

February 29, 2024

Educating & Connecting HPC, AI, Data Science, Visualization



Mission

Educating & Connecting HPC, AI, Data Science, Visualization Users to Technology

- SHPCP is a charitable, non-profit 501(c)(3) organization
- Educating and connecting the HPC user community, industry, and academia with state-of-the-art technology and best practices
- Technologies include: Simulation, AI/ML, Data Science, Graph Analytics, Cloud Computing, Quantum Computing, Cyber Security, and Visualization
- Applications in Energy, Life Sciences, Engineering, Manufacturing, Weather & Climate, Financial Services, and Academia



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hpcsociety.org

Member Benefits

SHPCP membership is open to all HPC professionals serving all industries.

If you are interested in participating in the Society's efforts to provide a vendor-neutral, user-centric organization that truly serves the needs of the HPC community, please join us!

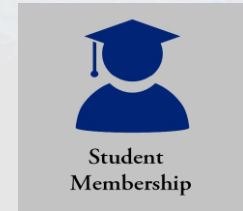
Individuals can join the Society as Full Members for an annual fee of just \$60.00

- No cost to attend Lunch & Learn events
- View streamed events if not able to attend in person
- Receive access to:
 - Lunch & Learn presentation materials (when approved by the presenting organization)
 - Streamed event recordings
 - Archived presentations and technical publications



Students can join the Society as Student Members at no cost.

- Half price to attend Lunch & Learn events
- Receive access to:
 - Lunch & Learn presentation materials (when approved by the presenting organization)
 - Streamed event recordings
 - Archived presentations and technical publications
- A valid .edu email address is required



Note: membership is for full 12 months regardless of when you join (based on join date, not calendar date).

Coming soon: new job board for members and sponsors

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Thanking our past Co-Executive Directors



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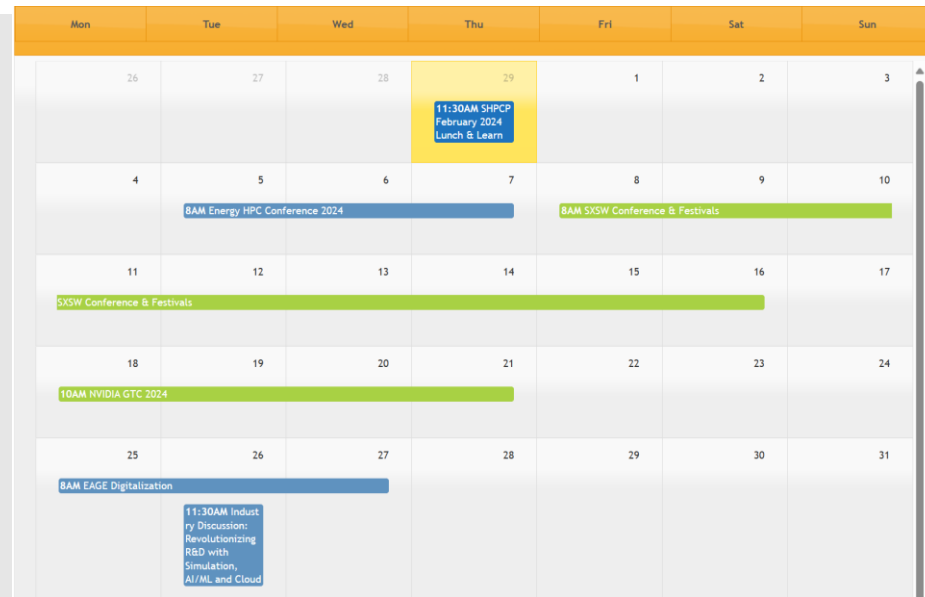


Media & Analyst Sponsors

Sponsorship Opportunities: <https://hpcsociety.org/get-involved/sponsorship/>

2024 Event Schedule

Month	Event	Topic	Houston: HCC West Loop Campus	Austin: Texas Advanced Computing Center	Special Occasion Venue
January 2024	Lunch & Learn	Performant Data Analytics Through Purpose-Built Computer Architecture, Martin Deneroff, CEO Lucata	25 Jan. 2024		
February 2024	Lunch & Learn	Making Digital Twins a Reality for Clinical Oncology - Ernesto Lima, UT Austin		29 Feb. 2024	
March 2024	Partner event	Energy HPC Conference (Rice University)			Rice Univ. BRC 5-7 March 2024
April 2024	Partner event	2024 Gulf Coast Conference & Expo on Artificial Intelligence	11-12 April 2024		
April 2024	Annual SHPCP Event	Annual Technology Meeting of the Society of HPC Professionals			Shell Woodcreek Campus 25 April 2024
May 2024	Lunch & Learn	Thunderbird Next Gen Compute Accelerator for HPC, AI, and Graph Analytics - Doug Norton, InspireSemi		30 May 2024	
June 2024	Lunch & Learn	TBA	27 June 2024		



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Recent SHPCP Event Participation



7 December 2023
Computing Insight UK 2023
Manchester, UK



12-17 November 2023
The International Conference for
High Performance Computing,
Networking, Storage, and Analysis
Denver, CO



13 November 2023
Intersect360-SHPCP Pre-SC23 Social
Tamayo Restaurant
1400 Larimer St.
Denver, CO
(short walk from convention center)

Upcoming SHPCP Partner Events



5-7 March 2024

Energy HPC Conference

Rice University
BioScience Research Collaborative (BRC)
6500 Main Street, Houston, TX

***SHPCP members use promo code
ECO15 to receive 15% off registration***



26 March 2024

Revolutionizing R&D with Simulation, AI/ML and Cloud

Microsoft Technology Center
750 Town and Country Blvd.
Houston, TX 77024

***SHPCP President Doug Norton
on industry panel***



11-12 April 2024

Gulf Coast Conference & Expo on Artificial Intelligence

HCC West Houston Institute
2811 Hayes Road
Houston, Texas 77082

Calendar of all upcoming and past events at <https://hpcsociety.org/events/>
Including presentations and video replays for members

Upcoming SHPCP Event

Registration now open!



Annual Technology Meeting

25 April 2024

Shell Woodcreek Campus
150 N. Dairy Ashford Road
Houston, TX 77079



Addison Snell
CEO
Intersect360
Research



Randy Fernando
Co-Founder
Center for Humane
Technology (CHT)



Kelly Senecal, PhD
Co-Founder
Convergent Science,
visiting professor at the
University of Oxford,
adjunct professor at the
University of Wisconsin-
Madison.



Mileidy Giraldo, PhD
Worldwide Lead,
Multi-Modal Multi-Omics
Data Strategy, AWS
Healthcare and Life
Sciences

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Today's Topic & Speaker:

Ernesto Lima, Ph.D. Research Associate, The University of Texas at Austin

Optimal Therapeutic Strategies for HER2+ Breast Cancer Treatment: A Mathematical Modeling Approach

The treatment of human epidermal growth factor receptor 2 positive (HER2+) breast cancer often involves a combination of drugs targeting the HER2 receptor and chemotherapy. Determining the optimal therapeutic regimen that maximizes tumor control while minimizing toxicity remains a challenge. In this study, we utilized data from a murine model of HER2+ breast cancer, quantifying temporal changes in tumor volume under various trastuzumab and doxorubicin treatment protocols.

Our results highlight the effectiveness of mathematical modeling and optimal control theory in identifying therapeutic regimens that enhance efficacy and minimize toxicity in HER2+ breast cancer treatment.



Ernesto Lima, Ph.D. is Research Associate, Center for Computational Oncology at the Oden Institute for Computational Engineering and Sciences. He received his Doctor of Science in Computational Modeling from the National Laboratory for Scientific Computing (LNCC) in Brazil in 2014. During his doctoral studies, he was a visitor at the University of Texas at Austin. This experience inspired him to return to the University of Texas, where he is currently a Research Associate at the Center for Computational Oncology at the Oden Institute for Computational Engineering and Sciences and a member of the Life Sciences group at the Texas Advanced Computing Center (TACC).

His research focuses on the development of numerical methods, innovative tumor growth models, treatment optimization, and model selection and calibration.