

WSPE News

Serving members of the Washington Society of Professional Engineers

From the President

By Beth Fifield Hodgson, PE, F.NSPE

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Dear WSPE members.

2023 opened with new opportunities and new challenges! New construction and projects has broadened **opportunities** for business and regional activities (e.g. Climate Change Arena, SR 520 Bridge Replacement and HOV Program, and North Spokane Corridor) and continued our potential **challenges** (e.g. recession, staff shortages).

The WSPE Board of Trustees met virtually on Saturday February 4th to review the state of our non-profit organization as well as legislation that may affect the practice of engineering in Washington State, and to ensure we have solid support for upcoming community-wide STEM events. Watch for minutes of our meetings on [our revamped website](#), but some of the key issues that are of specific concern for WSPE are maintaining a sound financial situation and engaging our members.

Lake Washington, Seattle and Mt. Rainier chapters are working diligently to hold meetings – with the majority of Seattle and Lake Washington meetings virtually for the foreseeable future and Mt. Rainier meetings in person. Check out [WSPE's website](#) for upcoming topics but generally Seattle/Lake Washington joint meetings are held the 3rd Tuesday of the month starting at 5:30 pm and the Mt. Rainier meeting are held the 3rd Wednesday of the month. Spokane and Tri-Cities chapters are looking for members to champion upcoming meetings.

Nine regional MathCounts competitions are scheduled in February with all five chapters supporting a competition and regional individuals and our State-wide MathCounts coordinator supporting the other four. Regional events were held February 4th and 11th (Lake Washington,



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North Puget Sound, Seattle) and upcoming events are scheduled for February 18th (Mt. Rainier and Tri-Cities) and 25th (Olympia, Southwest, Spokane, Wenatchee) with the state competition rounding out the schedule on March 25th. More information on MathCounts is included in Doug Hendrickson's article below. We would love your support so if you are willing to provide time on the day of the event or financial support, please contact Doug or me for directions/contact information.

As WSPE's representative to the Architects Engineers and Land Surveyors (AELC) lobby, Ken McGowen shared information about current legislation that may affect us as engineers. WSPE member Doug Hendrickson is serving as chair of the Washington State Board of Registration for Engineers and Land Surveyors (BRPELS) and has provided an update below on current BRPELS activities and upcoming events that may interest licensed engineers.

The last but not least current issue facing the board is identifying engineers interested in engaging our licensed community and leading our professional organization for the next fiscal year. Dimitri Siaterlis, PE (Mt. Rainier) will transition from President-Elect to President and Steve Collins, PhD, PE (Lake Washington) will continue his 2-year term as WSPE's delegate to NSPE's House of Delegates. Positions open are Treasurer (2-years), VP-West (1-year), VP-East (1-year) and President-Elect (3-year commitment as President-Elect, President and Past-President). If you are interested in any of these positions beginning July 1, 2023, please reach out to me as the chair of the nominating committee. We are working to provide a slate to the board by March 1st. Watch for a ballot in mid-March via e-mail for most of you.

Please contact any of our leadership if you have any questions, concerns recommendations, or updates on your fellow engineers. We look forward to seeing you in the near future!

Links

1. NSPE Board of Directors Update, December 1–31, 2022 ([link](#)).
2. NSPE Update, February 2023 ([link](#)).
3. NSPE Daily Designs (Business News for PEs) ([link](#))



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BRPELS Update

By Doug Hendrickson, PE, F.NSPE, Chair, Washington Board of Registration for Professional Engineers and Land Surveyors

February 2023 – The [Board of Registration](#) is meeting this month in Vancouver at the Heathman Lodge on February 22nd-23rd. [Committee and task force meetings](#) will be on the 22nd, while the [Special Board meeting](#) will be on the 23rd. The committee meetings will also be MS Teams accessible while the Special Board meeting will be WebEx accessible (differs for recording potential).

Specific as well as routine topics for the upcoming meeting will include complaint management, advancement and review of code changes proposed by the Board as well as legislative proposals under way. This legislative season there are a pile of proposals which are generally geared to reduce perceived barriers to licensure (generally across all professions) including specific accommodations for military spouses. A proposal requested by BRPELS for amendment of [RCW 18.43](#) to allow waiver of FE examination for comity licensures (fully licensed in another jurisdiction), within [SB 5283](#), was heard in committee the other day and received full committee support and advancement.

I have been advised that we have been asked to receive a statement during our February meeting from a licensee who will express dissatisfaction with Board handling of a complaint. The complaint was in regard to change of sealed structural drawings by the county building authority based upon unsealed comments from a subcontracted engineer to the building authority. My understanding is that the complaint was initiated about four years ago, and frankly took too long for our then Board investigators to investigate and refer to a Case Manager. Then, and as impacted by onset of COVID-19 issues and constraints, it really took too long for our Case Manager to request that a statement of charges be prepared and for our State lawyers and staff to prepare that and to act. In the meanwhile, the licensee rightfully withdrew their seal from the design product. Unfortunately, this instance is not unique and some similarly complex complaints exist. What I can say is that



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in the last three years we have significantly reduced complaint processing time, improved our case management and legal processes, and improved communications with complainants and those subject to complaint.

I did speak to the WSU Bremerton/Olympic College electrical and mechanical engineering students on November 4th upon engineering licensure and ethics and will be speaking to the senior design classes in ME and EE at WSU Tri-Cities on February 10th.

The Board had additional considerations of revision to RCW 18.43 which we have not advanced to legislative action at this time because of our desire for additional stakeholder involvement. As we move those topics forward, we look forward to the participation of stakeholder organizations and registrants.

News from NSPE

- The Engineers Joint Contract Documents Committee (EJCDC®) in January released the [EJCDC® 2023 Construction Manager at Risk Series](#). The series consists of 27 documents, including contracts, bonds, and administrative forms, for use on projects in which the owner retains a construction manager at risk (CMAR).
- The NSPE Board of Ethical Review has issued a [new set of cases](#) on various topics including conflict of interest, duty to report, and professional qualifications.
- [Engineers Week 2023](#) runs February 19-25. Engineers Week is dedicated to ensuring a diverse and well-educated future engineering workforce.
- Engineering Change Lab—USA hosts the [Exploring Engineering Education Summit](#) on Tuesday, March 14, 10 am—3 pm CT). The event, which is virtual, will explore what it means to be an engineer in the 21st century. Included is “a deep dive into the way sustainability is being manifest within engineering education.”



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MATHCOUNTS Update

By Doug Hendrickson, PE, F.NSPE, Mathcounts Washington State Coordinator

February 4 2023: PENCILS UP! Today begins the first of Chapter [Mathcounts](#) competitions across the US. Two of our Chapters are having their competitions today, including North Puget Sound and Lake Washington. The Chapter competitions continue with the last in Washington in three weeks which will have Wenatchee, Spokane, Olympia, and Southwest all compete. All competitions will be advancing a minimum of six students or 25% to the State Competition in Seattle at an Amazon facility on March 25th. The State will be advancing the top four State competitors to the National Competition in Orlando in May.

Of particular note is that this year's State competition will be in a venue significantly different, and less generous than our (pre Covid-19) prior major host, Microsoft. The venue could probably host nearly as many students as prior competitions, but funding of the competition is much tighter without the participant food generously provided by Microsoft. As Mathcounts Chair, I have had to balance State advancement numbers with reduced participation and the need to feed more than 150 people. Current funding reports that the State operations Mathcounts fund is at \$6,197.11 and the Chapter support fund at \$9,013.41. We generally reserve the Chapter fund to help respond to Chapter emergencies, but the cost run at Amazon (with required in-house contractor food provision) is expected to be high. Beyond this year, the State Mathcounts operations will require specific fundraising.

Beyond that, I am pleased to see the great efforts by the local Chapters in beating the bushes to reinvigorate Mathcounts participation by Schools, students, and local engineers and educators. Specific accolades should go to Spokane with nearly a 4X boost with the efforts of their coordinator and volunteers.

Current participation levels and advancement are provided in the table below:



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Chapter	Teams	Individuals incl NSCs	Total Students	Advancing teams	Advancing Individuals	Total Advancing Students
Lake Washington Chapter	11	89	133	4	17	33
Mt. Rainier Chapter	4	24	40	1	6	10
North Puget Sound Chapter	4	17	33	1	4	8
Olympia Chapter	1	2	6	1	2	6
Seattle Chapter	11	39	83	4	5	21
Southwest WA Chapter	1	0	4	1		4
Spokane Chapter	4	28	44	1	7	11
Tri-Cities Chapter	3	12	24	1	2	6
Wenatchee Chapter	2	10	18	1	2	6
Total	41	221	385	15	47	107

MATHCOUNTS State Chapter Competitions:

Feb 18 – Mt Ranier ([link](#)) and Tri-Cities ([link](#))

Feb 25 – SW Washington ([link](#)), Spokane ([link](#)), and Wenatchee ([link](#))

March 21 – 5:30 – 6:30 pm, WSPE Seattle and Lake Washington Chapters joint meeting, Emergency Power Systems, presented by Cummins (virtual, all WSPE members are welcome)

April 18 – 5:30 – 6:30 pm, WSPE Seattle and Lake Washington Chapters joint meeting, Engineering Next Generation Quantum Sensors, presented by UW Department of Materials Science and Engineering (virtual, all WSPE members are welcome)

Events



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Seattle and Lake Washington Chapter Meetings Update

By Jon Mathison, PE, WSPE Seattle Chapter President

The Seattle and Lake Washington Chapters of the WSPE arrange programs for you – our members – to see. We hope you find value in these presentations and attend as you are able. A list of presentations this season is on [our website](#). Please join us if you are interested and able!

In January, Mortenson's Project Executive and Superintendents discussed Climate Pledge Arena. The \$1.15 billion net-zero transformation of Seattle's iconic Key Arena into the Climate Pledge Arena involved keeping the original roof and façade. Mortenson engineers discussed the history of the facility, the challenges and complexities of the project, the temporary roof support system, permanent structural elements of the project, and a new tunnel for loading trucks. The decision was made early on to delete gas connections and use heat pumps to heat the air and water for the huge facility in a massive win for the environment. Plants are used to naturally purify interior air. Climate Pledge Arena is in a highly walkable area (lower Queen Anne) with great transit that is set to get even better with the arrival of light rail service.

Keeping to the topic of iconic, sustainable structures, in January it was my honor to volunteer as a judge at the Future Cities Competition at Shoreline Community College. Future Cities is a competition for Middle School students to try their hand at designing large cities and small towns that have better livability, higher quality of life for residents, and are more sustainable. It was encouraging to hear presentations from middle schoolers who understand the intersection of livability and engineering concepts: One order of magnitude decrease in CO₂ with Electric Vehicles, two orders of magnitude decrease in CO₂ with walkable places (i.e. 15 minute cities). Even with the proliferation of EVs walkability gains importance in towns and urban areas big and small. These students get it!



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The photo shows a city called “Walkington” which has a diagram of electromagnetic generators to generate power. Innovation abounds with these students

In February Seattle hosts its Mathcounts Competition at Amazon in South Lake Union. Mathcounts is a competition also for Middle School students to try their hand at the mathematics that enable ideas to be built.



Turning innovation into reality is the work of PEs, and it is refreshing to see the next generation of innovators and (we hope) members of WSPE!

Remembering the Space Shuttle Challenger

By Stuart G. Welsh, Ph.D., P.E., Dist.M.ASCE, F.NSPE

Editors preface: Dr. Welsh sent this message to PEs in Higher Education to mark the anniversary of the Space Shuttle Challenger disaster. With his permission, we reprint it here.

January 26 was the 37th anniversary of the Space Shuttle Challenger disaster—7 lives lost, including teacher Christa McAuliffe.

Unlicensed engineer Roger Boisjoly made a valiant, but failed, effort to delay the launch. The tragedy shares a feature with other disasters such as Ford Pinto fires, GM ignition switch accidents, gulf oil spill, Merrimack gas explosions, and Boeing 737 crashes. All were legally engineered without the guidance of state-licensed professional engineers whose primary ethical and legally responsibility would have been public protection.



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All states and the DC have laws requiring engineer employers to place PEs in responsible charge of risky projects. Unfortunately, for the public, all of the jurisdictions, except Arkansas and Oklahoma, exempt the engineering of many potentially risky products and facilities such as automobiles, aircraft, amusement park rides, gas and electrical systems, and chemical processing plants.

Decades of lobbying created these exemptions so companies could control engineering and not have to deal with PEs, the laws governing engineering, and the public-protection-is-paramount legal mandate.

Boisjoly worked for Morton-Thiokol, which legally used the exemptions to ignore his concerns.

The weak laws, their consequences, and remedial measures are described in my book [Engineering's Public-Protection Predicament](#).

Please, for their sake, inform your students about engineering's predicament—ethics codes that claim public protection are paramount contrasted with nation-wide laws that unnecessarily place the public at risk.

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WSPE News is edited by Steven Collins with input from Board of Trustees members. Opinions expressed by the authors herein are not necessarily those of the Society. Submissions from all WSPE members are welcome. Please send articles of 250 - 500 words to stevenwcollins@gmail.com. Articles may be edited for clarity, grammar, and conciseness.



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