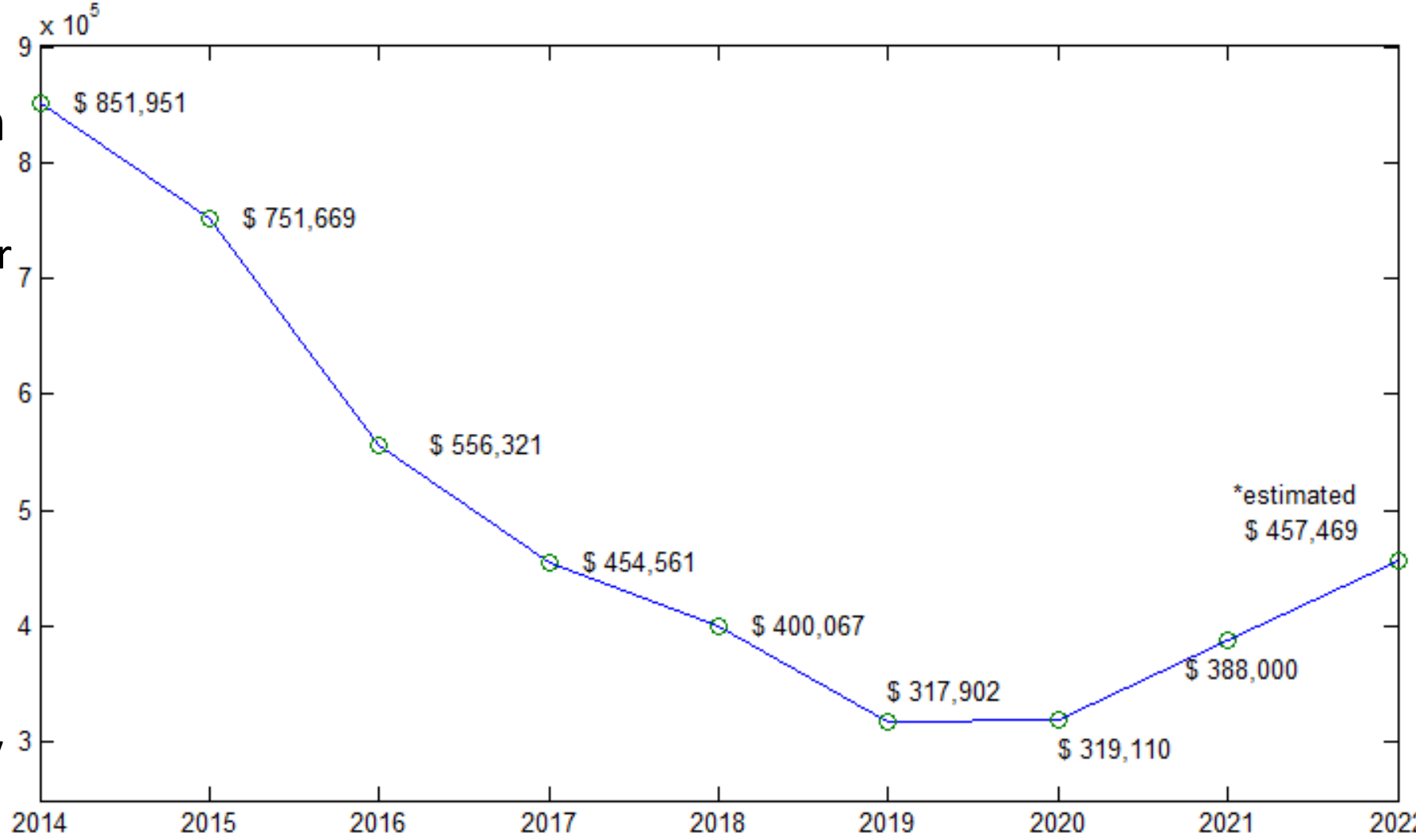
June 8, 2022

Division Meeting at the 2022 ACC

DSCD Segregated Account Summary

- History of account balance over recent years

  - 2014-2019: Significant decline in account balance
    - Significant spending for the DSC Supplement.
    - Conference losses.
  - 2019-2022: The fiscal balance curve has turned around and started to grow.
    - Profitable conferences, recovery of old travel funds, lower expenses.



Current Fiscal Year Conference Revenue

- All conferences in FY22 were profitable and will contribute positive returns to DSCD.
- 2021 ACC
  - ASME Portion of ACC Surplus: $77,991.58
  - Expenses for student registrations at ACC: $1,025.00
  - Net surplus return to ASME: $76,966.58
- 2021 MECC
  - Net conference surplus: $24,869.39
  - The portion of surplus that will be returned to ASME will be determined later this month.
  - Future MECCs will track registrations by Society Membership to facilitate surplus return calculations.
- 2021 AIM
  - ASME Portion of conference surplus: $6,025.

Proposed Spending Plan for Fiscal Year 2023

Categories	Definition	FY 22	FY 23 (w/o TCs)	FY 23 (TCs)	Total
ASME Event Support	Registration, travel, lodging, food, etc	$ 2,000	$ 2,000		$ 2,000
Face-to-Face Meetings	Leadership meetings, planning meetings, etc	$ 5,950	$ 8,000	$ 2,700	$ 10,700
Honors & Awards	Division and TCs	$ 10,800	$ 4,000	$ 6,800	$ 10,800
New Initiatives	New products, conferences, etc	$ 2,450	$ 0	$ 1,500	$ 1,500
Newsletter and Communications Activities	Publications, publicity, etc.	$ 500	$ 500		$ 500
Programs and Philanthropy	ASME Foundation, STEM competitions, etc	$ 0	$ 0		$ 0
Student and Early Career Activities	Collegiate council, student support, etc	$ 12,000	$ 15,400		$ 15,400
Volunteer and Member Support	Non-ASME conference support	$ 2,000	$ 2,000		$ 2,000
Total		$ 35,700	$ 31,900	$ 11,000	$ 42,900

- Major categories of spending: Student activities ($15,400), TC budgets ($11,000), cost of meetings at conferences ($10,700) and honors & awards ($4,000).
- Special student events for rejuvenating in-person participation.

ASME Dynamic Systems and Control Division
Technical Committees

June 8, 2022

Marcia O’Malley

Technical Committee Chairs and Membership

- **Automotive and Transportation Systems:** Mahdi Shahbakti, 188 members on email list (2022) [+210 LinkedIn, 337 unique members]
- **Biosystems and Health Care:** Wenlong Zhang, 62 members (2021)
- **Energy Systems:** Chris Vermillion, 257 members (2022)
- **Mechatronics:** Sandipan Mishra, 173 members (2021)
- **Robotics:** Davide Piovesan, 55 members (2022)
- **Vibrations:** Phanindra Tallapragada, 48 members (2021)

Technical Committee Activities
Invited Sessions 2021-2022

- **Automotive and Transportation Systems:** 4 (MECC 2021), 4 (ACC 2022), 4 (MECC 2022)
- **Biosystems and Health Care:** 1 (MECC 2021), 1 (ACC 2022), ACC 2022 workshop
- **Energy Systems:** 7 (ACC 2022), 2 (MECC 2022), 5 (ACC 2021), 2 (MECC 2022)
- **Mechatronics:** 1 (ACC 2022)
- **Robotics:** ACC 2021 workshop, 1 (MECC 2021), 1 (MECC 2022)
- **Vibrations:** 1 (MECC 2021), 1 (ACC 2022), 1 (MECC 2022)

Technical Committee Activities

Special/Tutorial Sessions and Other Events

- **Automotive and Transportation Systems:** proposal for two special sessions "Industry Stories in Control", and Control career in industry and national labs at MECC 2022; 1 journal special issue in JDSMC in 2021, 2 journal special issues in IEEE-Veh Tech Magazine in 2022
- **Biosystems and Health Care:** Special Issue on next generation adative wearable robots in Frontiers in AI and Robotics. Another special issue in Wearable Technologies (Cambridge Press) on wearable ultrasound for prosthetics and exoskeletons. ACC 2022 workshop on human-autonomy interaction and integration
- **Energy Systems:** Student networking event at ACC 2022 (organized by student liaisons)
- **Mechatronics:** Spring 2022 Virtual Meet & Greet with NSF Program Manager (Jordan Berg)
- **Robotics:** ACC 2021 workshop on Legged Robotics
- **Vibrations:** No reported special sessions

Budget Request for FY 22-23

- Standard TC budget is $1500
- Two TCs requested additional funds for special events

Technical Committee	Awards	Refreshments/ Meetings Expenses	Special Events	Total
Vibrations	$ 1,000	$ 500	-	$ 1,500
Robotics	$ 1,000	$ 500		$ 1,500
Mechatronics	$ 1,000	$ 500		$ 1,500
Biosystems and Health Care	$ 1,300	$ 200		$ 1,500
Energy Systems	$ 1,250	$ 500	Student Career Advising Session: $500	$ 2,250
Automotive and Transportation Systems	$ 1,250	$ 500	Two Special Industry Session and Networking Events: $ 1,000	$ 2,750

TC Chairs Meetings

- Fall meeting: Oct 19, 2021
  - NEC development fund proposal submitted by Automotive and Transportation Systems
  - Ways of engaging members in ongoing COVID situation
  - Thoughts on future conferences (DSCC, MECC)
- Spring meeting: March 4, 2022
  - Ideas for TEC support
    - BSHC considering student competition to model COVID transmission
    - ES used Jamboard to brainstorm ideas
  - Discussed challenges of keeping membership engaged and TC activities sustainable
  - Discussed in-person, hybrid, and online meeting format pros/cons

Future focus area → engagement with industry

Technical Committee:
Web, email alias, linked in group

- **Automotive and Transportation:**
  - https://community.asme.org/dynamic_systems_control/w/wiki/16127.automotivetransportation-systems-ats.aspx
  - https://www.linkedin.com/groups/4380983
- **Biosystems and Health Care:**
  - https://sites.google.com/site/asmebshc/
  - asmebshc@googlegroups.com
- **Energy Systems:**
  - https://community.asme.org/dynamic_systems_control/w/wiki/16128.energy-systems.aspx
  - https://www.linkedin.com/groups/4687097
- **Mechatronics:**
  - https://community.asme.org/dynamic_systems_control/w/wiki/16130.mechatronics.aspx
- **Robotics:**
  - https://community.asme.org/dynamic_systems_control/w/wiki/16131.robotics.aspx
- **Vibrations:**
  - https://sites.google.com/site/vibrationdscd/home
  - vibration-dscd-asme-group@googlegroups.com

ASME Update

Prepared for the
Dynamic Systems and Control Division
for their
June 8, 2022
Executive Committee and General Division Meetings

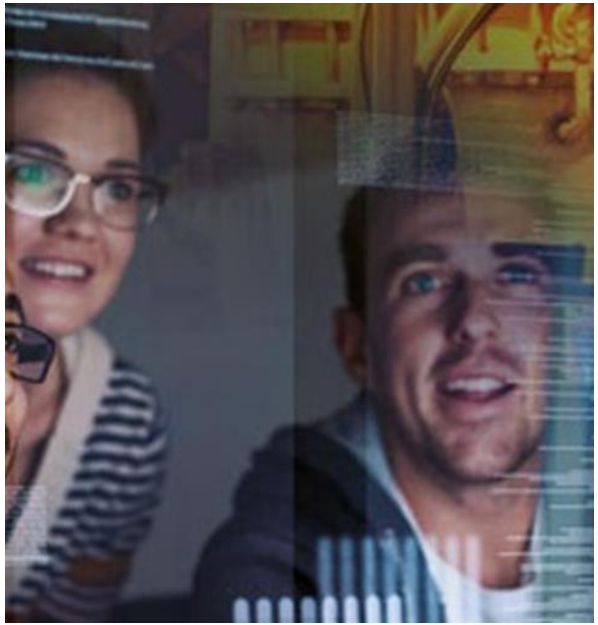
Barbara Zlatnik, CAE
Senior Manager, TEC Operations
zlatnikb@asme.org

Manager, TEC Ops Role for DSCD

- Serve as primary staff support for several divisions, including DSCD
- Ensure volunteer leadership have the tools and resources they need
- Support these groups administratively so volunteers focus on what they do best.
- Assist groups on a strategic level
- Long-term planning
- Succession planning
- Budgeting
- Conferences – Overall administration and future planning
- Consultant and cheerleader for divisions

Technical & Engineering Communities Sector

The Technical and Engineering Communities (TEC) Sector oversees technical divisions and research committees to engage the extraordinary talents of our members' expertise for the advancement of engineering. ASME membership represents a uniquely powerful resource for planning, developing and delivering technical content for conference and events. Through these efforts, members grow and develop personally and professionally.



TEC Sector Senior Vice President:
George Papadopoulos

Staff Lead:
Angelique Vesey, Director, TEC Operations

TEC Sector Structure

» Divisions have direct-line reporting to the TEC Sector

» Monthly Assembly of Division meetings with the TEC Sector leaders and staff provide an opportunity for the Division to receive updates and information as well as the ability to bring issues and ideas to the highest levels of the Society.

- **Assembly meetings foster collaboration among divisions as well as with the TEC Sector leadership**

Technology Groups

Robotics
TGL: Gloria Wiens

Intelligent Manufacturing
TGL: Stephan Biller

Energy Sources and Processing
TGL: Vicki Risinger

Clean Energy
TGL: Frank Michell

Space – Exploration and Habitat
TGL: Mina Pelegri

Gas Turbine
TGL: Mark Zelesky

Digitalization
TGL: Kieran Kavanagh

NanoEngineering
TGL: Ganesh Balasubramanian

The TEC Sector formed Technology Groups under the TEC Council to:

- Provide opportunities for engaging a network of high-level subject matter experts to form a think tank or solve a grand challenge
- Foster collaboration with Divisions, other Technology Groups, and ASME Sectors
- Identify white space that ASME can quickly enter into, develop and create a new product or service in a particular technology area of interest

ASME Robotics Roadmapping Workshop

Sunday, August 14, 2022

In conjunction with IDETC-CIE, St. Lou

St. Louis Union Station Hotel

https://event.asme.org/IDETC-CIE

Help shape the Society's robotics strategy!

Robotics Roadmapping Workshop

Organized by the Robotics Technology Group

Workshop Goal

Create a Robotics Roadmap with a set of implantable recommendations for ASME, which will be published in a co-authored open-access ASME publication.

Program

Keynote speakers and panels followed by facilitated brainstorming sessions.

Learn more: https://event.asme.org/IDETC-CIE/Program/Workshops-Tutorials

Registration for the workshop is free!

You can register for IDETC-CIE and the Workshop or for just the Workshop

New Web Presence for DSCD

https://www.asme.org/get-involved/technical-divisions/technical-divisions-community-pages/dynamic-systems-control-division

Dynamic Systems & Control Division

Dynamic Systems & Control Division (DSCD) evaluate, discuss, analyze and publish new technical results; stimulate research and education innovations; enhance research and education in dynamic systems and control; setting directions for the field.

About

The **Dynamic Systems and Control Division** provides a national and international forum to evaluate, discuss, analyze, and publish new technical results in the field; stimulate and encourage research and education innovations; enhance manpower in research and engineering education in dynamic systems and control; and lead in setting directions for the field in the future. It encompasses all aspects of the modeling, design, and control of physical systems involving forces, motions, the dynamics and control of mechanical, chemical, biological, and human-related systems, plus transportation, energy, robotics, manufacturing, processing, environmental, computational, and man-machine systems.

Dynamic Systems and Control is a fast growing and pervasive engineering field. There is rarely an engineering endeavor that does not involve the careful control, analysis, and/or synthesis of physical, dynamic systems. Be it fluids, thermodynamics, heat transfer, machine design, or materials engineering, systems and control contributions are essential.

The Dynamic Systems and Control Division (DSCD) is one of 36 technical divisions in the American Society of Mechanical Engineers (ASME). The mission of the Division is to provide a national and international forum to: evaluate, discuss, analyze, and publish new technical results in the field; stimulate and encourage research and education innovations; enhance manpower in research and engineering education in dynamic systems and control; and lead in setting directions for the field in the future.

TEC Talks Webinar Series

Friday, August 26, 2022, Noon ET

Haptics: A Hot Topic with Controls at its Core

Sponsored by DSCD

Speaker: Marcia K. O'Malley, PhD.

Rice University
Thomas Michael Panos Family Professor in Mechanical Engineering
Associate Dean for Research and Innovation, George R. Brown School of Engineering

https://www.asme.org/membership/tec-talks

ASME Webinar Series – hosted by and highlights a different division each month

- **Hosted by ASME; it's a member benefit so it's free!**
- Highlights a different division each month
- Divisions provide content, topic and speakers
- Opportunity to introduce the Division to a wide audience
  - Registration has been between 200 and 600 people!

TEC Sector on LinkedIn

Join our Group

https://www.linkedin.com/groups/914902/

ASME Robotics Roadmapping Workshop

Sunday, August 14, 2022
In conjunction with IDETC-CIE, St. Louis, MO
St. Louis Union Station Hotel
https://event.asme.org/IDETC-CIE

Help shape the Society's robotics strategy!

The ASME Robotics Technology Group (RTG) invites interested individuals and subject matter experts to participate in a one-day workshop to develop a Robotics Roadmap that aims to embody mechanical and physical necessities and bridge the gaps between AI and integration challenges. The workshop includes thought-provoking speakers/panelists and facilitated, topical breakout sessions.

Workshop Goal

Create a Robotics Roadmap by forming working groups that will brainstorm and do concept mapping during the workshop, and then will continue to work virtually to generate their topic's content. Collectively, the groups will arrive at a roadmap and set of implementable recommendations, published in a co-authored ASME open-access publication.

- Program: keynote speakers/panelists on different topics followed by facilitated topical breakout sessions.
- Facilitated brainstorming sessions: One aligned with the topic of each keynote + a few others. Each session works on a robotics topic and their output is a concept map, which will lead to co-authored ASME open-access publication of a Robotics Roadmap – embodying the mechanical and physical challenges.

Workshop Benefits

- Bring disparate groups of the robotics community under the workshop umbrella to have meaningful dialogues and collaborate to solve tough challenges, e.g., AI and ML in industry 4.0, etc.

NOTE: This workshop will be followed by a second workshop (virtual), in which each working group formed at the in-person workshop will update everyone on their progress in generating their topic's content for the open-access whitepaper to be published by ASME, co-authored by the working group contributors.

Workshop Schedule-at-a-Glance | August 14, 2022				
7 am	Breakfast available		Noon	Networking Lunch
8 am	Welcome & Introductions		1:15 pm	Organized Networking Activity
8:30 am	Keynote #1		2:15 pm	Break
9:15 am	Keynote #2		2:30 pm	Facilitated Brainstorming Breakout Session
10 am	Break		4:30 pm	Break
10:15 am	Keynote #3		4:45 pm	Closing comments and what's next?
11 am	Panel Discussion		5:30 pm	Workshop concludes

For online info: https://event.asme.org/IDETC-CIE/Program/Workshops-Tutorials

Workshop FAQs

Who can participate?

Anyone with an interest and expertise in robotics is invited to attend.

When & where is the Workshop?

The workshop is taking place in conjunction with IDETC-CIE on Sunday, August 14th, in St. Louis at the Union Station Hotel. It is planned for a full day (approximately 8 am to 6 pm).

How can I participate?

Attendees need to participate in person and plan to attend for a full day to achieve maximum benefit and assist to fulfill the workshop goal. Workshop registration is required (opening soon) and it is free. You can register only for the workshop or add the workshop to your IDETC-CIE registration. Breakfast, lunch, beverages and snacks are provided.

The ASME Robotics Technology Group's Robotics Roadmap workshop is funded by the TEC Sector Council's TEC Development Fund.

About ASME's Technology & Engineering Communities (TEC) Sector Technology Groups

Technology Groups were formed by the TEC Sector to:

- Provide a dynamic but focused environment where participants can move in and out as specific topics arise.
- Encourage cross Division and cross Sector activities.
- Offer cutting-edge insight that supports entrepreneurs, innovators and partners in pursuing new opportunities for growth and commercialization.
- Facilitate the sharing of ideas by engaging ASME members and staff in areas of specialization.
- Identify technical expertise, promote research collaboration, and foster business partnerships.
- Stimulate the transformation to or the creation of new divisions to better address member needs.

Participation in a Technology Group is free and open to individuals willing and able to contribute. All ASME technical divisions and affiliates are encouraged to be engaged.

About ASME's Robotics Technology Group

The Mission of the Robotics Technology Group (RTG) is to:

Serve as a think tank to incentivize the creation of synergy within ASME Robotics Community

across all sectors, divisions and/or technical committees.

RTG will do this by:

- Providing opportunities for engaging a network of high-level subject matter experts to form a think tank or solve a grand challenge.
- Fostering collaboration with Divisions, other Technology Groups, and ASME Sectors.
- Identifying white space that ASME can quickly enter, develop and create a new product or service in a particular technology area of interest.

Questions? Contact Gloria Wiens, Chair, Robotics Technology Group (gwiens@ufl.edu) or Barbara Zlatnik, ASME Sr. Manager, TEC Operations (zlatnikb@asme.org)

For online info: https://event.asme.org/IDETC-CIE/Program/Workshops-Tutorials

Report on ACC 2022

Compiled by Minghui Zheng
DSCD Rep. for the American Control Conference 2022
May 24, 2022

Meetings at ACC

Zoom and/or in-person meetings have been arranged at ACC 2022 for the following DSCD meetings:

Meeting	Day and Time (MDT)	Meeting Information
DSCD Executive Committee Meeting	06/08 1:00-5:00pm	Location: M108 Zoom: https://utah.zoom.us/j/96635507857 (passcode: ACC2022)
DSCD Division General Meeting	06/08, 7:30-9:30pm	Location: M304 Zoom: https://utah.zoom.us/j/92201342947 (passcode: ACC2022)
DSCD Technical Committee Chairs Meeting		
Automotive & Transportation TC	06/08, 6:00-7:00 pm	Location: not known yet Zoom: https://ualberta-ca.zoom.us/j/91241744669 (passcode: 016133)
Bio-Systems and Health Care TC	06/08 6:00-7:00 pm	Location: not known yet Zoom: to be created
Energy Systems TC	06/09, 5:30-6:30pm	Location: L401 Zoom: to be created
Mechatronics TC	06/09, 6:00-7:00pm	Location: L401 Zoom: to be created
Robotics TC	Not offered	
Vibrations TC	06/08, 6:00-7:00pm	Online only with Zoom: https://clemson.zoom.us/j/91770558855 (passcode: vibrations)

Statistics for ACC 2022

There was a 64% acceptance rate for ACC submissions. Papers submitted though ASME had an acceptance rate of 61%. ASME also organized/co-organized 13 of the 33 invited sessions and 1 of the 9 special sessions. Additional statistics are below.

- Total number of paper submissions: 1322
- Total number of accepted papers: 840
    - Acceptance rate: 64%
- Total number submitted through ASME: 85
- Total number of accepted ASME papers: 52
    - Acceptance rate: 61%
- Total number of Invited sessions: 33[1]
- Total number of Invited sessions organized/co-organized by ASME: 13

- Total number of Tutorial sessions: 6[1]
- Total number of Tutorial sessions organized/co-organized by ASME: 0
- Total number of Special sessions: 9
- Total number of Special sessions organized/co-organized by ASME: 1

[1] The number of invited and tutorial sessions refer to the accepted session proposals, not the submitted ones.

Organizing Committee Meeting

April 19, 2022

IEEE

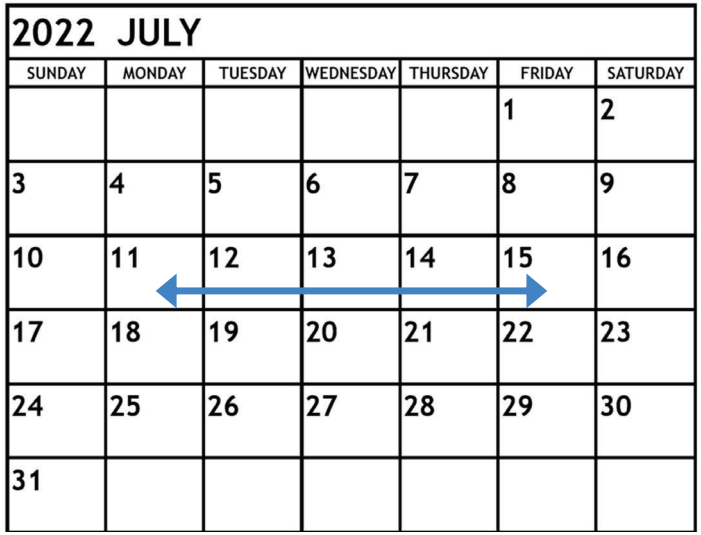
IEEE Robotics & Automation Society

IEEE Industrial Electronics Society

ASME SETTING THE STANDARD

Schedule overview

- Date: July 11th to 15, 2022
  - ✓ July 11: Workshop (online)
  - ✓ July 12-14: Technical program
    - July 12 and 13: hybrid
    - July 14: online
  - ✓ July 15: Technical/social tour
- Events
  - ✓ Opening: July 12
  - ✓ 25th anniversary event: July 13
  - ✓ Closing & award: July 14
  - ✓ Steering committee: ?



2022 JULY						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Submission data (70% acceptance)

	Submitted
❖Contributed Papers	219
❖Invited Session Papers	16
❖AIM/TMECH FS Papers	118
❖TMECH Paper Presentation	19
❖Total	370

Event: Plenary speakers

Prof. Aude Billard (EPFL)

Machine learning x motion control

Prof. Fumihito Arai
(Univ. of Tokyo)

Micro-nanomachatronics

Prof. Marcia K. O'Malley
(Rice Univ.)

Mechatronics and Haptic Interfaces

Hosted by Professor Mihoko NIITSUMA (Chuo University, Japan) as General Chair, the 2022 IEEE International Conference on Advanced Intelligent Mechatronics (AIM 2022) will be held on July 11 - 15, 2022, Royton Sapporo Hotel, Sapporo, Hokkaido, Japan in a hybrid format. Detailed information can be found on the AIM2022 website: https://www.aim2022.org

Updates:

A total of 399 submissions have been received, which include

Types	Number of submissions	Accept	Reject	Withdrawn
AIM/TMECH Focused Section	120	62	8	50
Contributed Papers	219	159	58	2
Invited Session Papers	16	12	4	-
Invited Session Proposal	4	4	-	-
Late Breaking Results	19	19 (under review)	-	-
TMECH Paper Presentation	19	15	-	4
Workshops and Tutorials	1	1 (under review)	-	-

Program at a Glance

<table>
<tr><th>JST</th><th>7/11/2022
(Monday)</th><th>7/12/2022
(Tuesday)</th><th>7/13/2022
(Wednesday)</th><th>7/14/2022
(Thursday)</th><th>7/15 /2022
(Friday)</th></tr>
<tr><td>9:30</td><td rowspan="6">Workshop</td><td>Session</td><td>Session</td><td>Session</td><td rowspan="6">Technical
/Social
Tours</td></tr>
<tr><td>11:30</td><td colspan="3">Lunch</td></tr>
<tr><td>13:00</td><td colspan="3">Plenary Talks</td></tr>
<tr><td>14:20</td><td>Session</td><td>Session</td><td>Session</td></tr>
<tr><td>16:10</td><td>Session</td><td>Session</td><td>Session</td></tr>
<tr><td>18:00</td><td colspan="3">Events/Plenary Talks</td></tr>
<tr><td></td><td></td><td colspan="2">Tuesday and Wednesday:
Sessions both on-site and online</td><td>Thursday:
Sessions only online</td><td></td></tr>
</table>

Plenary talks:

Dr. Fumihito Arai, The University of Tokyo, Japan

Dr. Marcia K. O'Malley, Rice University, USA

Dr. Aude Billard, Ecole Polytechnique Federale de Lausanne, Switzerland

25th anniversary event will be held on July 12.

2023 AIM Update

Santosh Devasia

U. of Washington Seattle

http://www.aim2023.org/

https://www.nationalgeographic.com/travel/destination/seattle

Location and Date

- Seattle, June 28-30 (Wed-Fri), 2023
- Good time to visit Seattle
- No other major conferences at that time
  - American Control Conference 2023 May 31, 2023 to Friday, June 2
  - CCTA 2023 Wed, August 16, 2023 – Fri, August 18, 2023

Lots of things to do

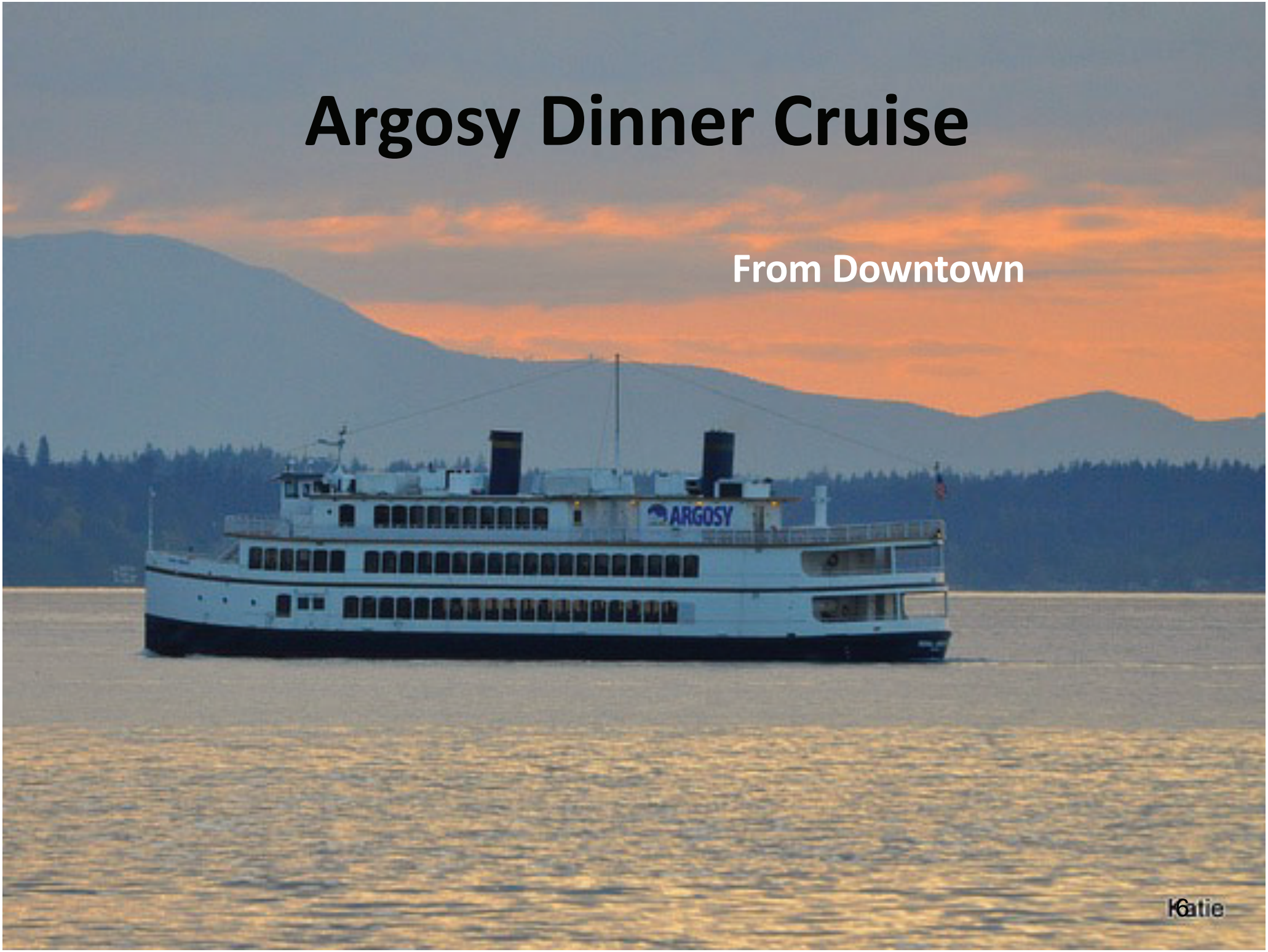
- Museums (Space Needle, Boeing Flight Museum, Art Museum, Experience Music Project, Chihuly Art Museum).
- Nature Nearby Olympic National Park (5.5 hr), Mount Rainier (3 hrs); Mt St. Helens Volcano (3.5hrs)

Cruises from Seattle

- Ranked No 1
US West Coast departure ports
- **Alaska, Hawaii, South America, Panama Canal**

Seattle Seafood is Exceptional

- Dungeness Crab
- Oysters
- Salmon
- Clams/Mussels



Argosy Dinner Cruise

From Downtown

Technical Museums

- Boeing Museum of Flight (near downtown)
- Boeing Future of Flight (Tours of manufacturing facilities – about 45 minutes north)

Hotel

- The Westin Seattle, June 28-30 (Wed-Fri), 2023
- $212 per night (Single/Double) – typical Seattle downtown rates are 250+ per day at this time. Mainly due to cruise activities (which has come back strong)
- Complimentary Guest room high-speed WiFi/Internet

https://www.marriott.com/hotels/travel/seawi-the-westin-seattle/

Deadlines

- TMECH/AIM Focused Section Submissions: January 6, 2023
- Invited/Workshop/Special Session Proposals: January 27, 2023
- Contributed and Invited Papers and TMECH Presentation Only: February 1, 2023

Hope to see you in Seattle in 2023

ASME Dynamic Systems and Control Division Podcast Series

Update at DSCD General Meeting
June 8, ACC 2022

Yao Ma, Selina Pan, Bryan Maldonado Puente, and Hao Su

ASME DSCD Podcast Series

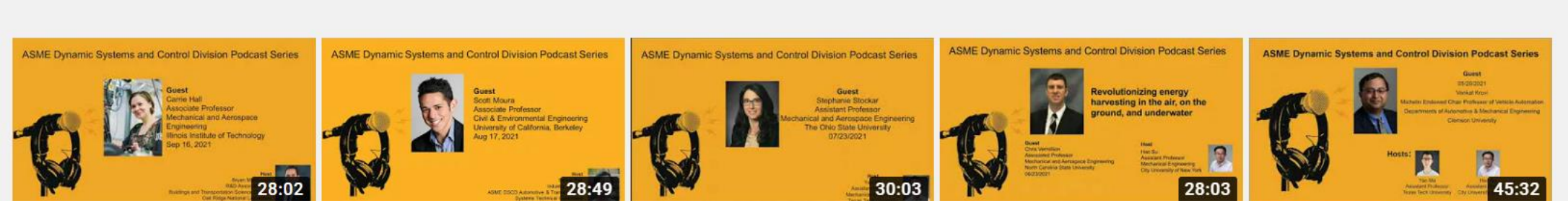
- Purpose: to facilitate better communication and build closer community by featuring our community members (researchers, student leaders, journal editors, etc.) through a casual, conversation setting
- https://www.youtube.com/channel/UCKZDGbU2OsXtBvX4d7iwYTA/videos
- Release via ASME DSCD YouTube channel, disseminated via DSCD website
- **Reduced duration from 30-40 min → 20~30min**
- **Total views: 1207 → 2198, subscriber counts: 60 →104**

8 Guests in last meeting (Oct 2021)

- 02/2021: Prof. Anna Stefanopoulou, UMich
  - https://www.youtube.com/watch?v=C4HXNLCqugs
- 03/2021: Prof. Marcia O'Malley, Rice
  - https://www.youtube.com/watch?v=A6tKMrlIhC4
- 04/2021: Prof. Masayoshi Tomizuka, UC Berkeley
  - https://www.youtube.com/watch?v=dJZ3Qn7COBA
- 05/2021: Prof. Venkat Krovi, Clemson
  - https://www.youtube.com/watch?v=IjQ0PUugWHo

8 Guests in last meeting (Oct 2021)

- 06/2021: Prof. Chris Vermillion, NCSU
  - https://www.youtube.com/watch?v=zY8BgFHoimY
- 07/2021: Prof. Stephanie Stockar, OSU
  - https://www.youtube.com/watch?v=a1kQ3Wtg2zc
- 08/2021: Prof. Scott Moura, UC Berkeley
  - https://www.youtube.com/watch?v=JhO-DPsQEug
- 09/2021: Prof. Carrie Hall, IIT
  - https://www.youtube.com/watch?v=1YObhH0dofE



5 New Guests since last Meeting

- 05/2022: Dr. Jing Sun, UMich
  - https://www.youtube.com/watch?v=87p-HrBUtDs
- 03/2022: Dr. Jamie Lian, ORNL
  - https://www.youtube.com/watch?v=_BhHjOwwT8g
- 01/2022: Dr. Katherine Strausser, Ekso Bionics
  - https://www.youtube.com/watch?v=fJ2AaiZF3kw
- 11/2021: Dr. Neera Jain, Purdue
  - https://www.youtube.com/watch?v=HEYJFGcfhZs
- 10/2021: Dr. Aaron Johnson, CMU
  - https://www.youtube.com/watch?v=sKl6gEnk9n4

Future Guests (tentative)

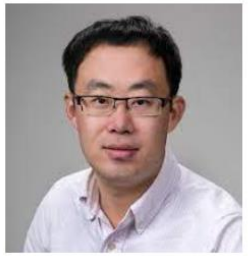
- Dr. Santosh Devasia, U of Washington
- Dr. Azim Eskandarian, VT
- Dr. Harry Asada, MIT

- **Please subscribe to our channel!**
  - **ASME DSCD**
  - **https://www.youtube.com/channel/UCKZDGbU2OsXtBvX4d7iwYTA**

Podcast Team

- **Looking for new hosts and guests!**
- Hosts
  - Dr. Yao Ma, TTU
  - Dr. Selina Pan, Waymo
  - Dr. Bryan Maldonado Puente, ORNL
  - Dr. Hao Su, NCSU
- YouTube Dissemination
  - Prof. Kam Leang, U of Utah
- Advisors
  - Prof. Xiaobo Tan, MSU
  - Prof. Jingang Yi, Rutgers



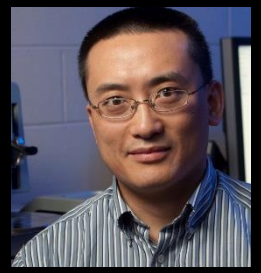




2022 2nd Modeling, Estimation and Control Conference (MECC 2022) Report

Qingze Zou, General Chair
Xu Chen, Program Chair

- Date: October 2-5th, 2022.
- Conference venue: Westin Hotel, Jersey City, NJ.
- Paper submission finished, still open for abstract-only and poster submissions.
- Paper review is on track.
- Plenary talks confirmed.
- Different aspects of the conference preparation are on track.

MECC 2022 Organizing Committee



General Chair
Qingze Zou
Rutgers Univ.

Program Chair
Xu Chen
Univ. of Washington

Workshops & Tutorials Chair
Zongxuan Sun
Univ. of Minnesota

Registration Chair
Douglas Bristow
Missouri Univ. of Sci. Tech.

Publications Chair
Chinedum Okwudire
Univ. of Michigan

Finance Chair
Tuhin Das
Univ. of Central Florida

International Chair-Asia Qingsong Xu
Univ. of Marcau

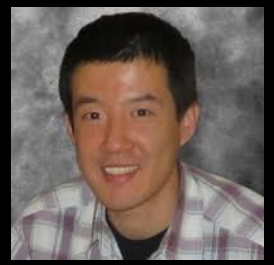
International Chair-Australia & Pacific
Yuen Guan Yong
Univ. of Newcastle

Editorial Board Chair
Qian Wang
Pennsylvania State Univ.

Industrial/Exhibit Chair
Kenn Oldham
Univ. of Michigan

Invited Sessions Chair
Yaoyu Li
Univ. of Texas-Dallas

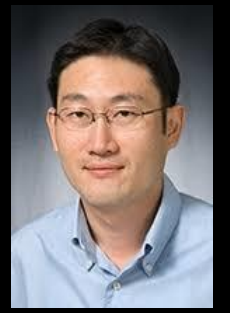
Publicity Chair
Mannish Kuma
Univ. of Toledo



Local Arrangement Chair
Cong Wang
New Jersey Institute of Technology

Students & Young Members Chair
Ellen Yi Chen Mazumdar
Georgia Tech

International Chair-Europe
Tom Oomen
Einhoven Univ. of Tech.



International Chair-America
Soo Jeon
Univ. of Waterloo

MECC 2022 Submission Status

- Total number of full paper submissions: **137**.
- Abstract only submission: **32**.
- Efforts to attract more abstract only submissions:
  - Attract journal papers published in last year in IFAC society journals.
  - Four journals have been contacted through both EIC office and personal contact: **JDMSC, TMECH, SCL,** and **TCST**
  - Open and accept abstract-only and poster submissions till July, 15th, 2022.

MECC 2022 Paper Review Status

- Total CEB members: 42
- AE report due: June 20th
- Notification for acceptance/rejection: July 1st, 2022
- Final paper submission deadline: July 25th, 2022

MECC 2022 Plenary Speakers

Three Plenary Speakers have been confirmed:

- Prof. Masayoshi Tomizuka (UC Berkeley): October 3rd, 2022
- Prof. Jing Sun (Univ. of Michigan): October 4th, 2022
- Prof. Aaron Dollar (Yale Univ.): October 5th, 2022

MECC 2022 Preparation

- Sponsorships:
  - One Gold sponsor (almost confirmed) and one Bronze Sponsor.
- Workshop:
  - One workshop on literature review and research article writing for graduate students have been planned.
- Special Sessions from funding agencies:
  - One session by NSF program directors;
  - One session by program directors from other funding agencies (potentially from AFOSR, NASA, and DOE).
- Other invited and special sessions:
  - Total number of sessions: 11 (8 Invited, 3 special abstract-only)
  - Topics include: robotics, automobile & transportation, manufacturing, renewable energy & grid interactions, control & optimization, nonlinear dynamics, biomedical systems, smart materials
- Students and Young Members Activities
  - Student travel Awards from DSCD and AACC
  - Best Student Paper competition
  - DSCD Rising Stars presentations (5 invited sessions, 29 presentations) and networking session
  - Careers and Academia Panel

MECC 2022 Preparation

Host and support DSCD activities (Tentative schedule)

- Nyquist Lecture: 4-5PM, October 3rd, 2022
- Awards ceremony: 11:00am-12:30PM, October 4th, 2022
  - Awards announcement and presentation.
  - Oldenburger Lecture
- ExComm meeting, DSCD meeting, and TC meetings are planned.

MECC 2022 Location and Venue

- Venue: Westin Hotel, Jersey City, NJ
  - Negotiated room rate: **$249**
  - Convenient transportation (10min. cab from Newark airport)
  - On the bank of Hudson river facing Manhattan skylines
  - 15min. PATH (train) ride to World Trade Center
  - One ferry ride to lower Manhattan.










ASME DSCD Webmaster - Job Description

With the phase-out of the current ASME Communities webpages, the webmaster is no longer responsible for making the actual changes to the website for the division; those changes will be made by HQ. Therefore, the webmaster's job description will not include actual website updates, and detailed knowledge of websites and their editing is not required. The most important characteristic of the webmaster will be communication skills.

Specifically, the webmaster should:

- Check with the appropriate people in the division regularly to determine what revisions need to be made. A calendar has been put together, and can be maintained and updated each year. (Note that some changes will be regular, such as updating the awards yearly, but others will be infrequent or as-needed, such as updating information on the division's journals.)
- Provide HQ with clear information on what needs to be added, removed, or altered on the website, in sufficient detail that they can find the relevant page and make the changes.
- Verify that the changes have been made as intended, and check any links to ensure that they function properly.
- Update division leadership on any relevant information that they may need to have on the website and/or on the ASME HQ procedures for making changes.

ASME JDSMC Status Report

May 31, 2022

Technical Editor – Ranjan Mukherjee

Journal Secretary – Marlan Buddingh

Statistics:

1. Number of papers published: 2015-2022

Year	No. of Full Papers	No. of Techical Briefs	Total number of papers	Number of pages
2015	168	37	210	2035
2016	125	21	146	1407
2017	157	34	191	1807
2018	187	23	210	2112
2019	182	25	207	2088
2020	92	16	108	1076
2021	104	18	122	1309
2022 (till June)	50	6	56	605

Statistics:

2. Acceptance/Rejection Rate: 2015-2021

Year	No. of papers submitted	No. of papers rejected	Rejection %	Papers withdrawn or removed	No. of papers accepted	Accepted %
2015	662	311	47%	164	187	28%
2016	619	331	53%	99	189	31%
2017	637	338	53%	87	212	33%
2018	554	326	59%	58	170	31%
2019	550	361	66%	87	102	19%
2020	505	314	62%	90	101	20%
2021	397	235*	58%*	44	82*	21%*

For papers submitted in 2021, 36 (9%) of the papers are still under review

Statistics:

3. Time in Process: 2015-2021

Year	No of papers submitted	Assigned to AE (days)	Time in review (days)	Submission to Editor approval (months)	Submission to publication (months)
2015	662	14	166	10.13	14.42
2016	619	29	142	9.61	15.35
2017	637	61	141	9.57	14.8
2018	554	72	146	10.24	14.19
2019	550	33	144	9.07	13.49
2020	505	11	134	7.03	12.36
2021	397	7	116	6.44	9.39

For papers submitted in 2021, 36 (9%) of the papers are still under review

Key Points:

1. Faster Review Cycle/Faster Publication Timeline

   Time taken for papers to get accepted for publication continues to improve

2. Drop in number of submissions but rise in acceptance rate

Number of accepted papers has remained steady – receiving fewer number of poor-quality submissions.

Consider submitting papers to JDSMC – majority of the submissions to come from authors who are not ASME members (84% based on 2019 data)

3. Special Issues

One published in January 2022; seeking proposals from Division members

4. Associate Editors

Consider nominating yourself or someone you know for AE position.

IEEE/ASME TRANSACTIONS ON

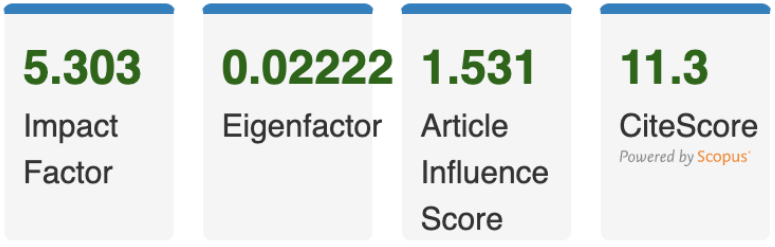
Mechatronics

Editor-in-Chief Interim Report (5/22)

I-Ming Chen
MICHEN@ieee.org

Executive Summary:

- Past 12 month original submissions: 1416
- To date original submissions to TMECH/AIM 2022: 120
- 2020 IF: Web of Science: 5.303; Scopus: 6.708
- H-Index: 132



2022 Management Committee

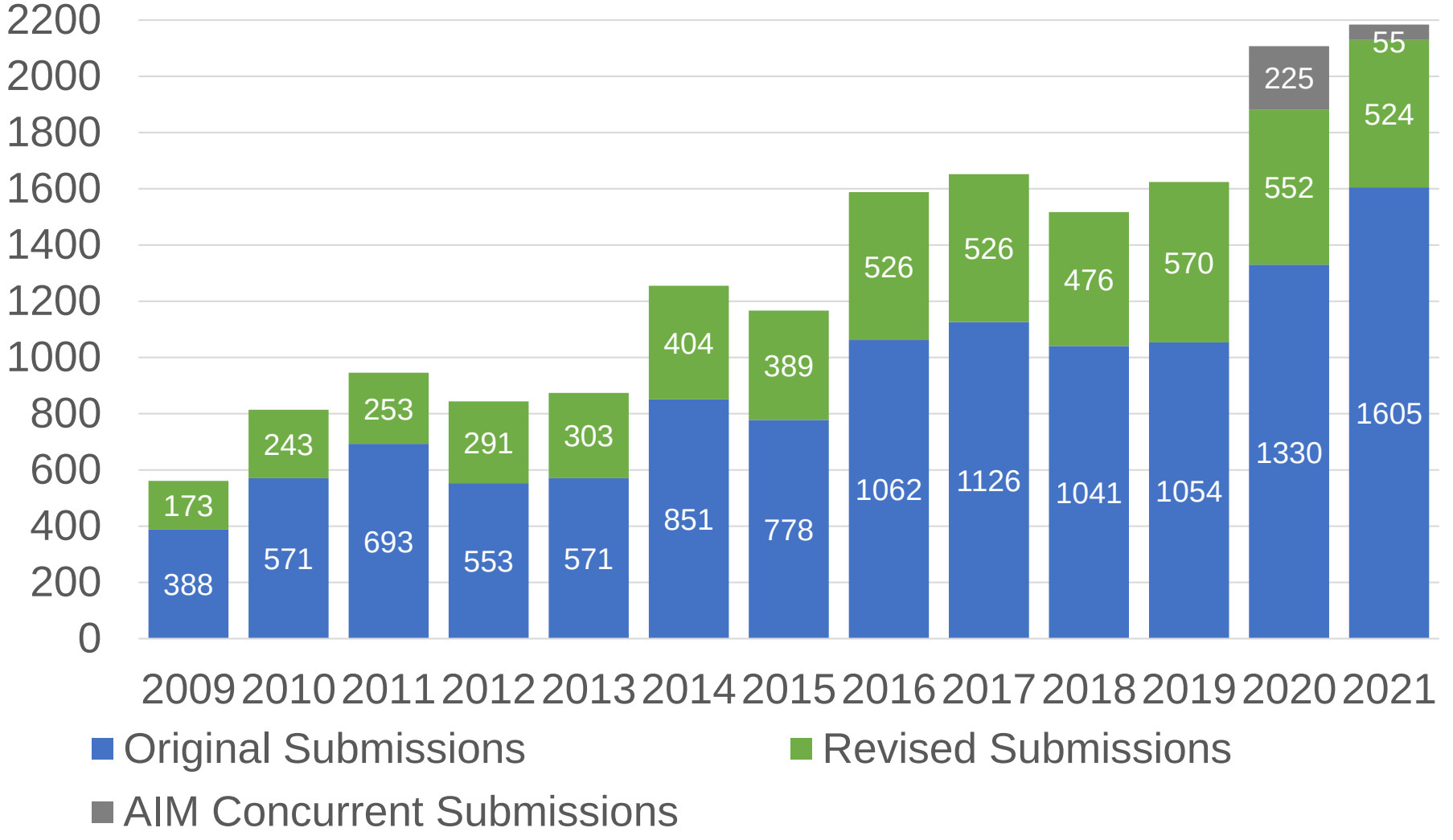
	2020	2021	2022
Chair	Xiaobo Tan (DSCD)	Hiroshi Fujimoto (IES)	Kyujin Cho (RAS)
Treasurer	Hiroshi Fujimoto (IES)	Aaron Dollar (RAS)	Jun Ueda (DSCD)
Secretary	Kyujin Cho (RAS)	Jun Ueda (DSCD)	Michael Ruderman (IES)
Members	Aaron Dollar (RAS)	Xiaobo Tan (DSCD)	Jingang Yi (DSCD)
	Jun Ueda (DSCD)	Kyujin Cho (RAS)	Heike Vallery (RAS)
	Michael Ruderman (IES)	Michael Ruderman (IES)	Tomoyuki Shimono (IES)

Officers of the Management Committee rotate among the sponsoring societies.

2022 Editorial Staff

- Editor-in-Chief: I-Ming Chen, Nanyang Tech. University
- Editorial Office: Kara McArthur, JWM Consulting

Submission Status



- 2021 total submissions (projection) represents an estimate of 2184 submissions by the end of the year. An increase in submissions over 2020, despite a marked decrease in AIM FS submissions

Summary of Changes in At-a-Glance From Last EiC Report

- Regular paper submissions are up: from 1318 to 1475 over the past 12 months (current avg. 109.8/month)
- Avg. days from submission to first decision are up: from 53.5 to 56.2
- Avg. days from submission to final decision are up: from 67.3 to 68.7*
- Accept ratio is down: from 26.1% to 24.9%

*Days to first decision and days to final decision are close as final decision includes immediate rejects.

Impact Factor and Ranking

Data from 2020

	2016	2017	2018	2019	2020	Journals in category (2020)
Impact Factor	4.357	3.936	4.943	5.673	5.303	
Rank in Engineering, Manufacturing	1	4	6	5	15	50
Rank in Automation and Control Systems	6	10	11	16	14	63
Rank in Engineering, Mechanical	3	9	7	7	13	133
Rank in Engineering, Electrical & Electronics	25	38	36	28	37	273

Source: https://www.scimagojr.com/

Page Budget and Backlog

Page budget

Year	‘09	’10	‘11	‘12	’13	’14	‘15	‘16	‘17	‘18	‘19	‘20	‘21	‘22
Pages	794	1028	1224	1232	1832	2000	3292	3000	3000	3000	3000	3000	3300	3600
Issues	6	6	6	6	6	6	6	6	6	6	6	6	6	6

- In 2021 we increased the page budget 10% to 3300
- In 2022 we increase the page budget to 3600

Backlog (As of April 2022)

- 385 articles, 2482 pages

Solution to Backlog:

- from early Access to Rapid Posting (in Xplorer) wef: 12 August 2021
- Clarivate citation counts RP from 2020 in this format
- Authors can properly cite the works with DOI

From Early Access to Rapid Posting

Early Access example:

This article has been accepted for publication in a future issue of this journal, but has not been fully edited. Content may change prior to final publication. Citation information: DOI 10.1109/TMECH.2020.3036765, IEEE/ASME Transactions on Mechatronics

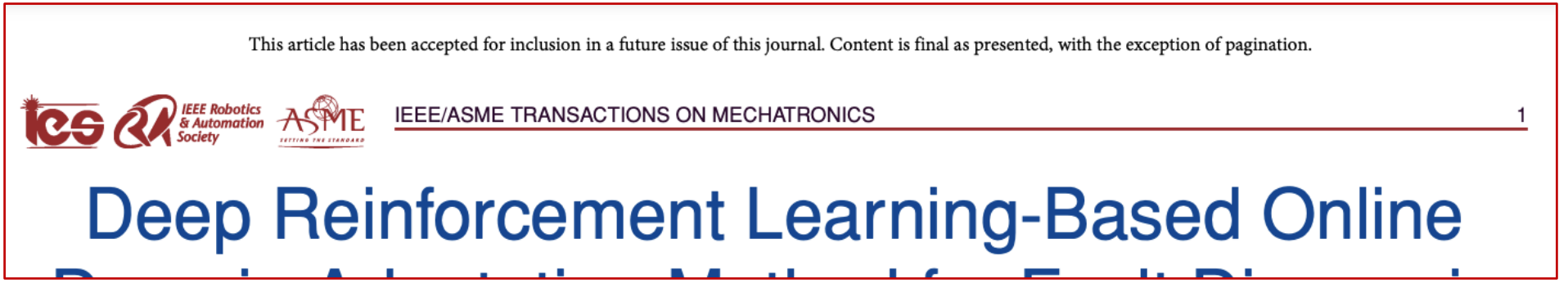

This article has been accepted for publication in a future issue of this journal, but has not been fully edited. Content may change prior to final publication. Citation information: DOI 10.1109/TMECH.2021.3059441, IEEE/ASME Transactions on Mechatronics

IEEE/ASME TRANSACTIONS ON MECHATRONICS 1

Distributed Cooperative Kinematic Control of

Rapid Posting example:

This article has been accepted for inclusion in a future issue of this journal. Content is final as presented, with the exception of pagination


This article has been accepted for inclusion in a future issue of this journal. Content is final as presented, with the exception of pagination.

IEEE/ASME TRANSACTIONS ON MECHATRONICS 1

Deep Reinforcement Learning-Based Online

The 3rd Edition of Focused Section on TMECH/AIM Emerging Topics

Submission : 120, Accepted 44

Lead Guest Editors

Xiang Chen, Canada (TMECH Senior Editor in Charge)
Toshiaki Tsuji, Chiaman, AIM 2022 Program Committee

Guest Editors (2-year term from 2021 to 2022)

Raffaella Carloni, Netherlands
Xinkai Chen, Japan
Zhen Chen, China
Jongeun Choi, South Korea
Garrett Clayton, USA
Cédric Clévy, France (TE)
Markus Grebenstein, Germany (TE)
Mathieu Grossard, France
Kazuaki Ito, Japan (TE)
Soo Jeon, Canada (TE)
Chao-Chieh Lan, Taiwan (TE)
Huaping Liu, China
Hugh H. Liu, Canada
Chris Manzie, Australia
Kenn Oldham, USA
Dawei Shi (TE)
Tomoyuki Shimono, Japan (TE)
Mahdi Tavakoli, Canada (TE)
Jun Ueda, USA
Yan Wan, USA
Dirk Wollherr, Germany
Jingang Yi, USA
Haoyong Yu, Singapore
George G. Zhu, USA

Plan for Temporary Page Increase

- Based on IEEE TAB Periodical committee suggestion on 22 April, **TMECH still have a backlog of 324 papers in Xplorer** in March 2022.
- With now every issue publishes about 50-55 papers, TMECH still need more than 12 months (6 issues) to clear all these backlog. Thus, **any paper would need 12 months** to become a hardcopy after they are online.
- Although TMECH changed to Rapid Posting model since Aug 2021 and citation of these papers in Xplorer is now possible, **TAB still strongly suggest us to consider to develop a plan to clear the backlog by temporarily increasing page budget**.
- TAB want these papers to be printed physically with page numbers.
- Hence, EiC needs all three sponsoring society support to do a temporary page increase **in the year of 2022 with additional 800 pages in for Aug., Oct. and Dec. issues**. That means for the year of 2022, we will have 3600 + 800 x3 = 6000 pages in total. Year 2023 we will resume back to 3600 pages annually.

The EiC, Prof. I-Ming Chen, will prepare special request to all three societies soon.

Recruitment of Senior Editors for 2023-2024 Term

1. The first batch RAS senior editors on board in 2019, Michael Basin (IES), Chris Zhang (IES**), Xing Chen (ASME), Xiaobo Tan (ASME),** Hong Qiao (RAS) have reached the end of their 2nd term by 31 Dec 2022.

2. Huijun Gao (IES) on board in 2020 is going to assume TMECH EiC on 1 Jan 2023.

ASME DSCD needs to put up 2 Senior editor for 2023-2024 term

According the rules, the nominations from the societies need to have at least 1.5 times the available positions for MC to select. Thus, DSCD needs to provide 3 – 4 names for SE candidates.

Recruitment of Senior Editors for 2023-2024 Term

Key Considerations for Senior Editors

- AE of RAS, IES, ASME DSCC related journals before. (The best would be former TMECH TE or Focused Section Lead Guest Editor)
- Publication in TMECH before is a must.
- AIM conference Editors would be a plus.
- AIM conference paper should be a must as well.
- Associate and Full Professor (or US equivalent)
- The number of TMECH areas covered should be no less than five (in order to help identifying new TE)
- balance geographical locations and gender, etc

Recruitment of Senior Editors for 2023-2024 Term

Timeline:

Society nomination reaches TMECH EiC - 30 September 2022

- EiC and EiC-Elect screening and interviewing all candidates - 31 October 2022
- TMECH MC to make final decision - mid of Nov 2022
- New SE briefing by EiC and EiC-Elect - late Nov 2022
- New SE starts assigning new papers and retiring SE do not receive new paper assignment on 1 Dec 2022 (soft ending) [Note that next EiC Prof Gao will start new paper assignment and exiting EiC will stop assign new papers on 1 Dec 2022 as well.]
- Retiring SE will be given 2 months to clear papers at hand till 31 Jan 2023 (hard ending)

Q&A

THANK YOU !

ASME LETTERS IN DYNAMIC SYSTEMS AND CONTROL

Peter Meckl

Technical Editor, Letters-DSC

Presentation at 2022 ACC, June 8, 2022

Current Published Issues

Issue	Number of Full Papers	Number of Pages
Jan 2021	17	102
Apr 2021	12	81
July 2021	15	100
Oct 2021	14	95
2021 Totals	**58**	378
Jan 2022	10	64
Apr 2022	10	67
July 2022	6	43

***Stats as of 5/26/2022**

Review Statistics

Year Submitted	Total Number of Papers Submitted	Total Number Papers Rejected	Rejected Paper %	Total Number of Papers Withdrawn	Total Number of Papers Accepted	Accepted Paper %
2019 (DSCC)	31	8	26%	0	23	74%
2019 (other)	10	4	40%	1	4	40%
2019 (Total)	41	12	29%	1	27	66%
2020 (DSCC)	28	6	21%	0	22	79%
2020 (other)	50	28	56%	4	18	36%
2020 (Total)	78	34	44%	4	40	51%
2021*	50	21	42%	7	21	42%
2022**	12	6	50%	1	1	8%

*** 1 2021 paper still in progress as of 5/26/2022**

**** 4 2022 papers still in progress as of 5/26/2022**

Statistics for Time in Process

Year	No. of Papers	Assign to AE (days)	Time in Review (days)	AE Decision (days)	TE Decision (days)	TE Approval (days)	Submit to TE Decision (months)	Submit to TE Approval (months)	Submit to Publication (months)
2019	41	18	44	19	23	8	3.568	4.142	5.060
2020	78	26	56	9	8	9	3.187	5.224	8.769
2021	50	16	89	9	12	4	3.136	5.423	9.597
2022*	12	11	42	2	4	0	1.256		

***Stats as of 5/26/2022, with only one accepted paper so far**

Editorial Board

Concerns

1. It's still taking longer to process papers than I'd like. I will keep working on this.
2. I need a way to make up for papers that would have come from the cancelled DSCC conference.
3. I still need to attract more unsolicited papers to the Letters. I've advertised the Letters in the DSCD newsletters but need to do more to encourage authors to submit to the Letters.
4. I could still use more diverse AEs, i.e., more women, more geographic diversity, and better coverage of technical areas.

Future Plans

1. Work with ASME to get papers from IMECE.
2. Work with MECC organizers to get papers.
3. Actively solicit papers for the Letters, especially review papers.
4. Work with AEs to identify authors in key emerging areas to submit papers.
5. Work with AEs to identify topics for special issues.
6. Work with AEs to identify more women, more international candidates, and more industry members for the Editorial Board.
7. Identify additional AE candidates to better cover emerging technical areas.

Journal of Autonomous Vehicles and Systems

ASME Transactions Journal

Vladimir Vantsevich, Editor-in-Chief and Lauren Murrah, Assistant to Editor-in-Chief

ASME Dynamic Systems and Control Division Executive Committee Meeting
ASME Dynamic Systems and Control Division General Committee Meeting
June 8, 2022

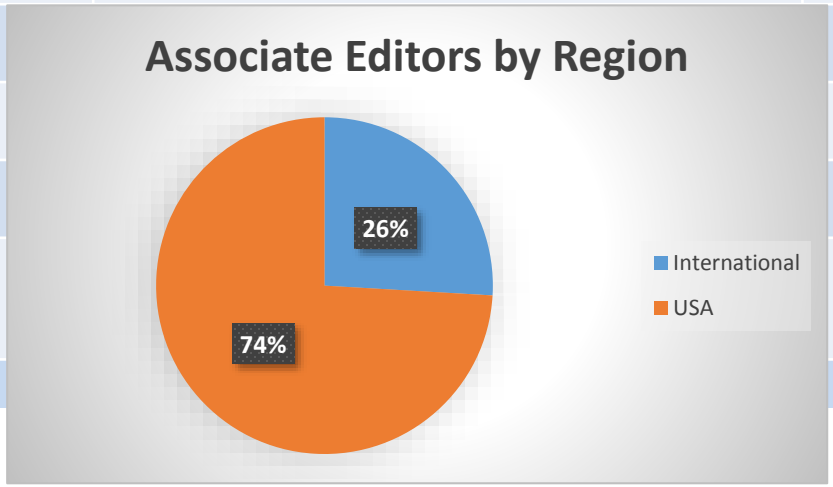
ASME
SETTING THE STANDARD

(28) Associate Editors by Area

	Ground	Ground	Air & Space	Water
1	Canova, Marcello	Richter, Lutz	Azimov, Dilmurat	Jiang, Zhong-Ping (also Ground/Air & Space)
2	Carbone, Giuseppe	Sandu, Corina	Chen, Wen-Hua (also Ground)	McCue-Weil, Leigh
3	Ceccarelli, Marco	Wang, Junmin	Cowlagi, Raghvendra (also Ground)	Tallapragada, Phanindra
4	Duprey, Benjamin	Wang, Hai	Demkiv, Lyubomyr (also Ground)	
5	Gorsich, David J.		Hermann, Jeffrey	
6	Gray, Jeremy P.		Kumar, Manish	
7	Hu, Xiaosong		Nersesov, Sergey	
8	Jayakumar, Paramsothy		Van der Auweraer, Herman (also Ground)	
9	Khoshnoud, Farbod		Wang, Yue (also Ground)	
10	Larochelle, Pierre			
11	Lu, Jianbo			
12	Pandey, Gaurav			

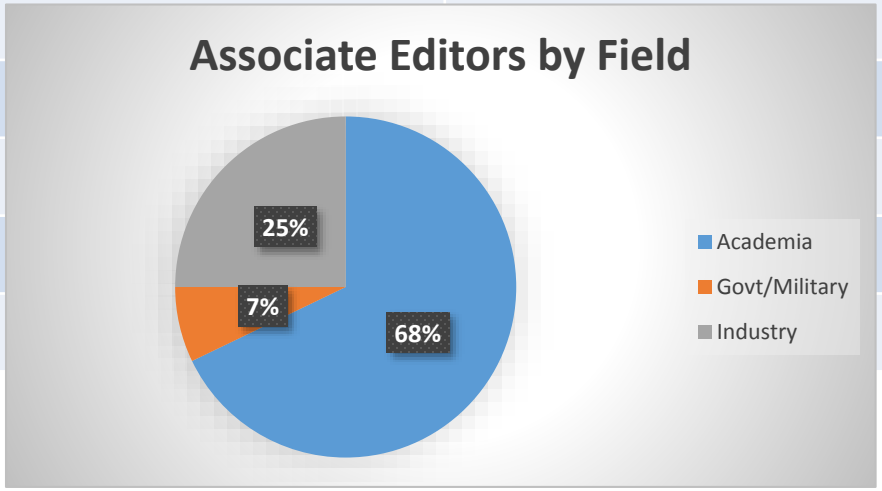
(28) Associate Editors by Region/Country

	US	US	International
1	Azimov, Dilmurat	Lu, Jianbo	Carbone, Giuseppe (Italy)
2	Canova, Marcello	McCue-Weil, Leigh	Ceccarelli, Marco (Italy)
3	Cowlagi, Raghvendra V	Nersesov, Sergey	Chen, Wen-Hua (UK)
4	Duprey, Benjamin	Pandey, Gaurav	Demkiv, Lyubomyr (Ukraine)
5	Gorsich, David J.	Sandu, Corina	Hu, Xiaosong (China)
6	Gray, Jeremy P.	Tallapragada, Phanindra	Richter, Lutz (Germany)
7	Hermann, Jeffrey	Wang, Junmin	Van der Auweraer, Herman (Belgium)
8	Jayakumar, Paramsothy	Wang, Yue	Wang, Hai (Australia)
9	Jiang, Zhong-Ping		
10	Khoshnoud, Farbod		
11	Kumar, Manish		
12	Larochelle, Pierre		



(28) Associate Editors by Field

	Academia	Academia	Government/Military	Industry
1	Azimov, Dilmurat	McCue-Weil, Leigh	Gorsich, David J.	Demkiv, Lyubomyr
2	Canova, Marcello	Nersesov, Sergey	Jayakumar, Paramsothy	Duprey, Benjamin
3	Carbone, Giuseppe	Sandu, Corina		Gray, Jeremy P.
4	Ceccarelli, Marco	Tallapragada, Phanindra		Lu, Jianbo
5	Chen, Wen-Hua	Wang, Hai		Pandey, Gaurav
6	Cowlagi, Raghvendra V	Wang, Junmin		Richter, Lutz
7	Hermann, Jeffrey	Wang, Yue		Van der Auweraer, Herman
8	Hu, Xiaosong			
9	Jiang, Zhong-Ping			
10	Khoshnoud, Farbod			
11	Kumar, Manish			
12	Larochelle, Pierre			



Advisory Committee

- Azim Eskandarian, D.Sc., ASME Fellow: Department Head and the Nicholas and Rebecca Des Champs Professor of Mechanical Engineering; Mechanical Engineering Department, Virginia Tech, VA
- David J. Gorsich, Ph.D.: Chief Scientist, U.S. Army Ground Vehicle Systems Center (GVSC), Warren, MI
- Madhu Raghavan, Ph.D.: Group Manager, Propulsion System Architecture; General Motors Research and Development, Warren, MI

Journal Metrics

- **Papers Submitted: 128**
  - Under Review: 8 (6.25%)
  - Accepted: 34 (26.56%) – increased from 19%
  - Rejected: 61 (47.66%) – increased from 42%
  - Removed: 11 (8.59%)
  - Withdrawn: 14 (10.94%)
- **Countries Represented: 21 – 4 new countries**
  - Algeria, Brazil, China, Croatia, Egypt, France, India, Iran, Israel, Italy, Japan, Lebanon, Mexico, Morocco, Saudi Arabia, Spain, Taiwan, Tunisia, Uganda, United Kingdom, United States
- **Time in Process**:
  - Average Time from Submission to Technical Editor Decision:
    - 2020: 3.590 months
    - 2021: 3.139 months
    - 2022: 2.067 months (as of 5/27/2022)
  - Average Time from Submission to Publication:
    - 2020: 11.892 months*
    - 2021: 6.949 months
    - 2022: not available as of 5/27/2022

Presentations and Journal Promotion

- JAVS Technical Editor Presentation to the Executive Committee of the Dynamic Systems and Control Division and to the Division: 2020, 2021, 2022

- 2021 ASME IDETC-CIE Conference – Journal Promotion
  - Elmquist, A., Serban, R., Negrut, D. “A Sensor Simulation Framework for Training and Testing Robots and Autonomous Vehicles.” *J. Auton. Veh. Sys.* April 2021, 1(2): 021001. https://doi.org/10.1115/1.4050080
  - Cvok, I., Hrgetić, M., Hoić, M., Deur, J., Hrovat, D., and Eric Tseng, H. "Analytical and Experimental Evaluation of Various Active Suspension Alternatives for Superior Ride Comfort and Utilization of Autonomous Vehicles." ASME. *J. Auton. Veh. Sys*. January 2021; 1(1): 011004. https://doi.org/10.1115/1.4048584
  - Larochelle, P., and Mao, X. "SphereWalker: A Hexapod Walking Machine." ASME. J. Auton. Veh. Sys. January 2021; 1(1): 011003. https://doi.org/10.1115/1.4048483
  - Schwalb, E. (April 1, 2021). "Analysis of Hazards for Autonomous Driving." ASME. *J. Auton. Veh. Sys*. April 2021; 1(2): 021003. https://doi.org/10.1115/1.4049922
  - Hoang, S., Marsh, L., Aliseda, A., Shen, I.Y. “Effects of High Fidelity Modeling of Multirotor Drones.” *J. Auton. Veh. Sys.* January 2021, 1(1): 011007. https://doi.org/10.1115/1.4050013

Advisory Committee Meeting, 6/14/2021; Associate Editor Meeting, 6/25/2021

General Agenda

- Overview of Duties
- Review of First Year
- Journal Metrics and Work Load
- Update of Journal Scope and Keywords
- List of Strategic Research Topics and Paper Submissions
- Journal Promotion
- Search for Reviewers and Associate Editors
- Targets for 2nd Year of Operation

Advisory Committee Meeting, 6/14/2021; Associate Editor Meeting, 6/25/2021

Plan of Action

- Update Journal Keywords - Done
- Update the JAVS flyer - Done
- Research conference sponsorship opportunities – Working with ASME Publishing
- Invite published authors to become reviewers – Developed an invite system
- Continue to focus on growing the underwater autonomous vehicles section of authors, reviewers, and associate editors – Continuously working on this item
- Promote JAVS at conferences, meetings, and other events as well as among colleagues in academia, government, and industry Continuously working on this item
- Scout and add qualified reviewers to the reviewer database Continuously working on this item
- Propose, contribute to, and serve as guest editor for special issues - in Progress
  - ✓ Special Issue on Modeling and Simulation of Autonomous Ground Vehicles – 2022
  - ✓ Special Issue on Quantum Engineering for Autonomous Vehicles – 2022
  - ✓ Special Issue on Advanced Vehicle Technologies – 2023

Advisory Committee Meeting, 6/14/2021; Associate Editor Meeting, 6/25/2021

Plan of Action

Targets for 2nd Year of Operation: 73 days from submission to final decision

Duration	**Task**
Within 5 days	Editor assigns the manuscript to an AE or rejects the manuscript.
Within 5 days	AE assigns the manuscript to reviewers.
Within 35 days	Reviews completed.
Within 3 days	AE submits recommendation.
Within 15 days	Authors are requested to submit revisions with a reasonable turnaround. Fifteen days is recommended.
Within 5 days	The AE handles the second revision.
Within 5 days	Final decision made by Editor.

Time in Process: 2020 – 2022

The time in process has steadily decreased from 2020 to 2022 and we are within range of our 73-day goal for the remainder of 2022.

Task	Target Duration	2020	2021	2022
Submission to AE assignment.	Within 5 days	15 days	7 days	8 days
Time in review.	Within 35 days	94 days	81 days	61 days
AE submits recommendation.	Within 3 days	26 days	16 days	11 days
Final decision made by Editor.	Within 5 days	11 days	5 days	1 day
Total Time in Process	Within 73 days	146 days	114 days	82 days

THANK YOU

Vladimir Vantsevich
vantsevi@uab.edu

Back up Slides

Vision

The new ASME Journal focuses on

Transformative Research and Engineering Design of Autonomous Vehicles and Systems

Specifically, the Journal serves for

- Expanding research frontiers and developing innovative approaches to all areas of autonomous vehicle dynamics and autonomous system design
- Making vehicles receptive to technological novelties and technological paradigm shifts that could feasibly emerge due to disciplinary convergence of engineering fields and applied technical, natural, and social sciences.

Background

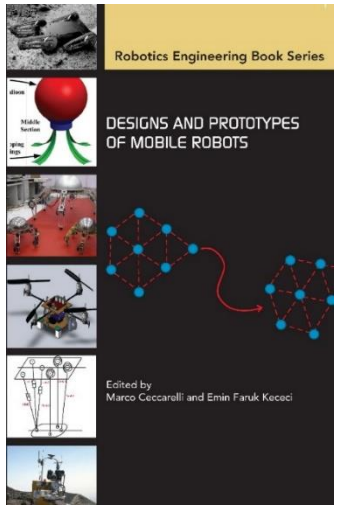
M. Ceccarelli and F. Kececi – Editors. Design and Prototypes of Mobile Robots 2015

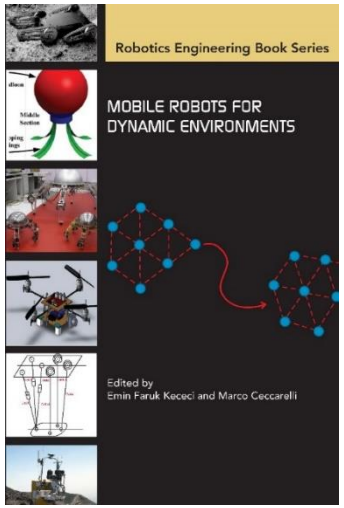
M. Ceccarelli and F. Kececi – Editors. Mobile Robots for Dynamic Environments, 2015

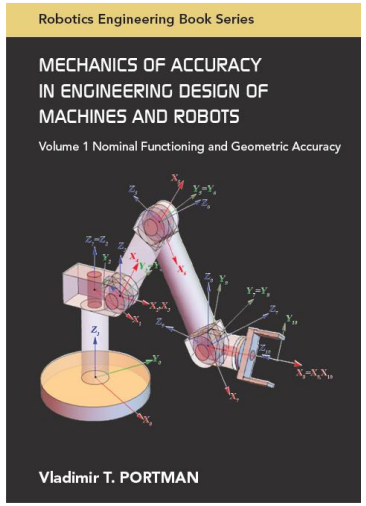
V. Portman, Mechanics of Accuracy in Engineering Design of Machines and Robots

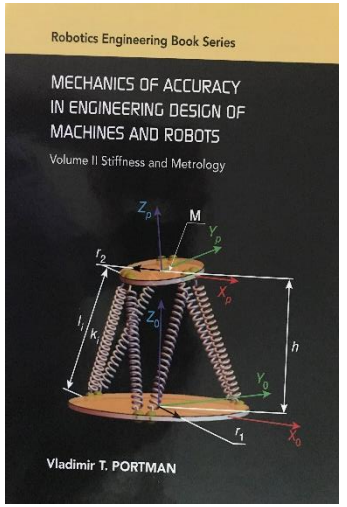
- Volume I: Nominal Functioning and Geometric Accuracy, 2018
- Volume II: Stiffness and Metrology, 2019

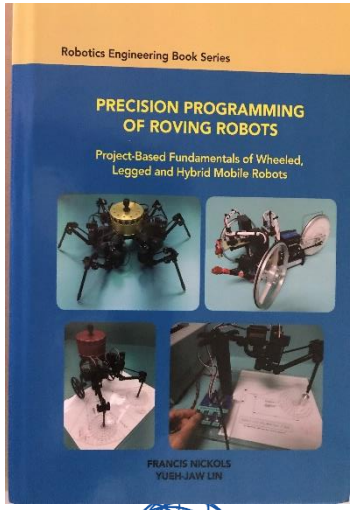
Francis Nickols, Yueh-Jaw Lin, Precision Programming of Roving Robots: Project-Based Fundamentals of Wheeled, Legged and Hybrid Mobile Robots, 2019











ASME
SETTING THE STANDARD

Special Issue of the ASME Journal of Dynamic Systems, Measurement and Control

Autonomous Mobile Systems

Dedicated to the memory of Professor J. Karl Hedrick

Dr. Joseph Beaman, Editor-in-Chief

Vladimir Vantsevich, ScD, PhD
Lead Guest Editor
The University of Alabama at Birmingham
vantsevi@uab.edu

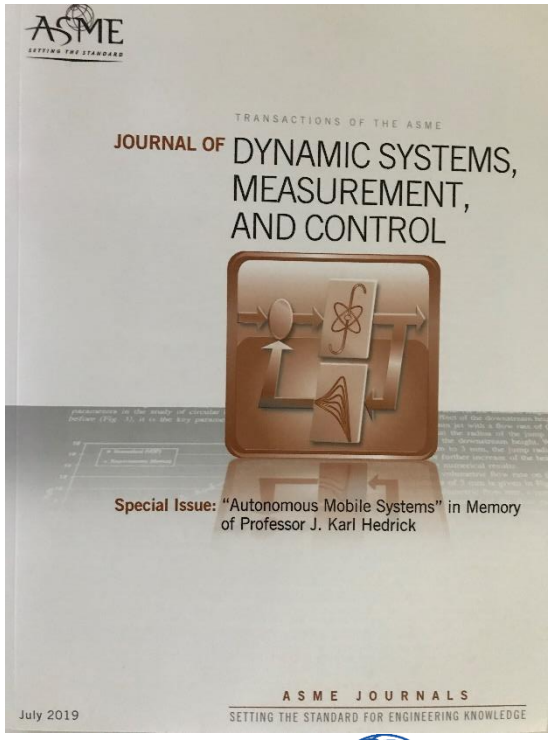
David Gorsich, PhD
US Army CCSC Ground Vehicle Systems Center
david.j.gorsich.civ@mail.mil

Junmin Wang, PhD
The University of Texas at Austin
JWang@austin.utexas.edu

Xiaobo Tan, PhD
Michigan State University
xbtan@egr.msu.edu

Manish Kumar, PhD
The University of Cincinnati
kumarmu@ucmail.uc.edu

Scott Fish, PhD
The University of Texas at Austin
scott.fish@utexas.edu



ASME SETTING THE STANDARD

Mission

The new ASME Journal serves engineering community by disseminating and promoting autonomous vehicle research and engineering in

- Modeling and Design
- Virtual and Experimental Simulation and Testing
- Energy Efficiency and Operational Effectiveness

Specifically, the Journal serves for

- Bridging theoretical discoveries with practical implementation of emerging technologies and advanced designs of autonomous vehicles and autonomous systems.

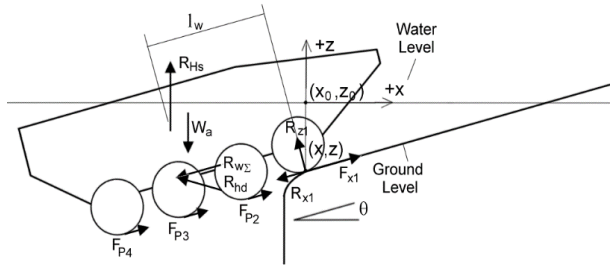
Aim and Scope

The *aim* of the new ASME Journal is to provide a unique international platform for

- Technical communication,
- Discussion, exchange of opinions,
- Dissemination of technical knowledge and technological solutions

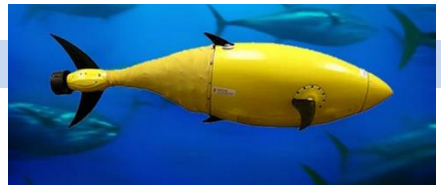
in transformative areas of research and engineering design of autonomous vehicles and systems that operate in different media and inter-medium environments of

- Ground,
- Air and Space
- Water







ASME SETTING THE STANDARD

Aim and Scope

The *scope* includes

- Autonomous vehicle and multi-domain system dynamics in interaction with multi-physics environment in different media
- Transdisciplinary-inspired design concepts for safe and secure performance, energy efficiency, and survivability of autonomous vehicles and systems
- Intelligent morphing and dynamics of autonomous vehicles and systems
- Intelligent sensing, actuation, and controls for agile dynamics and mission/task fulfillment

Aim and Scope

The *scope* includes

- Localization problems, landscape, air and aquatic environment sampling
- Fault-tolerance in severe, uncertain, and adversarial environments
- Human-in-the-loop and autonomous intelligent decision making related to dynamics and mission/task fulfillment
- Integration of autonomous vehicles into the manned and unmanned traffic of their respective media for their mass adoption

Aim and Scope

The *scope* includes

- Artificial intelligence and social behavior factors and challenges for communication, decision making, and dynamic interaction between
  (i) Autonomous vehicle systems of the same and different media,
  (ii) Autonomous vehicles, and
  (iii) Autonomous vehicles and infrastructure in a particular medium and inter-medium environments

- Integration of modeling and simulation with gaming technologies

- Transformative conceptual and engineering design for life cycle management of autonomous vehicles and autonomous systems

Target Audience

Engineering branches

- Mechanical and Mechatronic Systems
- Vehicle Design
- Electrical Systems and Electronics
- Cyber- and Intelligent Physical Systems
- Sensors and Actuators, etc.

Applied technical, natural, and social sciences

- Artificial and human intelligence,
- Social sciences,
- Computer science in general
- Networks and Big Data, Physics
- Mathematics and Numerical Methods

Target Audience

Researchers, university academic educators and students, engineers from industry and research agencies

- Researchers from various fields of the Journal scope
- University faculty and students of all academic levels
- R&D Engineers
- Product Design Engineers
- Systems Engineers
- Electrical and Electronic Engineers
- Maintenance Engineers
- Engineering Project Managers
- Applied Mathematicians
- Government Agencies working on policies and regulations of autonomous vehicles

Sponsoring Divisions and Advisory Committee

- ASME Dynamic Systems and Control Division
- ASME Design Engineering Division
- Governmental Agencies (U.S. Army GVSC, Air Force Research Lab)
- Academia
- Industry

Advisory Committee

Responsibilities of Advisory Committee

- Advise Editor on new strategic directions of ASME JAVS
- Be the ASME JAVS representatives and ambassadors
- Promote *ASME JAVS* at various conferences and other technical events
- Invite new authors
- Assist with reviewing manuscripts submitted to *ASME JAVS*
- Recruit new reviewers
- Recommend new members for the Advisory Committee and new Associate Editors
- Advise Editor and Associate Editors on disputable submissions
- Offer Special Issues and yourself as Guest Editor
- Write Invited Papers for *ASME JAVS*

Journal Metrics

Total Status of Submissions by Country

	Submitted	In Review	Accepted	Rejected	Removed	Withdrawn
Algeria	1			1		
Brazil	1			1		
China	7		2	3	1	1
Croatia	1		1			
Egypt	3			2	1	
France	1		1			
India	30	1	2	16	4	7
Iran	1			1		
Israel	1		1			
Italy	2		1			1
Japan	4		1	2		1
Lebanon	1					1
Mexico	1			1		
Morocco	3			1	1	1
Saudi Arabia	1			1		
Spain	1	1				
Taiwan	3		2	1		
Tunisia	1			1		
Uganda	2			1		1
United Kingdom	3			2	1	
United States	60	6	24	26	3	1
TOTALS	**128**	**8**	**34**	**61**	**11**	**14**

Journal Metrics

Status of Submissions by Country: 2020 * 2021 * 2022

	Submitted	In Review	Accepted	Rejected	Removed	Withdrawn
Algeria	0 * 1 * 0			0 * 1 * 0		
Brazil	1 * 0 * 0			1 * 0 * 0		
China	4 * 3 * 0		2 * 0 * 0	1 * 2 * 0	0 * 1 * 0	1 * 0 * 0
Croatia	1 * 0 * 0		1 * 0 * 0			
Egypt	3 * 0 * 0			2 * 0 * 0	1 * 0 * 0	
France	1 * 0 * 0		1 * 0 * 0			
India	20 * 8 * 2	0 * 0 * 1	1 * 1 * 0	10 * 5 * 1	4 * 0 * 0	5 * 2 * 0
Iran	0 * 1 * 0			0 * 1 * 0		
Israel	1 * 0 * 0		1 * 0 * 0			
Italy	0 * 1 * 0					0 * 1 * 0
Japan	2 * 2 * 0		0 * 1 * 0	2 * 0 * 0		0 * 1 * 0
Lebanon	0 * 1 * 0					0 * 1 * 0
Mexico	0 * 1 * 0			0 * 1 * 0		
Morocco	2 * 1 * 0			0 * 1 * 0	1 * 0 * 0	1 * 0 * 0
Saudi Arabia	1 * 0 * 0			1 * 0 * 0		
Spain	0 * 0 * 1	0 * 0 * 1				
Taiwan	2 * 1 * 0		2 * 0 * 0	0 * 1 * 0		
Tunisia	1 * 0 * 0			1 * 0 * 0		
Uganda	0 * 0 * 2			0 * 0 * 1		0 * 0 * 1
United Kingdom	3 * 0 * 0			2 * 0 * 0	1 * 0 * 0	
United States	23 * 25 * 12	0 * 1 * 5	8 * 13 * 3	12 * 11 * 3	3 * 0 * 0	0 * 0 * 1
TOTALS	**65 * 45 * 17**	**0 * 1 * 7**	**16 * 15 * 3**	**32 * 23 * 5**	**10 * 1 * 0**	**7 * 5 * 2**

Journal Metrics (continued)

Papers per Associate/Guest Editor

- Azimov, Dilmurat (AE) – 4
- Canova, Marcello (AE) – 4
- Carbone, Giuseppe (AE) – 5
- Ceccarelli, Marco (AE) – 3
- Chen, Wen-Hua (AE) – 3
- Cowlagi, Raghvendra (AE) – 5
- Demkiv, Lyubomyr (AE) – 7
- Duprey, Benjamin (AE) – 4
- Epureanu, Bogdan I. (GE) – 2
- Gorsich, David J. (AE & GE) – 7
- Gray, Jeremy P. (AE) – 4
- Hermann, Jeffrey (AE) – 3
- Hu, Xiaosong (AE) – 1
- Jayakumar, Paramsothy (AE) – 4
- Jiang, Zhong-Ping (AE) – 6
- Khoshnoud, Farbod (AE & GE) – 1
- Kumar, Manish (AE) – 2
- Larochelle, Pierre (AE) – 4
- Liu, Jianbo (AE) – 4
- McCue-Weil, Leigh (AE) – 3
- Nersesov, Sergey (AE) – 0
- Pandey, Gaurav (AE) – 6
- Sandu, Corina (AE) – 3
- Richter, Lutz (AE) – 5
- Van der Auweraer, Herman (AE) – 1
- Wang, Hai (AE) – 3
- Wang, Junmin (AE) – 4
- Wang, Yue (AE) – 5

Journal Metrics (continued) – Papers per Associate/Guest Editor

AE/GE	2020	2021	2022	AE/GE	2020	2021	2022
Azimov, Dilmurat (AE)	3	1	-	Jiang, Zhong-Ping (AE)	5	-	1
Canova, Marcello (AE)	2	1	1	Khoshnoud, Farbod (AE & GE)	n/a	n/a	1
Carbone, Giuseppe (AE)	3	2	-	Kumar, Manish (AE)	1	1	-
Ceccarelli, Marco (AE)	2	1	-	Larochelle, Pierre (AE)	3	1	-
Chen, Wen-Hua (AE)	2	1	-	Liu, Jianbo (AE)	3	1	-
Cowlagi, Raghvendra (AE)	3	1	1	McCue-Weil, Leigh (AE)	n/a	1	2
Demkiv, Lyubomyr (AE)	4	3	0	Nersesov, Sergey (AE)	n/a	n/a	-
Duprey, Benjamin (AE)	1	2	1	Pandey, Gaurav (AE)	3	2	1
Epureanu, Bogdan I. (GE)	n/a	2	n/a	Sandu, Corina (AE)	n/a	2	-
Gorsich, David J. (AE & GE)	1	5	1	Richter, Lutz (AE)	3	2	-
Gray, Jeremy P. (AE)	2	2	-	Van der Auweraer, Herman (AE)	1	-	-
Hermann, Jeffrey (AE)	2	1	-	Wang, Hai (AE)	n/a	2	1
Hu, Xiaosong (AE)	n/a	n/a	1	Wang, Junmin (AE)	3	-	1
Jayakumar, Paramsothy (AE)	1	3	-	Wang, Yue (AE)	3	1	1

Updates of the Scope of the Journal

Scope: Artificial intelligence and machine learning; Artificial intelligence mimicking human intelligence for self-operation, shared mental and cooperative environment models; Intelligent perception and cognitive architectures for autonomous operation, decision making, controls and observation; Autonomous system models; Modeling, simulation and designing autonomous vehicle systems for their autonomy; Operator-vehicle interaction, including communication, operator trust in autonomous vehicle and autonomy transparency, teaming and task allocation; Shared control and mixed initiatives of autonomous vehicles, haptic feedback based autonomous operation, and driver-assistance systems; Active payload models; Proprioceptive sensors in autonomous vehicle systems and exteroceptive sensors for autonomous vehicle and environment interactions; Outdoor and cyber-physical indoor proving grounds and research facilities; Inputs/outputs and environmental models in autonomous vehicle simulation and design; Gaming environments.

Updates of the Keywords of the Journal

Group No.	Keyword Group	Keyword Extension Suggested, but Not Limited to
1	Autonomous vehicles and systems by medium of operation	Ground vehicles (e.g., road/off-road, planning, e-vehicles) Sub-terrain vehicles Water-domain vehicles (surface, underwater) Aerial and space vehicles Planet rovers and other planet vehicles Inter-medium vehicles (e.g., ground-water, etc.) Indoor vehicles Electrification in vehicles and systems
2	Autonomous vehicles and systems by applications	Personal, fleet and cargo transportation Construction, forestry, farming, mining, manufacturing Scientific research of different media Exploration of other planets Service vehicle applications (e.g., medical, service for humans, delivery) Infrastructure monitoring Surveillance and military Rescue operations
3	Autonomy of vehicles and systems	Autonomy levels depending on • Operator control, • Task/mission complexity, • Environment, etc. Standardization in autonomous vehicles and systems

Updates of the Keywords of the Journal

Group No.	Keyword Group	Keyword Extension Suggested, but Not Limited to
4	Artificial intelligence (AI) design with application to autonomous intelligent vehicles and systems	Autonomy and intelligence AI models (e.g., intelligent reasoning and decision making) Augmented intelligence Machine learning-based methods and applications
5	Perception and sensing	Situational awareness and assessment Scene construction and understanding Exteroceptive sensors (Lidar, Radar, Camera, new environment recognition sensors) Proprioceptive sensors (vehicle system sensors for monitoring and controlling vehicle systems) Human-vehicle interaction sensing Sensor and information fusion Sensor deployment Soft sensors Deep learning Computer vision
6	Planning	Overall mission/supervisory planning to coordinate operation of multiple systems to achieve a higher level vehicle goal Global positioning, navigation and localization 3D and 2D pose estimation Trajectory planning, generation and tracking Static and moving object tracking Autonomous maintenance need estimation, fault detection & mitigation Cognitive planning models High-definition maps

Updates of the Keywords of the Journal

Group No.	Keyword Group	Keyword Extension Suggested, but Not Limited to
7	Vehicle-to-Human, Vehicle-to-Vehicle Interaction, Vehicle-to-Infrastructure	Communication, driving (e.g., collision avoidance, sharing driving, etc.) • Remote and visual control • Haptic feedback based autonomous operation, etc. Reliability and adaptability Transparency and trust Teaming behaviors Task allocation, assignment and switching Shared mental models Human-vehicle interface Human-in-the-loop Connectivity
8	Autonomous vehicle and system dynamics, optimization and controls in interaction with multi-physics environments	Multi-domain system dynamics in interaction with multi-physics environment in different media: • Hyper-active environments (e.g., battlefield) • Natural disasters (e.g., water and air flows, etc.) • Manmade adversarial settings (e.g., nuclear and chemical contamination, electro-magnetic fields) Agile mobility and maneuver of autonomous vehicles and systems (e.g., terrain mobility, platooning, lane keeping and changing, etc.) Intelligent morphing and dynamics of autonomous vehicles and systems Multi-domain system inputs/outputs AI-learning-based control Shared control and mixed initiatives of autonomous vehicles Adaptive, robust, coverage, cooperative adaptive control and other intelligent model-based controls (e.g., adaptive cruise control, cooperative adaptive cruise control, decentralized and distributive controls, etc.) Observation methods and applications in observer design

Updates of the Keywords of the Journal

Group No.	Keyword Group	Keyword Extension Suggested, but Not Limited to
9	Modeling, simulation and assessment of autonomous vehicles and systems for autonomous motion and task fulfilment	Vehicle and system linear and nonlinear models System of systems modeling Simulation algorithms System identification, state and parameter estimation Run time operation Real-time and faster than real time vehicle and system simulation Models and simulation methods that mathematically and computationally suitable for different levels of autonomy External (environment) and internal (vehicle and payload related) uncertainty and robustness Balance between model complexity and accuracy Model verification and validation High-assurance autonomous software Gaming and training environment for modeling and simulations
10	Design of autonomous vehicles and systems	Design models Reliability and adaptability Safety, assurance and resilience Uncertainty, vulnerabilities and robustness Energy efficiency Specifications and formal methods Novel conceptual and engineering designs of vehicles and systems

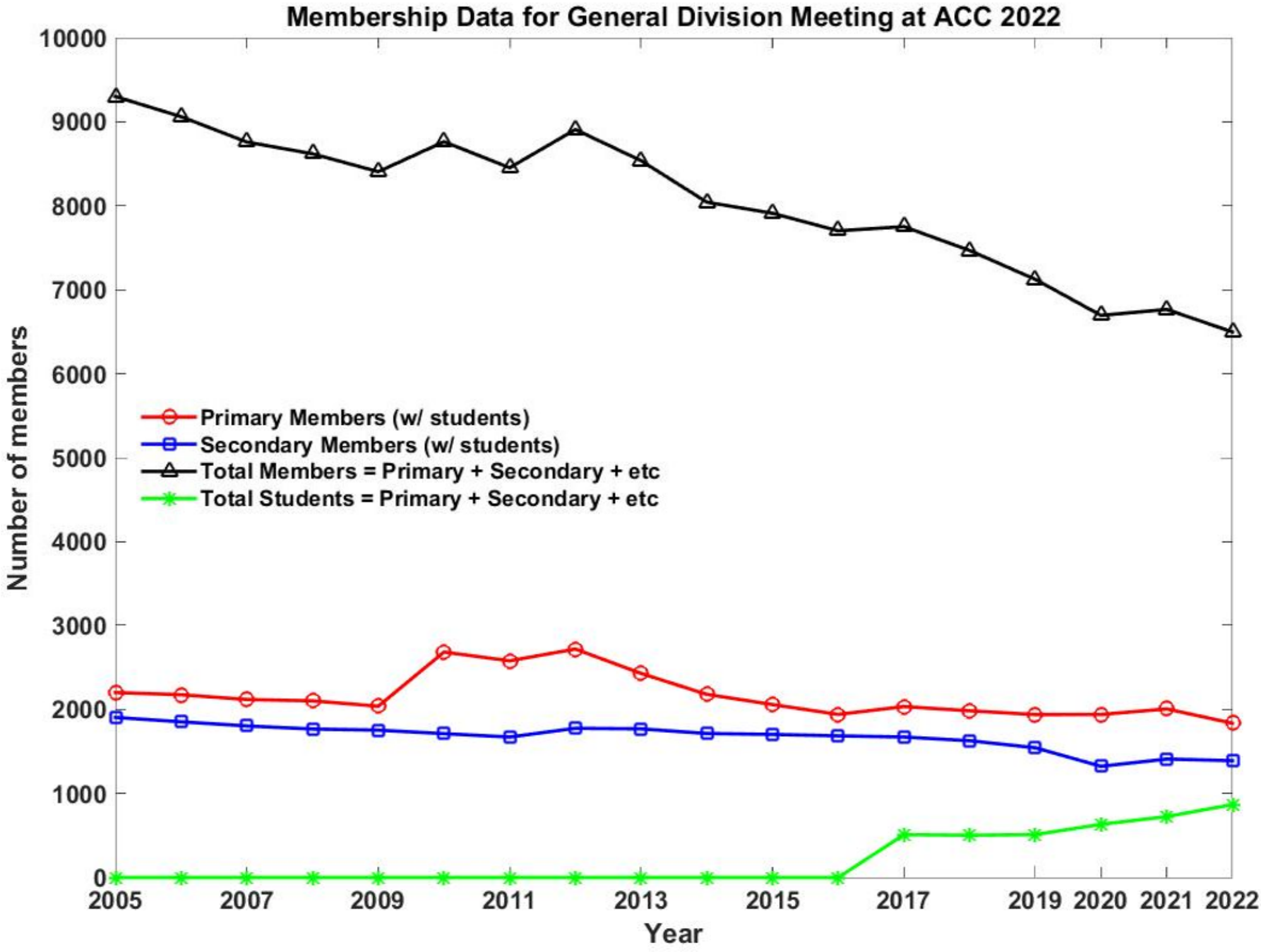
Updates of the Keywords of the Journal

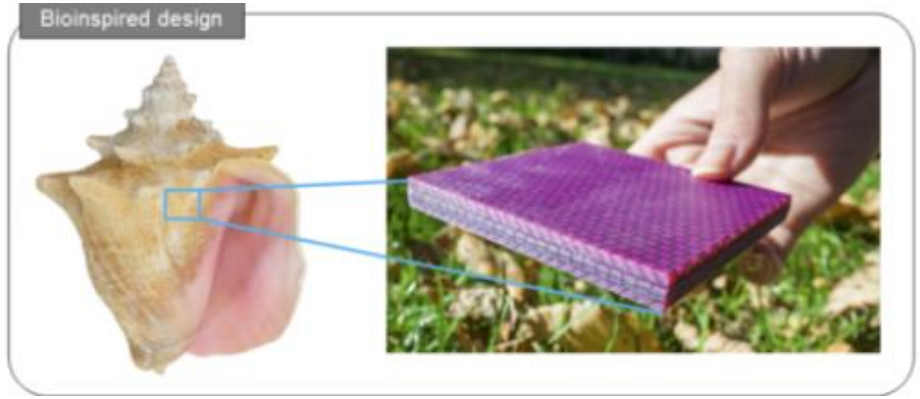
Group No.	Keyword Group	Keyword Extension Suggested, but Not Limited to
11	Active and passive payload	Modeling and design Interaction with vehicle in motion Task and mission fulfilment in collaboration with vehicle and systems
12	Experimental testing and human/vehicle training research and engineering	Experimental test methods and analysis Verification and validation methods for clear, certifiable, replicable, and extensible validation, Fidelity of simulators Cyber-physical indoor and outdoor test facilities with "X"-in-the-loop testing (e.g., "X" for hardware, software, human) Training autonomous vehicle operators, vehicle passengers, and warfighters

Progress on AEs, Authors, and Reviewers:

AEs, Authors, Reviewers - As the journal continues to make progress and grow its population of authors, reviewers, and readers, we will continue to reach out to highly qualified researchers across fields (academia, government/military, and industry) to submit manuscripts, review papers, and serve as associate editors and reviewers.

Specific Domain - We will continue to focus on growing the underwater autonomous vehicles section of authors, reviewers, and associate editors.

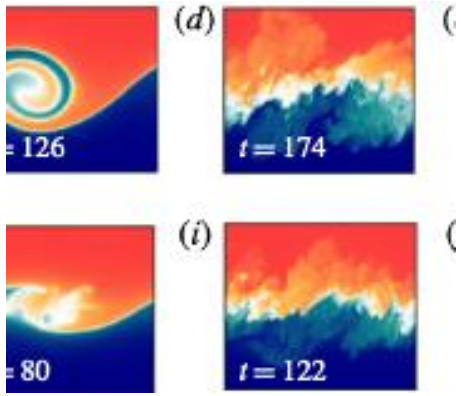

Membership Data for General Division Meeting at ACC 2022
Number of members
Year
Primary Members (w/ students)
Secondary Members (w/ students)
Total Members = Primary + Secondary + etc
Total Students = Primary + Secondary + etc
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2005
2007
2009
2011
2013
2015
2017
2019
2020
2021
2022



ASME DSCD H&A Committee June 2022 Report

Roberto Horowitz
H&A Committee Chair

June 8, 2022



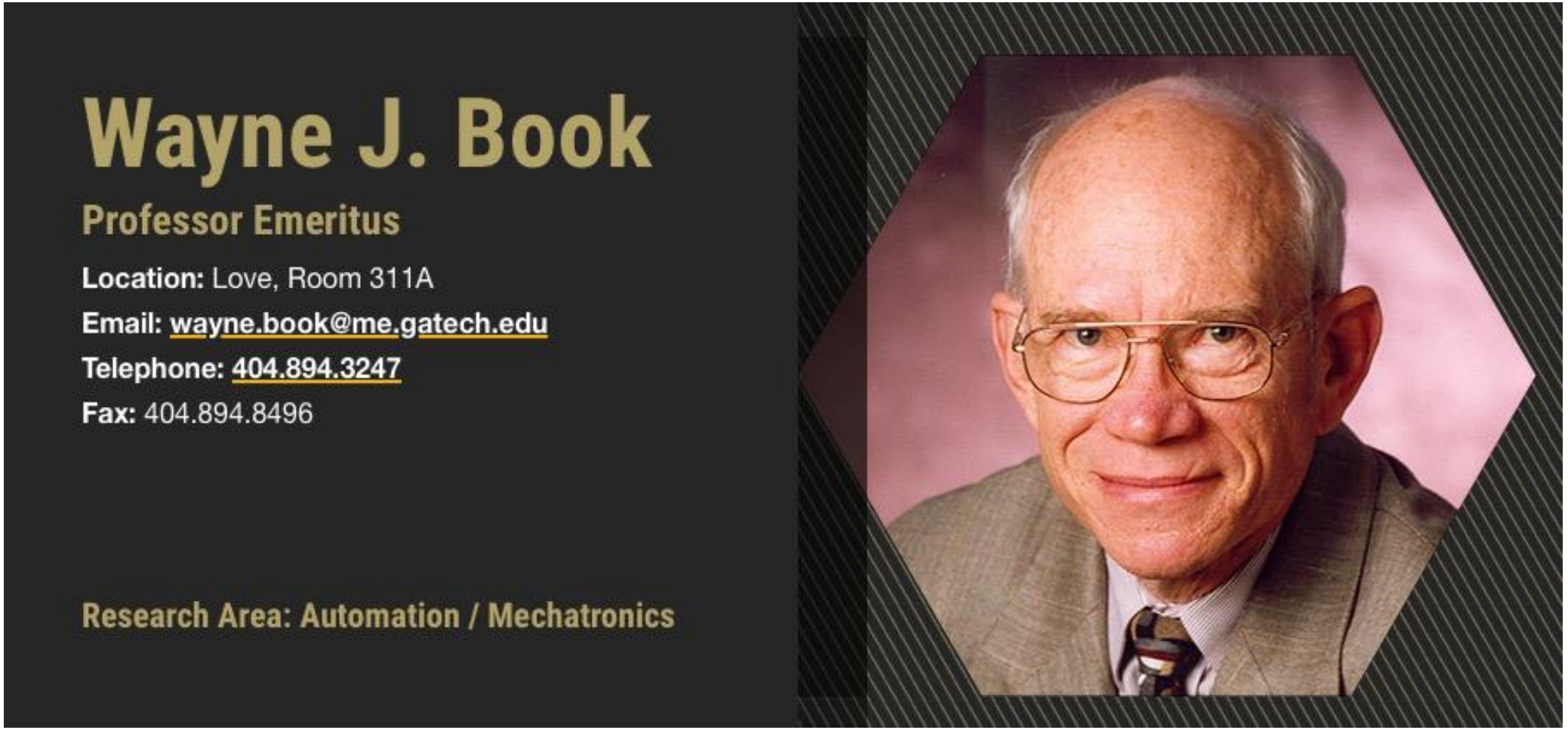
Report Outline

1. **2022 Rufus Oldenburger Medal**

2. **Nominations request for the 2022 ASME DSCD Outstanding Investigator and Innovative Practice Awards**

3. **Revisions to the Kalman Best Paper Award (PBA) Review Process**

2022 Rufus Oldenburger Medal



2) Nominations requested for two DSCD awards

- **Henry M. Paynter Outstanding Investigator Award**

- **Charles Stark Draper Innovative Practice Award**:

- The submission deadline is **Thursday June 30th**.

- Submission should be sent by e-mail **to Roberto Horowitz (horowitz@Berkeley.edu)** H&A Committee Chair.

Paynter Outstanding Investigator Award

- This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member who has demonstrated sustained **outstanding research contributions**, either basic or applied, as a mechanical engineering professional to fields of interest to the DSCD.

  - The submission deadline is **Thursday June 30th**.
  - Submission should be sent by e-mail **to Roberto Horowitz (horowitz@Berkeley.edu)** H&A Committee Chair.

Draper Innovative Practice Award

- This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member (or a team) for either excellent sustained contributions or for an outstanding major, singular contribution in **innovative applications of dynamic systems, measurement, or control in engineering practice**.

  - The submission deadline is **Thursday June 30th**.
  - Submission should be sent by e-mail **to** Roberto Horowitz **(**horowitz@Berkeley.edu**)** H&A Committee Chair.

3) Revisions to the Kalman Best Paper Award Review Process

- A proposal was submitted and presented by H&A Chair Horowitz on May 10, 2022 to the DSCD Executive Committee (ExCom).

- **Objective:**
  - to make the review process more robust, efficient and fair
  - allow for a larger number of paper nominations to the H&A committee from the ASME Journal of Dynamic, Systems, Measurement and Control (JDSMC) editor.

- The ExCom subsequently reviewed and voted to adopt the proposed changes.

Background

- The current KPA paper nomination and so-called “down selection” process, which must be performed by the JDSMC Editor, is not well defined.

- Editor Ranjan Mukherjee and I believe that the “down selection” process should not be performed by the JDSMC Editor alone

    - associate editors cannot be readily recruited to constitute a committee that can help the Editor select a manageable “final set of nominations” for the H&A committee to consider.

Background -Last year

- 20 Kalman BPA nominations were submitted.
- H&A Committee is composed of only 7 members
  - this committee is not well equipped to review 20 nomination in such a relatively short period of time, particularly since it is too onerous for a single person to read 20 papers and objectively select the best paper from such a large group, in one single review sweep.
- A large number of nominations generally results in several members of the H&A committee having a COI and are traditionally excluded from participating in the process.
  - Last year, the chair, co-chair and another member had a potential COI.
  - This compounds the review load allocation problem

Overview of the proposed change

- Increase the Kalman PBA review committee membership with additional temporary members, without disqualifying any H&A member, and to conduct the review in a two-phase process.
- **Phase 1:** papers are separated into groups of 4-6 papers
  - Each group of papers is reviewed by at least 3 reviewers who do not have a COI with the papers in the group, with the goal of selecting the best paper from each group.
  - Additional reviewers may need to be recruited to create a sufficiently large Kalman BPA review committee to handle the first phase of the review process.
- **Phase 2:** "paper finalists," are evaluated by the entire Kalman BPA (minus anyone who has a COI with any of the paper finalists) to select the Kalman BPA

Proposal

4 steps of the review process:

1) JDSMC Editor Kalman BPA Paper Candidate’s Submissions,
2) Creation of the Kalman PBA review committee
3) Kalman BPA first phase review process
4) Kalman BPA second phase review process.

1) JDSMC Editor Kalman BPA Paper Candidate's Submissions

The JDSMC Editor to the chair of the H&A Committee the following material:

- The PDF file of each of the Kalman BPA candidates.

- A spread sheet (either excel or google sheet) containing the following relevant information for each paper candidate: A) Paper Number, B) Paper Title, C) Authors' names, D) Authors' affiliation, E) associate editor's recommendation and/or reviewers' comments, and F) potential COI among members of the H&A committee if known. .

A	B	C	D	E	F
ASME DSCD 2023 Kalman Best Paper Award Nominees					
Paper Number	Tittle	Authors	Affiliations	Associate editor's recommendation and/or reviewers' comments	COI
ds_142_10_101008	Supervisory Control and Distributed Optimization of Building Energy Systems	Jiang, Chinde, Kohl, Kelkar, Sarkar	Iowa State University, Clemson University		

- **<u>It is recommended that the number of paper candidates not exceed 20.</u>**

2) Creation of the Kalman PBA review committee

- **At most 4 groups, each comprising 4-6 paper candidates should be formed.**

A. The papers comprising each group will be evaluated by 3 reviewers, who must not have any COI with any of the papers in the group, during the first phase of the review process. **This means that the Kalman BPA committee could be integrated by at most 12 members**.

B. Since the H&A committee is normally integrated by 7 members, including the committee chair and vice-chair, **at most 4 additional members may need to be recruited to integrate the Kalman BPA committee.**

Creation of the Kalman PBA review committee

1. After an initial paper candidate examination, the chair of the H&A committee requests the appointment of 5 additional committee members to the ExCom Chair.

   The additional members could be drawn from the following pool:

   a) Editor and associated editors of the ASME JDSMC.
   b) Conference Editorial Board Chair and member
   b) Present and past ASME DSCD ExCom members.
   c) Past members of the DSCD Honors and Awards (H&A) committee.

2. The Chair and vice-chair of the H&A Committee set up the paper candidates and presents the proposed review committee organization to the ExCom Chair.

Kalman BPA first phase review process

- General instructions for conducting the first phase of the review process are sent to all the reviewers.
- The H&A Chair sends out a review request with a deadline to the members of each review group asking them to review and select:
    - **First Choice:** The best paper in this group, which should advance to phase 2 of the review.
    - **Second Choice:** A very strong candidate, first runner up.
    - **Third Choice:** A strong candidate
  - The review request is normally sent as a google form.

- The H&A Chair collects the reviewer's responses and sends an e-mail to the group members with the results.
- **Normally one paper is selected by each group**, but there is the option for a group to select two papers.

Kalman BPA second phase review process

- The H&A Chair re-constitutes the Kalman BPA review committee in for phase 2.
    - members of the phase 1 review committee minus any member that has a conflict of interest (COI) with any of the paper finalists.
    - a member of the phase 1 committee, who is not a member of the H&A committee may request the H&A chair not to be included in the phase 2 review committee.
- Instructions for conducting the second phase of the review process are sent to all the reviewers (google form). Rank paper finalist:
    - **First Choice:** The paper that should be the Kalman BPA.
    - **Second Choice:** A very strong candidate, first runner up.
    - **Third Choice:** A strong candidate.
- The H&A Chair collects the phase-2 reviewers' responses and sends an e-mail to the committee members with the results. Discussions ensue, either by zoom or e-mail.

Questions, comments?

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

Professor Roberto Horowitz
Department of Mechanical Engineering
University of California
Berkeley, CA 94720-1742

Phone: (510) 643-7013
Fax: (510) 643-5599
Email: horowitz@berkeley.edu
www.me.berkeley.edu/people/faculty/roberto-horowitz

June 5, 2022

To: Professor Kam K. Leang, Secretary ASME DSCD
From: Professor Roberto Horowitz, Chair ASME DSCD Honors & Awards Committee
Re: Committee Report

The Honors & Awards (H&A) Committee is currently integrated by:

Roberto Horowitz, Chair, University of California, Berkeley
Kim Stelson, Vice Chair, University of Minnesota
George Chiu, Purdue University
Neville J. Hogan, MIT
Huei Peng, University of Michigan
Tsu-Chin Tsao, UCLA
Rama Yedavalli, Ohio State University

1) 2022 Rufus Oldenburger Medal

The H&A Committee reviewed 7 outstanding nominations for the 2021 Rufus Oldenburger Medal. **The committee recommended Dr. Wayne Book**, Professor Emeritus of the George W. Woodruff School of Mechanical Engineering at Georgia Tech, for the award. ASME approved the committee's recommendation and notified Professor Book, who gladly accepted the award.

2) Nominations request for the 2022 ASME DSCD Outstanding Investigator and Innovative Practice Awards

The H&A Committee is requesting nominations for:

- **Henry M. Paynter Outstanding Investigator Award**: This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member who has demonstrated sustained **outstanding research contributions**, either basic or applied, as a mechanical engineering professional to fields of interest to the DSCD.

- **Charles Stark Draper Innovative Practice Award**: This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member (or a team) for either excellent sustained contributions or for an outstanding major, singular contribution in **innovative applications of dynamic systems, measurement, or control in engineering practice**.

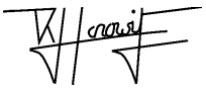
The submission deadline is **Thursday June 30th**. Submission should be sent by e-mail **to Roberto Horowitz**, H&A Committee Chair. An announcement is included in the attachment.

3) Revisions to the Kalman Best Paper Award (PBA) Review Process

A proposal was submitted and presented by H&A Chair Horowitz on May 10, 2022 to the DSCD Executive Committee (ExCom) to revise the review process for the selection of the Kalman Best Paper Award. The objective of the proposed revisions is to make the review process more robust, efficient and fair, while allowing for a larger number of paper nominations to the H&A committee from the ASME Journal of Dynamic, Systems, Measurement and Control (JDSMC) editor.

The ExCom subsequently reviewed and voted to adopt the proposed changes. The proposal (minus its appendices) is attached.

Sincerely,



Roberto Horowitz
Distinguished Professor
James Fife Endowed Chair
Department of Mechanical Engineering

Attachments:

Call for nominations for the 2022 ASME DSCD Outstanding Investigator and Innovative Practice Awards
Revisions to the Kalman Best Paper Award Review Process

ATTACHMENT 1

Call for nominations for the 2022 ASME DSCD Outstanding Investigator and Innovative Practice Awards

The Dynamic Systems and Controls Division (DSCD) of ASME is seeking nominations for the following two division awards:

Henry M. Paynter Outstanding Investigator Award

This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member who has demonstrated **sustained outstanding research contributions**, either basic or applied, as a mechanical engineering professional to fields of interest to the DSCD.

Charles Stark Draper Innovative Practice Award

This award is given biennially (even years) by the Dynamic Systems and Control Division of ASME to a DSCD member (or a team) for either excellent **sustained contributions or** for an outstanding major, **singular contribution in innovative applications of dynamic systems**, measurement, or control in engineering practice.

The deadline for receiving nominations is **June 30th 2022.** Complete nomination packages should be sent by e-mail to Professor Roberto Horowitz, chair of the DSCD Honors and Awards (H&A) Committee.

A nomination package should include:

A letter of nomination clearly indicating the qualifications of the nominee for receiving the award.
The nominee's curriculum vitae (CV)
Additional letters in support of the nomination are welcomed but not necessary.

Nominees selected for these awards must have been primary members of the DSCD for at least 5 consecutive years prior to receiving the Award and have been an active contributor of the DSCD.

Please do not hesitate to contact Professor Horowitz if you need further information.

ATTACHMENT 2:

Revisions to the Kalman Best Paper Award Review Process

UNIVERSITY OF CALIFORNIA, BERKELEY

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

Professor Roberto Horowitz
Department of Mechanical Engineering
University of California
Berkeley, CA 94720-1742

Phone: (510) 642-4675
Cell: (510) 734-3027
Email: horowitz@berkeley.edu
www.me.berkeley.edu/people/faculty/roberto-horowitz

May 10, 2022

To: Dr. Jordan Berg, ASME DSCD ExCom Chair,
Professor Kam Leung, Secretary ASME DSCD
From: Professor Roberto Horowitz, Chair ASME DSCD Honors & Awards (H&A) Committee

Re: Kalman Best Paper Award (PBA) Review Process Proposal

This document proposes a series of revisions to the DSCD H&A review process for the selection of the Kalman Best Paper Award. The objective of the proposed revisions is to make the review process more robust, efficient and fair, while allowing for a larger number of paper nominations to the H&A committee from the ASME Journal of Dynamic, Systems, Measurement and Control (JDSMC) editor.

Background

According to ASME DSCD guidelines, the KPA is selected as follows:

> *The Editor of the Journal of Dynamic, Systems, Measurement and Control (JDSMC) solicits nominations from the Associate Editors of the Journal. The Editor down selects from these nominations and submits a final set of nominations to the H&A Committee. The Committee determines the winner.*

However, the so-called "down selection" process, mentioned above, is not well defined. Both, JDSMC Editor Ranjan Mukherjee and I believe that the "down selection" process should not be performed by the JDSMC Editor alone, and without assistance; particularly when a large number of nominations are submitted by the associated editors, and the associate editors cannot be readily recruited to constitute a committee that can help the Editor select a manageable "final set of nominations" for the H&A committee to consider.

In the last award cycle that was recently completed, 20 Kalman BPA nominations were submitted. Moreover, only the PDF files of the 20 paper nominees were e-mailed to the H&A Chair, without any

other supporting material. Since the H&A Committee is composed of only 7 members including the committee chair and vice-chair, this committee is not well equipped to review 20 nomination in such a relatively short period of time, particularly since it is too onerous for a single person to read 20 papers and objectively select the best paper from such a large group in one single review sweep. Further, a large number of nominations generally results in several members of the H&A committee having a perceived conflict of interest (COI) with one or more of the nominated papers. According to traditional COI norms, this disqualifies the H&A member with a perceived COI from participating in the entire review process, compounding the review load allocation problem. The proposed changes, which were implemented in the last cycle, are meant to alleviate these problems.

Overview of the proposed change

The key idea is to increase the Kalman PBA review committee membership with additional members, without disqualifying any H&A member, and to conduct the review in a two-phase process.

1. During the first review phase, papers are separated into groups of 4-6 papers each, depending on the total number of submissions. Each group of papers is reviewed by at least 3 reviewers who do not have a COI with the papers in the group that they are assigned to, with the goal of selecting the best paper from each group that will advance as a finalist for to the second review phase. In order to have a sufficiently large Kalman BPA review committee that can handle the first phase of the review process, additional reviewers will be recruited by the H&A chair from a pool of reviewer volunteers selected by the ExCom committee. This pool of reviewer volunteers will be form from members of a) JDSMC editorial board, b) present and past ASME DSCD committee members, c) past members of the DSCD Honors and Awards (H&A) members and d) members of the DSCD conference editorial board.

2. In the second phase of the review process, the selected winners from each group, henceforth referred to as "paper finalists," are evaluated by the entire Kalman BPA review committee (minus anyone who has a COI with any of the paper finalists) to select the Kalman BPA from this group of paper finalists.

Detailed Proposal

Herein, I will outline the proposed 4 steps of the review process: 1) JDSMC Editor Kalman BPA Paper Candidate's Submissions, 2) Creation of the Kalman PBA review committee 3) Kalman BPA first phase review process 4) Kalman BPA second phase review process.

1) JDSMC Editor Kalman BPA Paper Candidates' Submissions

The JDSMC Editor should make available to the chair of the H&A Committee the following material:

A. The PDF file of each of the Kalman BPA candidates.

B. A spread sheet (either excel or google sheet) containing the following relevant information for each paper candidate: A) Paper Number, B) Paper Title, C) Authors' names, D) Authors' affiliation, E) associate editor's recommendation and/or reviewers' comments, and F) potential COI among members of the H&A committee if known. [1]

[1] In 2021 the H&A chair had to create this spreadsheet. However, perhaps this should be the responsibility of the JDSMC editor since he/she probably has most of this information already entered in some data base.

A	B	C	D	E	F
ASME DSCD 2023 Kalman Best Paper Award Nominees					
Paper Number	Tittle	Authors	Affiliations	Associate editor's recommendation and/or reviewers' comments	COI
ds_142_10_101008	Supervisory Control and Distributed Optimization of Building Energy Systems	Jiang, Chinde, Kohl, Kelkar, Sarkar	Iowa State University, Clemson University		

The JDSMC Editor should ideally request and include with every Kalman BPA nomination a short recommendation from the associate editor and useful reviewers' comments in support of the nomination, if available. This information (or a hyperlink to this information) should be included in column E) of the spread sheet.

It is recommended that the number of paper candidates do not exceed 20.

2) Creation of the Kalman PBA review committee

The Chair of the H&A committee, working with the committee vice chair, reviews the authors and affiliations of each of the paper candidate submission and organizes the paper candidate submissions into **at most 4 groups, each comprising 4-6 paper candidates**.

A. The papers comprising each group will be evaluated by 3 reviewers, who must not have any COI with any of the papers in the group, during the first phase of the review process. **This means that the Kalman BPA committee could be integrated by at most 12 members**.

B. Since the H&A committee is normally integrated by 7 members, including the committee chair and vice-chair, it is expected that **at most 5 additional volunteer reviewers may need to be recruited by the H&A chair from a pool of reviewer volunteers selected by the ExCom committee.**

C. This pool of reviewer volunteers will be form from members of a) JDSMC editorial board, b) present and past ASME DSCD committee members, c) past members of the DSCD Honors and Awards (H&A) members and d) members of the DSCD conference editorial board.

D. After an initial paper candidate examination, the chair of the H&A committee, in consultation with the H&A committee vice-chair, will recruit 5 additional Kalman BPA reviewers committee members **from a pool of reviewer volunteers selected by the ExCom committee,** to staff four reviewing groups, each composed by at least 3 members.

3) Kalman BPA first phase review process

A. Once the review groups have been formed and agreed upon by the H&A chair and vice-chair, the composition of the groups of papers and the reviewers that have been assigned to each group will be mailed to all members of the Kalman PBA review committee, along with general instructions for conducting the first phase of the review process. An example of such an information is shown in **APPENDIX 1**.

B. The H&A Chair sends out a review request with a deadline to the members of each review group asking them to review the papers in their group, and to rank the tree top papers as follows:

1) **First Choice:** The best paper in this group, which should advance to phase 2 of the review.
2) **Second Choice:** A very strong candidate, first runner up.
3) **Third Choice:** A strong candidate

The review request is normally sent as a google form. A sample is shown in **APPENDIX 2**. Reviewers read the papers and either fill out the form (the responses are recorded automatically by google) or return their choices by e-mailing the H&A committee chair.

C. The H&A Chair collects the reviewer's responses and sends an e-mail to the group members with the results. The e-mail may requests the reviewers to send their decision on which paper(s) to advance for the second review phase or may suggest a recommendation, when the vote outcome is clear. The reviewers can also have zoom meeting to discuss the outcome.

Normally one paper is selected by each group, but there is the option for a group to select two papers to advance to phase 2 if the vote outcome in that group is extremely close for making a decision between the top two papers in the group.

APPENDIX 3 illustrates e-mails exchange between the H&A Chair and members of two review groups.

4) Kalman BPA second phase review process

After phase 1 of the review process has been completed and paper finalists have been selected. The H&A Chair re-constitutes the Kalman BPA review committee in order to conduct the second and final phase of the selection process. This re-constituted phase 2 review committee is formed by the members of the phase 1 review committee minus any member that has a conflict of interest (COI) with any of the paper finalists. In addition, a member of the phase 1 committee, who is not a member of the H&A committee, may request the H&A chair not to be included in the phase 2 review committee.

D. Once the phase 2 review committee has been formed, general instructions for conducting the first phase of the review process are sent to all the reviewers. The H&A Chair sends out a review request with a deadline to the members of review committee asking them to review the papers finalists, and to rank the tree top papers as follows:

1) First Choice: The paper that should be the Kalman BPA
2) Second Choice: A very strong candidate, first runner up.
3) Third Choice: A strong candidate

The review request is normally sent as a google form. A sample is shown in **APPENDIX 4**. Reviewers read the papers and either fill out the form (the responses are recorded automatically by google) or return their choices by e-mailing the H&A committee chair.

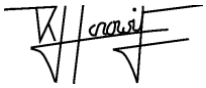
4) The H&A Chair collects the phase-2 reviewers' responses and sends an e-mail to the committee members with the results. The e-mail analyzes the results and may proposed a decision outcome if the voting outcomes are decisive. The e-mail may also request that a zoom meeting be organized to discuss the outcome.

APPENDIX 5 shows parts of the e-mails exchange between the H&A Chair and members of the phase-2 review committee.

A final decision on the Kalman Best Paper Award is generally reached by consensus. After the decision is reached, it is conveyed to the Chair and secretary of the ExCom by the H&A Chair.

Thank you for your consideration to this proposal. I welcome any comments, suggestions or alternatives that you and the ExCom committee may have to the proposal.

Sincerely,



Roberto Horowitz
Distinguished Professor
James Fife Endowed Chair
Department of Mechanical Engineering