TONY SAAD

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Peer Reviewed:	24	citations:	429
Proceedings:	17	h-index:	12
Presentations:	30	i10-index:	16
Invited:	12		
Preprints:	5		

RESIDENCY United States Citizen.

RESEARCH AREAS Methods, algorithms, tools, and software for the simulation of complex multiphysics and fluid flow problems at the continuum scale using high performance supercomputing.

CAREER

Assistant Professor	Dept. of Chemical Engineering, Univ. of Utah	Jan 2017 –
Research Associate	Institute for Clean & Secure Energy, Univ. of Utah	2012 – 2016
Postdoctoral Fellow	Institute for Clean & Secure Energy, Univ. of Utah	2010 – 2012
Ph. D.	Mechanical Egn', Univ. of Tennessee Space Institute	2010
M.E.	American University of Bierut	2005
B.E.	Notre Dame University	2003

TEACHING

Numerical Methods	2017, 2018, 2020, 2021, 2022	CHEN 2450
Graduate Fluid Mechanics	2019, 2021	CHEN 6353
Computational Fluid Dynamics	2019	CHEN 6355

Innovations in Teaching

- Online Teaching: Developed a production environment for immersive synchronous teaching where I can place myself within the lecture notes and deliver as if I am teaching in person (example: https://youtu.be/y0v1Yr8bFbg).
- Python: Lead the switch from Matlab to Python in the Department of Chemical Engineering at the University of Utah.
- Jupyter Notebooks: Pioneered the use Jupyter notebooks and Python across the University of Utah Campus.
- Juno: Worked closely with the Center for High Performance Computing (CHPC) at the University of Utah to develop a central hub for Python programming to help students learn how to code: juno.chpc.utah.edu.
- Learner-centric teaching methodology via active learning.
- Introduced the use of **Notebooks with GAPS** for effective teaching of programming using Jupyter Notebooks.
- Youtube channel: Professor Saad Explains with screencast recordings of lectures as well as specialized video lessons.
- Dedicated website to each course.
- Designed "**uCFD: Four Steps to Navier-Stokes**", a learner-centric effective CFD course - students had working CFD code in 3 weeks (ucfd.tsaad.net).
- github repositories for numerical methods (CH EN 2450) and computational fluid dynamics (CHEN 6355) with numerous examples and notebooks with GAPS.

SERVICE

Internal

- Chair of the College of Engineering Math Committee, Jan 2017 - Present
- Member of the Undergraduate Committee, Dept. of Chemical Engineering

- Served on supervisory committee of 10 Ph. D. students
- Participated in undergraduate and graduate recruiting events

External

- Proposal Reviewer for University Coalition for Fossil Energy Research (UCFER), 2020
- Co-Organizer, American Physical Society Division of Fluid Dynamics Annual Meeting, 2024
- Co-Editor, Open Fluids Textbook, Colorado School of Mines, January 2020 - Present
- Reviewer for: Combustion Theory and Modelling, Flow Turbulence and Combustion, International Journal of Energetic Materials and Chemical Propulsion, AIAA Journal, Physics of Fluids, Journal of Computational Physics, Journal of Fluid Mechanics
- Chair, 2020, AIAA Fluid Dynamics Conference, Reacting Flows Session
- Co-Organizer, 2019, Fourth International Conference on Advances in Computational Tools for Engineering Applications
- Organizer, 2019, Minisymposium on heterogeneous architectures at SIAM CSE19
- Chair, 2018, Rocky Mountain Fluid Mechanics Symposium
- Chair, 2013, AIAA student conference

Misc

- YouTube Channel: Professor Saad Explains, 1,227 subscribers,98,300 views, 7,500 hours of watch time
- CFD-Online Wiki: Administrator and author (http://www.cfd-online.com/Wiki)
- Please Make a Note: Founder and author - online educational and tips blog with over 10,000 visitors/month (http://pman.tsaad.net)
- Creator and editor, turbulence.utah.edu (August 2017 - present). Website dedicate for generating synthetic turbulence data for use in modeling and simulation of turbulent flows.

STUDENTS

Currently advising 2 Ph.D. students. Previously worked with three undergraduate students, winners of four UROP (Undergraduate Research) awards, $1,200 per award.

Name	Degree	Year	Notes
Hayden Hedworth	Ph.D.	2024	
Mokbel Karam	Ph.D.	2022	
Austin Richards	B.S.	2019	2 x UROP Winner
Collin Hoggard	B.S.	2019	UROP Winner
Giovanna Ruai Roth	B.S.	2019	UROP Winner

FUNDING

Averaged 4 proposal submissions per year since 2017. Target agencies include the National Science Foundation, Department of Energy, State of Utah, and private-sector companies.

Year	Agency	$	Role	Short Title
2021	National Science Foundation	$174,528	PI	Optimum sensor housing and placement on Drones
2020	Salt Lake County/CARES Act	$28,612	PI	Simulation of SARS-CoV-2 dispersion on orchestra stage
2020	Utah Division of Air Quality	$92,463	PI	Validation and simulation of drone ozone measurements in the Uinta basin
2019	University of Utah	$27,170	PI	Effectiveness of drones in measuring air pollution
2017	Wave CPC Inc.	$29,307	PI	High-performance wave propagation code
	Total:	**$352,080**		

MEDIA EXPOSURE

Date	Organization	Title	link
6/28/2021	The Smithsonian Magazine	To Reduce Covid-19 Risks in Orchestras, Move Wind Instruments to the Sidelines	http://rb.gy/6gnd8h
6/23/2021	Phys.org	Rearranging orchestral musicians to reduce disease-spreading aerosols	http://rb.gy/mae0jy
6/23/2021	The New York Times	Musical Chairs? Swapping Seats Could Reduce Orchestra Aerosols	http://rb.gy/pxbk6x
	New Scientist	Turning orchestras inside out could lower risk of spreading covid-19	http://rb.gy/immwfk
	Science News	How relocating musicians can reduce COVID-19 risk at concerts	http://rb.gy/9gwfln
1/22/2021	Student Innovation at the U Report	Keeping the Doors Open at Abravanel Hall	
9/25/2020	KUER NPR Utah	Music (And COVID) In The Air: Scientists Model Airflow On The Abravanel Hall Stage To Assess Risk	http://rb.gy/iksykr
9/21/2020	Deseret News	Researchers recommend tweaks for safe symphony performances	http://rb.gy/nvkxxk
	Salt Lake Magazine	The Utah Symphony REIMAGINED	http://rb.gy/uzlymf
9/18/2020	Newswise	Blowin' in the Wind	rb.gy/hkofor
	KSL newsradio	Jeff Caplan's Afternoon News	rb.gy/sardj9
9/17/2020	U of U	Blowin' in the Wind	rb.gy/oxbahn
	ABC4 Utah	U of U engineers conduct study to help stop the spread of airflow between musicians	rb.gy/fl83ej
	Channel 5	10 PM News	rb.gy/dtluhe

RESEARCH

Journal:	24	citations:	429	Google Scholar
Proceedings:	17	h-index:	12	Research Gate
Presentations:	30	i10-index:	16	
Invited:	12			
Preprint:	5			

Peer Reviewed Journal Articles (24)

2022 M. Karam and **T. Saad**. High-order pressure estimates for projection-based Navier-Stokes solvers. *Journal of Computational Physics*, 452:110925, Mar. 2022. (doi:10.1016/j.jcp.2021.110925)

2021 H. A. Hedworth, M. Karam, J. McConnell, J. C. Sutherland, and **T. Saad**. Mitigation strategies for airborne disease transmission in orchestras using computational fluid dynamics. *Science Advances*, 7(26):eabg4511, June 2021. (doi:10.1126/sciadv.abg4511). Publisher: American Association for the Advancement of Science Section: Research Article

2021 M. Karam and **T. Saad**. BuckinghamPy: A Python software for dimensional analysis. *SoftwareX*, 16:100851, Dec. 2021. (doi:10.1016/j.softx.2021.100851)

2021 M. Karam, J. C. Sutherland, and **T. Saad**. Low-cost Runge-Kutta integrators for incompressible flow simulations. *Journal of Computational Physics*, page 110518, June 2021. (doi:10.1016/j.jcp.2021.110518)

2020 H. A. Hedworth, T. Sayahi, K. E. Kelly, and **T. Saad**. The effectiveness of drones in measuring particulate matter. *Journal of Aerosol Science*, page 105702, Nov. 2020. (doi:10.1016/j.jaerosci.2020.105702)

2020 M. Karam, J. C. Sutherland, and **T. Saad**. PyModPDE: A python software for modified equation analysis. *SoftwareX*, 12:100541, July 2020. (doi:10.1016/j.softx.2020.100541)

2019 **T. Saad** and G. Ruai. PyMaxEnt: A Python software for maximum entropy moment reconstruction. *SoftwareX*, 10:100353, July 2019. (doi:10.1016/j.softx.2019.100353)

2019 B. Peterson, A. Humphrey, D. Sunderland, J. Sutherland, **T. Saad**, H. Dasari, and M. Berzins. Automatic Halo Management for the Uintah GPU-Heterogeneous Asynchronous Many-Task Runtime. *International Journal of Parallel Programming*, 47(5):1086–1116, Dec. 2019. (doi:10.1007/s10766-018-0619-1)

2017 **T. Saad** and J. Majdalani. Extension of Kelvin's minimum energy theorem to incompressible fluid domains with open regions. *Journal of Fluid Mechanics*, 825:208–212, Aug. 2017. (doi:10.1017/jfm.2017.413)

2017 **T. Saad** and J. Majdalani. Viscous Mean Flow Approximations for Porous Tubes with Radially Regressing Walls. *AIAA Journal*, 55(11):3868–3880, July 2017. (doi:10.2514/1.J055949)

2017 **T. Saad**, D. Cline, R. Stoll, and J. C. Sutherland. Scalable Tools for Generating Synthetic Isotropic Turbulence with Arbitrary Spectra. *AIAA Journal*, 55(1):327–331, Jan. 2017. (doi:10.2514/1.J055230)

2016 **T. Saad** and J. C. Sutherland. Comment on "Diffusion by a random velocity field" [Phys. Fluids 13, 22 (1970)]. *Physics of Fluids (1994-present)*, 28(11):119101, Nov. 2016. (doi:10.1063/1.4968528)

2016 **T. Saad** and J. C. Sutherland. Wasatch: An architecture-proof multiphysics development environment using a Domain Specific Language and graph theory. *Journal of Computational Science*, 17:639–646, Nov. 2016. (doi:10.1016/j.jocs.2016.04.010)

2015 A. W. Abboud, B. B. Schroeder, **T. Saad**, S. T. Smith, D. D. Harris, and D. O. Lignell. A numerical comparison of precipitating turbulent flows between large-eddy simulation and one-dimensional turbulence. *AIChE Journal*, 61(10):3185–3197, Oct. 2015. (doi:10.1002/aic.14870)

2015 **T. Saad**, A. W. Abboud, S. T. Smith, and T. A. Ring. A class of exact solutions for population balances with arbitrary internal coordinates. *AIChE Journal*, pages n/a–n/a, Jan. 2015. (doi:10.1002/aic.14739)

2013 D. S. Crawford, **T. Saad**, and T. A. Ring. Verification and validation of the maximum entropy method for reconstructing neutron flux, with MCNP5, Attila-7.1.0 and the GODIVA experiment. *Annals of Nuclear Energy*, 53:188–191, Mar. 2013. (doi:10.1016/j.anucene.2012.09.010)

2012 **T. Saad** and J. Majdalani. Some thoughts on the pressure integration requirements of the Navier-Stokes equations. *Fluid Dynamics Research*, 44(6):065508, Oct. 2012. (doi:10.1088/0169-5983/44/6/065508)

2012 B. A. Maicke, **T. Saad**, and J. Majdalani. On the compressible Hart-McClure and Sellars mean flow motions. *Physics of Fluids*, 24(9):096101, 2012. (doi:10.1063/1.4748349)

2009 **T. Saad** and J. Majdalani. On the Lagrangian optimization of wall-injected flows: From the Hart-McClure potential to the Taylor-Culick rotational motion. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 466(2114):331–362, Feb. 2010. (doi:10.1098/rspa.2009.0326)

2009 **T. Saad** and J. Majdalani. Rotational Flowfields in Porous Channels with Arbitrary Headwall Injection. *Journal of Propulsion and Power*, 25(4):921–929, July 2009. (doi:10.2514/1.41926)

2008 M. Darwish, **T. Saad**, and Z. Hamdan. Parallelization of an Additive Multigrid Solver. *Numerical Heat Transfer, Part B: Fundamentals: An International Journal of Computation and Methodology*, 54(2):157, 2008. (doi:10.1080/10407790802182638)

2007 O. C. Sams, J. Majdalani, and **T. Saad**. Mean Flow Approximations for Solid Rocket Motors with Tapered Walls. *Journal of Propulsion and Power*, 23(2):445–456, Mar. 2007. (doi:10.2514/1.15831)

2007 J. Majdalani and **T. Saad**. The Taylor-Culick profile with arbitrary headwall injection. *Physics of Fluids*, 19(9):093601–10, 2007. (doi:10.1063/1.2746003)

2006 **T. Saad**, O. C. Sams, and J. Majdalani. Rotational flow in tapered slab rocket motors.

Physics of Fluids, 18(10):103601, 2006. (doi:10.1063/1.2354193)

Peer Reviewed Conference Proceedings (17)

2020 J. T. McConnell, **T. Saad**, and J. C. Sutherland. An Explicit Low-Mach Projection Method for Modeling Flows with Finite-Rate Chemistry. *AIAA AVIATION Forum*, June 2020. (doi:10.2514/6.2020-3035)

2019 M. Karam, J. C. Sutherland, M. Hansen, and **T. Saad**. A Framework for Analyzing the Temporal Accuracy of Pressure Projection Methods. *2019 AIAA Computational Fluid Dynamics Conference*, page 3634, 2019. (doi:10.2514/6.2019-3634)

2018 **T. Saad**, M. Karam, and J. C. Sutherland. An Explicit Variable-Density Projection Method for Low-Mach Reacting Flows on Structured Uniform Grids. *AIAA 2018 Fluid Dynamics Conference*, June 2018. (doi:10.2514/6.2018-4266)

2018 A. Richards, **T. Saad**, and J. C. Sutherland. A Fast Turbulence Generator using Graphics Processing Units. *AIAA 2018 Fluid Dynamics Conference*, June 2018. (doi:10.2514/6.2018-3559)

2014 A. Fist, J. Majdalani, and **T. Saad**. Energy Steepened States of the Swirling Mean Flow in a Solid Rocket. *50th AIAA/ASME/SAE/ASEE Joint Propulsion Conference*, 2014. (doi:10.2514/6.2014-4017)

2013 J. Schmidt, M. Berzins, J. Thornock, **T. Saad**, and J. Sutherland. Large Scale Parallel Solution of Incompressible Flow Problems using Uintah and Hypre. In *International Symposium on Cluster, Cloud and Grid Computing*, Delft, Netherlands, May 2013

2011 Tony Saad, Brian A. Maicke, and J. Majdalani. Coordinate Independent Forms of the Compressible Potential Flow Equations. *47th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, July 2011. (doi:10.2514/6.2011-5862)

2011 **T. Saad** and J. Majdalani. Viscous Flows Revisited in Simulated Rockets with Radially Regressing Walls. *47th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, July 2011. (doi:10.2514/6.2011-5860)

2011 J. C. Sutherland and **T. Saad**. The Discrete Operator Approach to the Numerical Solution of Partial Differential Equations. *20th AIAA Computational Fluid Dynamics Conference*, pages AIAA–2011–3377, June 2011. (doi:10.2514/6.2011-3377)

2010 **T. Saad** and J. Majdalani. Pressure Integration Rules and Restrictions for the Navier-Stokes Equations. *40th AIAA Fluid Dynamics Conference and Exhibit*, June 2010. (doi:10.2514/6.2010-4288)

2010 **T. Saad** and J. Majdalani. Extension of Kelvin's Minimum Energy Theorem to Flows with Open Regions. *40th AIAA Fluid Dynamics Conference and Exhibit*, June 2010. (doi:10.2514/6.2010-4287)

2010 B. A. Maicke and J. Majdalani. On the Compressible Hart-McClure Mean Flow Motion in Simulated Rocket Motors. *46th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit*, 2010. (doi:10.2514/6.2010-7077)

2009 **T. Saad** and J. Majdalani. Energy Based Solutions of the Bidirectional Vortex with Multiple Mantles. *45th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, Aug. 2009. (doi:10.2514/6.2009-5305)

2008 **T. Saad** and J. Majdalani. Energy based solutions of the bidirectional vortex. *44th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, July 2008. (doi:10.2514/6.2008-4832)

2008 **T. Saad** and J. Majdalani. Energy Based Mean Flow Solutions for Slab Hybrid Rocket Chambers. *44th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, July 2008. (doi:10.2514/6.2008-5021)

2007 **T. Saad** and J. Majdalani. Energy Steepened States of the Taylor-Culick Profile. *43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, July 2007. (doi:10.2514/6.2007-5797)

2007 **T. Saad** and J. Majdalani. The Taylor Profile in Porous Channels with Arbitrary Headwall Injection. *37th AIAA Fluid Dynamics Conference and Exhibit*, June 2007. (doi:10.2514/6.2007-4120)

Book Chapters, Reports, and Preprints (5)

2019 **T. Saad**. Timestep Cost Analysis of Pressure-and Density-Based Methods. *ResearchGate*, May 2019. (doi:10.13140/RG.2.2.17472.58886)

2019 **T. Saad**. The Amazing Taylor (-Green?) Vortex. *ResearchGate*, 2019. (doi:10.13140/RG.2.2.17695.41120)

2019 **T. Saad**. The Effectiveness of the Taylor Vortex as a Verification Tool. *ResearchGate*, 2019. (doi:10.13140/RG.2.2.14946.99527)

2012 Majdalani, J., and **Saad, T.**, (2012). **Internal Flows Driven by Wall-Normal Injection**, *Advanced Fluid Dynamics*, Prof. Hyoung Woo Oh (Ed.), ISBN: 978-953-51-0270-0, InTech, Available from: http://www.intechopen.com/books/advanced-fluid-dynamics/internal-flows-driven-by-wall-normal-injection.

2011 **T. Saad**. Turbulence Modeling for Beginners, CFD-Online Preprint.

Conference Presentations (30)

2021 H. A. Hedworth. Mitigating the Spread of Infectious Disease in Orchestras, Aug. 2021

2021 H. A. Hedworth. Vertical Ozone Profiles on the Wasatch Front. Science for Solutions, Salt Lake City, Utah., Mar. 2021

2019 A. Richards. Accelerated Turbulence Generation via CUDA and Parallel Computing, Feb. 2019

2019 G. Ruai. An Open Source Python Code for Maximum Entropy, Feb. 2019

2018 **T. Saad** and J. C. Sutherland. Case Studies in Using a DSL and Task Graphs for Portable Reacting Flow Simulations. In *SIAM Conference on Computational Science and Engineering*, 2018. SIAM Conference on Computational Science and Engineering

2017 J. McConnell, **T. Saad**, and J. C. Sutherland. Coupling an explicit lowMach projection scheme to various chemistry models and interphase source terms. In *10th US National Combustion Meeting*, Maryland, Apr. 2017

2017 B. Goshayeshi, **T. Saad**, and J. C. Sutherland. Hybrid Computing In Large-Scale Multiphysics Simulation: Tabulated Properties and Particle-Cell Interpolations. In *SIAM Conference on Computational Science and Engineering*, 2017. SIAM Conference on Computational Science and Engineering

2017 **T. Saad** and J. C. Sutherland. Case Studies in Using a DSL and Task Graphs for Portable Reacting Flow Simulations. In *SIAM Conference on Computational Science and Engineering*, 2017. SIAM Conference on Computational Science and Engineering

2016 **T. Saad** and J. C. Sutherland. An Explicit Variable-Density Projection Method for Low-Mach Reacting Flows on Structured Uniform Grids. In *AIChE Annual Meeting*, San Fran-

cisco, CA, USA, Nov. 2016

2015 **T. Saad**, A. Bagusetty, and J. C. Sutherland. Wasatch: A CPU/GPU-Ready Multiphysics Code using a Domain Specific Language. In *SIAM Conference on Computational Science and Engineering*, Salt Lake City, UT, Mar. 2015

2015 **T. Saad**, C. Earl, A. Bagusetty, M. Might, and J. C. Sutherland. Uintah/Wasatch: Addressing Multiphsyics Complexity in a High-Performance Computing Environment. In *SIAM Conference on Computational Science and Engineering*, Salt Lake City, UT, Mar. 2015

2014 J. C. Sutherland, M. Might, C. Earl, and **T. Saad**. Design Paradigms to Accommodate Architectural Uncertainty in Multiphysics Applications. In *SIAM Parallel Processing Conference*, Portland, OR, Feb. 2014

2013 A. W. Abboud, **T. Saad**, J. Thornock, and S. T. Smith. Large Eddy Simulation of a Precipitate Flow With QMOM. In *AIChE Annual Meeting*, San Francisco, CA, USA, Nov. 2013

2013 A. Biglari, **T. Saad**, and J. C. Sutherland. A Time-Accurate Pressure Projection Method for Reacting Flows. In *SIAM Numerical Combustion Conference*, San Antonio, TX, Apr. 2013

2013 A. Biglari, **T. Saad**, and J. C. Sutherland. An Efficient and Explicit Pressure Projection Method for Reacting Flow Simulations. In *8th National US Combustion Meeting*, pages 1–14, Salt Lake City, UT, May 2013

2012 C. W. Earl, D. Robison, **T. Saad**, J. C. Sutherland, and M. Might. Automated Algorithm Construction for Large Scale Computational Physics and Reacting Flow Simulations : Software Infrastructure. In *Parallel Computational Fluid Dynamics*, Atlanta, GA, May 2012

2012 A. W. Abboud, S. T. Smith, **T. Saad**, and J. Thornock. Modeling Precipitation Reactions in Turbulent Flow with QMOM Incorporated Into LES. In *AIChE Annual Meeting*, Pittsburgh, PA, USA, Oct. 2012

2011 J. C. Sutherland and **T. Saad**. A Novel Computational Framework for Reactive Flow and Multiphysics Simulations. In *AIChE Annual Meeting*, Minneapolis, MN, Oct. 2011

2011 **T. Saad**, S. T. Smith, A. W. Abboud, and T. A. Ring. On a Class of Analytical Solutions for the Population Balance Equation. In *AIChE Annual Meeting*, Minneapolis, Minnesota, USA, Oct. 2011

2011 A. W. Abboud, S. T. Smith, **T. Saad**, and T. A. Ring. A Study of Population Balance Modeling in a Large-Eddy Simulation with Carbonate Precipitation. In *AIChE Annual Meeting*, Minneapolis, Minnesota, USA, Oct. 2011

2011 D. Robinson, N. Punati, **T. Saad**, and J. C. Sutherland. A Novel Computational Approach for Multiphysics and Reactive Flow Simulations. In *Proceedings of the Combustion Institute*, 2011

2011 **T. Saad** and J. Majdalani. The Derivation and Solution of the Compressible Potential Equation in Orthogonal Coordinates. 2011

2011 **T. Saad** and J. Majdalani. Some Thoughts on Kelvin's Minimum Energy Theorem. In *International Conference on Advanced Research and Applications in Mechanical Engineering*, 2011

2009 **T. Saad** and M. Darwish. A High Scalability Parallel Algebraic Multigrid Solver. In *Computational Fluid Dynamics 2006*, pages 231–236. 2009

2009 **T. Saad** and J. Majdalani. Energy Based Solutions of the Bidirectional Vortex with Multiple Mantles. Aug. 2009

2008 **T. Saad** and J. Majdalani. Energy based solutions of the bidirectional vortex. Hartford, Connecticut, July 2008

2008 **T. Saad** and J. Majdalani. Energy Based Mean Flow Solutions for Slab Hybrid Rocket Chambers. Hartford, Connecticut, July 2008

2007 **T. Saad** and J. Majdalani. Energy Steepened States of the Taylor-Culick Profile. Cincinnati, Ohio, July 2007

2006 **T. Saad** and M. Darwish. A high scalability parallel algebraic multigrid solver. In *European Conference on Computational Fluid Dynamics*, pages 231–236, The Netherlands, 2006

2005 **T. Saad**. Implementation and Performance Analysis of a Parallel Algebraic Multigrid Solver. In *4th FEA Student Conference at the American University of Beirut*, Riad El Solh, Lebanon, May 2005

Invited Talks (12)

2021. How to fail in grad school. University of Utah, 11/16/2021.
2021. Can orchestras keep their doors open during a pandemic? A Case Study Using CFD to Model covid19 Transmission. Brigham Young University, 10/11/2021.
2021. Can orchestras keep their doors open during a pandemic? A Case Study Using CFD to Model covid19 Transmission. University of Balamand, Lebanon, 05/06/2021.
2021. Can orchestras perform safely during a pandemic? A case study using CFD to model airborne viral transport. University of Vermont, 02/19/2021.
2021. How we used CFD to help the Utah Symphony Perform Safely during COVID19. Auburn University, 01/21/2021.
2021. The Utah Symphony, Reimagined, using CFD. ERCOFTAC Meeting, 01/15/2021.
2020. Symphonies Reimagined using CFD. Notre Dame University, 11/30/2020.
2020. The Utah Symphony, Reimagined, using CFD. University of Utah, 11/16/2020.
2020. Why CFD Needs a Facelift? Brigham Young University, 01/23/2020.
2019. Why CFD Needs a Facelift? Colorado School of Mines, 04/30/2019.
2017. What are Low-Mach Reacting Flows and How to Compute Them? National Institute for Standards and Technology (NIST), 05/17/2017.
2017. Why do Computational Scientists Complain? University of Utah, 04/19/2017.

LANGUAGES Fluent in English, French, and Arabic.

Last updated, March 10, 2022