

CURRICULUM VITAE

University of Idaho

NAME: Vibhav Durgesh

DATE: 05/07/2021

RANK OR TITLE: Assistant Professor

DEPARTMENT: Mechanical Engineering

OFFICE LOCATION AND CAMPUS ZIP: Moscow, 83844

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EMAIL: vdurgesh@uidaho.edu

WEB: webpages.uidaho.edu/vdurgesh/

DATE OF FIRST EMPLOYMENT AT UI: 12th Aug 2018

DATE OF TENURE: (Year or untenured) Untenured

DATE OF PRESENT RANK OR TITLE: Assistant Professor

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., University of Wyoming, Laramie, WY, 2008, Mechanical Engineering

MS, University of Wyoming, Laramie, WY, 2004, Mechanical Engineering

B.Tech., Indian Institute of Technology, Kharagpur, WB India, 1999, Mech. Engineering

Certificates and Licenses: Applied for restricted PE license

EXPERIENCE:

Teaching, Extension and Research Appointments:

Assistant Professor, Mechanical Engineering, University of Idaho, Aug 2018 - Present

Associate Professor, Mechanical Engineering, California State University, Northridge, Aug 2012 - Aug 2018

Assistant Professor, Mechanical Engineering, California State University, Northridge, Aug 2012 - Aug 2018

Research Associate, Pacific Northwest National Laboratory, Richland, WA, June 2010 - Aug 2012

Industry Experience:

Software Engineer, Geometric Software, Pune India, Nov 2000 - Aug 2001

Graduate Engineer Trainee, Larsen and Toubro, Mumbai India, July 1999- Nov 2000

TEACHING ACCOMPLISHMENTS: (Academic and Extension teaching)

Areas of Specialization:

Fluid dynamics, Thermal-fluid systems, Experimental methods, Advanced data analysis, Viscous flow, Turbulence, Aerodynamics, and Aircraft design

Courses Taught: (title, course number, date(s))

ME-551/451: Experimental methods in fluids (Spring 20, 21)

ME-330: Experimental methods for engineers (Fall:19, 20; Spring:19, 20, 21)

ME-420/520: Fluid dynamics (Fall 19)

ME-424: Capstone (Summer 20)

ME-426: Capstone (Fall 20)

Prior institution:

ME-583: Thermal fluids system design (Fall 15; Spring 15; Graduate)

ME-501: Advanced engineering math (Fall 15; Spring 16; Graduate)

AE-486A/B: Aero senior design (Fall 16,17; Spring 17,18; Capstone)

ME-390: Fluid mechanics (Fall 12,13,14,15; Spring 13,14,15; Undergraduate)

ME-335/L: Mechanical Measurements (Fall 12,13,14,15,16,17; Spring 13,14,15,16,17,18)

AMM-585: Advanced measurement principles (Spring 2017, New class)

AE-586: Aircraft design (Spring 2018, New class)

Students Advised:

Undergraduate students: 19 (ME)

Post-doctoral researcher:

Paulo Yu (co-Advisor, Bluewave project) Aug 2021 [Anticipated]

Graduate Students:

Advised to completion of degree-major professor

Graduated:

<u>Student name</u>	<u>Degree</u>	<u>Date</u>	<u>[Current position]</u>
Paulo Yu*	Ph.D. (ME, UI)	Jun 2021	[Starting Post-doc]
Rodrigo Padilla*	MSME (ME, UI)	May 2021	[Starting Ph.D.]
Ekene Mba	MEME (ME, UI)	May 2021	[Internship]

Current:

<u>Student name</u>	<u>Degree</u>	<u>Date</u>
Rodrigo Padilla* (NASA Fellowship, 2021)	Ph.D. (ME, UI)	May 2023 (Expected)
Anas Nawafleh (co-Adv)	Ph.D. (ME, UI)	May 2022 (Expected)
Kirk McKenzie	MSME (ME, UI)	May 2022 (Expected)

Serving on graduate committee

Current:

<u>Student name</u>	<u>Degree</u>	<u>Date</u>
Brandon Hilliard	Ph.D. (ME, UI)	May 2021(Expected)
Fatma E. Madkor	Ph.D. (CE, UI)	Aug 2021 (Expected)
Anderson, Mason S.	Ph.D. (Che, UI)	Aug 2023 (Expexted)

Graduated:

<u>Student name</u>	<u>Degree</u>	<u>Date</u>	<u>[Current position]</u>
Pourya Nikoueeyan	Ph.D. (ME, UWyo)	May 2020	[RenoSens]
Jacob Middleton	MSME (ME, UI).	Jul-2020	[NavSea]
Emma Swaninger	MS Geology (UI).	Jul-2020	

Previous institution

Carlos Zing	MSME	Aug 2019
Goutham K.R. Burla	MSME	May 2018
Bradley S Ayers	MSME	Aug 2017

Mehran Safisamghabadi	MSME	Dec 2017
Michael Zedelmaier	MSME	May 2016
Kaue Cruz Guillen	MSME	May 2016
Robert F Peralta	MSME	May 2015
Sruthi Rajeswari	MSEE	May 2015
Joshua Seidel	MSME	Dec 2015
Sipan Yavarian	MSME	Aug 2014
Andrew Benson	MSME	May 2014

Courses Developed:

ME-551/451: Experimental methods in fluids (Spring 2020, New class)

Previous institution

AMM-585: Advanced measurement principles (Spring 2017, New class)

AE-586: Aircraft design (Spring 18, New class)

Invited Seminar:

- Multi-time-delay LSE-POD complementary approach applied to unsteady high Reynolds number near wake flow. AIAA Conference -13 - 17 January 2014. 2014. National Harbor, Maryland

Invited Panel Speaker:

- California UAS Summit - Campus Research and Development -Advancing technology for safety and security, June 10th, 2014, San Diego, CA,

Honors and Awards:

- Future Technology Leader Award-2016 Engineers' Council of San Fernando Valley
- Outstanding Engineering Achievement Merit Award-2013 Engineers' Council of San Fernando Valley

Awarded National Talent Search Examination- Scholarship - 1995- 1999

SCHOLARSHIP ACCOMPLISHMENTS:**Google scholar Profile: (as of Jan 4th, 2021)**

Link: <https://scholar.google.com/citations?user=RkXIN38AAAAJ&hl=en>

All Since 2016

Citations 578 342

h-index 9 6 (an h-index of N indicates N publications with at least N citations)

i10-index 8 6 (an i10-index of N indicates N publications with at least 10 citations)

Refereed/Adjudicated:

[R11] Yu, Paulo, Vibhav Durgesh, Tao Xing, and Ralph Budwig. "Application of Proper Orthogonal Decomposition to Study Coherent Flow Structures in a Saccular Aneurysm." *Journal of Biomechanical Engineering* 143, no. 6 (2021): 061008, <https://doi.org/10.1115/1.4050032>

[R10] Hammad, A., Xing, T., Abdel-Rahim, A., Durgesh, V., & Crepeau, J. C. (2019). Effect of crosswinds on the aerodynamics of two passenger cars crossing each other.

International journal of automotive technology, 20(5), 997-1008,
<https://doi.org/10.1007/s12239-019-0094-8>

- [R9] Yu, P., & Durgesh, V. (2018, July). Experimental Study of Large-Scale Flow Structures in an Aneurysm. In Fluids Engineering Division Summer Meeting (Vol. 51555, p. V001T02A009). American Society of Mechanical Engineers., <https://doi.org/10.1115/FEDSM2018-83531>
- [R8] Schaal, C., & Durgesh, V. (2018, November). Investigation of the scattering of focused ultrasonic waves at bones. In ASME International Mechanical Engineering Congress and Exposition (Vol. 52026, p. V003T04A093). American Society of Mechanical Engineers, <https://doi.org/10.1115/IMECE2018-87133>
- [R7] Doddipatla L.S., H. Hangan, V. Durgesh, and J. W. Naughton. Wake Dynamics Resulting from Trailing-Edge Spanwise Sinusoidal Perturbation, AIAA Journal, Vol. 55, No. 6 (2017), pp. 1833-1851, <https://doi.org/10.2514/1.J055048>
- [R6] Durgesh, V., J. Thomson, M. Richmond, and B. Polagye. Noise correction of turbulent spectra obtained from Acoustic Doppler Velocimeters. 2014. Flow Measurement and Instrumentation, doi: 10.1016/j.flowmeasinst.2014.03.001.
- [R5] Durgesh, V., J. W. Naughton, S. A. Whitmore. Experimental Investigation of base drag reduction via boundary layer modification. AIAA Journal, Vol. 51, No. 2 (2013), pp. 416- 425, doi: 10.2514/1.J051825.
- [R4] Thomson J., B. Polagye, Durgesh, V., and M. Richmond. Measurements of turbulence at two tidal energy sites in Puget Sound WA (USA). IEEE Journal of Oceanic Engineering, vol.37, no.3, pp.363,374, July 2012, doi: 10.1109/JOE.2012.2191656
- [R3] Durgesh, V., and J. W. Naughton. Multi-time-delay LSE-POD complementary approach applied to unsteady high Reynolds number near wake flow. Experiments in Fluids, vol.49, no.3, pg.571-583, 2010, doi:<http://dx.doi.org/10.1007/s00348-010-0821-4>, Springer-Verlag
- [R2] Durgesh, V., R. Seeman, and J. W. Naughton. Flow visualization of coherent structures in high Reynolds number turbulent flow. European Physics Journal-Special Topics. vol.182, April, 2010, Springer, ed. Frank K. Lu, DOI: 10.1140/epjst/e2010-01224-1
- [R1] Durgesh V., and J. W. Naughton. Multi-time delay LSE-POD complementary approach applied to wake flow behind a bluff body. Durgesh. In: 5th ASME/JSME conference, 3rd Symposium on the Measurement and Modeling of Large-Scale Turbulent Structures, 2007, <https://doi.org/10.1115/FEDSM2007-37175>

Refereed/Adjudicated (Submitted for review):

- [1] Yu, Paulo, and Vibhav Durgesh "Application of Dynamic Mode Decomposition: Temporal Behavior of Flow Structures in an Aneurysm." *Journal of Biomechanical Engineering*, Submitted for review.

Refereed/Adjudicated (in preparation):

- [2] Anas Nawafleh, Rodrigo Padilla, Tao Xing and Vibhav Durgesh, "Computational Studies of Fluid Structure Interactions of a Flexible Membrane in an Open Jet Flow." *Journal of Fluids and Structures*, In preparation.
- [1] Rodrigo Padilla, Anas Nawafleh, Vibhav Durgesh, and Tao Xing "Experimental Studies of Fluid Structure Interactions of a Flexible Membrane in an Open Jet Flow." *Journal of Fluids and Structures*, Submitted for review.

Conference Proceedings:

- [C16] Rodrigo Padilla, & Durgesh, V. (2022). Application of POD to quantify the modal behavior of flexible membrane. In AIAA SciTech 2022 FORUM, Submitted for review
- [C15] Durgesh, V., Padilla, R., & Yu, P. (2020). Experimental Study: Aerodynamics of a Flexible Membrane in a Uniform Flow. In AIAA AVIATION 2020 FORUM (p. 3080). <https://doi.org/10.2514/6.2020-3080>
- [C14] Durgesh, V., Padilla, R., Garcia, E. N., & Johari, H. (2019). Impact of Coherent Structures on Aerodynamics Performance at Low Reynolds Numbers. In AIAA Scitech 2019 Forum (p. 0847)., <https://doi.org/10.2514/6.2019-0847>
- [C13] Brown, M., Safisamghabadi, M., Schaal, C., & Durgesh, V. (2018, March). Visualization of the scattering of focused ultrasonic waves at solid-fluid interfaces. In Health Monitoring of Structural and Biological Systems XII (Vol. 10600, p. 106000V). International Society for Optics and Photonics, <https://doi.org/10.1117/12.2296744>
- [C12] Garcia, Elifalet Yu, Paulo Durgesh, V Johari, Hamid. Experimental Study of NACA Symmetric and Camber Airfoils at Low Reynolds Numbers. In:55th AIAA Aerospace Sciences Meeting, 2017 ; pg 0771, <https://doi.org/10.2514/6.2016-0854>
- [C11] Garcia, Elifalet, Paulo Yu, Vibhav Durgesh, and Hamid Johari. "Experimental Study of Thin and Thick Airfoils at Low Reynolds Numbers." In 54th AIAA Aerospace Sciences Meeting, p. 0854. 2016, <https://doi.org/10.2514/6.2016-0854>
- [C10] Nandikolla, Vidya K., and Vibhav Durgesh. "Integrating Instrumentation and Mechatronics Education in the Mechanical Engineering Curriculum."2016 ASEE Annual Conference & Exposition sessions

- [C9] Harding S., J. Thomson, B. Polagye, R. Marshall, V. Durgesh, and I. Bryden. Extreme value analysis of tidal stream velocity perturbations. In: In Proceedings of the 9th European Wave and Tidal Energy Conference. 2011.
- [C8] Thomson J., B. Polagye, R. Marshall, and V. Durgesh. Quantifying Turbulence for Tidal Power Applications. In: OCEANS 2010, pp. 1-8. IEEE, 2010, DOI: 10.1109/OCEANS.2010.5664600
- [C7] Doddipatla L.S., H. Hangan, V. Durgesh, and J. W. Naughton. Passive flow control of a plate with trailing edge spanwise sinusoidal perturbation. In: Proceedings of the ASME 2009 Fluid Engineering Summer Meeting, August 2-5, 2009, <https://doi.org/10.1115/FEDSM2009-78137>
- [C6] Doddipatla L.S., H. Hangan, V. Durgesh, and J. W. Naughton. Near-wake flow dynamics resulting from trailing edge spanwise perturbation. In: In The 4 th AIAA Flow Control Conference, pp. 23-26. 2008, <https://doi.org/10.2514/6.2008-4082>
- [C5] Doddipatla L.S., H. Hangan, V. Durgesh, and J. W. Naughton. Wake energy redistribution due to trailing edge spanwise perturbation. In: 6th International Colloquium on Bluff Bodies Aerodynamics and Applications, 2008, <https://doi.org/10.2514/6.2008-4082>
- [C4] Durgesh V., and J. W. Naughton. Flow visualization of coherent structures in high Reynolds number turbulent flow. In: ISFV-13, Nice France 2008.
- [C3] Durgesh V., and J. W. Naughton. Detailed experimental investigation of the base drag reduction phenomena on a wedge model. In: 3rd AIAA Flow Control Conference, 2006, pp 791-801, AIAA Paper 2006 3186 (2006), <https://doi.org/10.2514/6.2006-3186>
- [C2] Durgesh V., J. W. Naughton and S. A. Whitmore. Experimental investigation of base drag reduction on a two-dimensional body using boundary layer manipulation. In: AIAA Paper, 42nd AIAA Aerospace Sciences Meeting and Exhibit, 2004, pp 11489-11499, AIAA Paper 2004, <https://doi.org/10.2514/6.2004-904>
- [C1] Naughton, J. W., J. Robinson, V. Durgesh. Oil-film interferometry measurement of skin friction analysis summary and description of Matlab Program. In: Instrumentation in Aerospace Simulation Facilities, 2003. ICIASF'03. 20th International Congress on, pp. 169-178. IEEE, 2003, DOI: 10.1109/ICIASF.2003.1274866

Other: (Technical Reports)

Vincent S. Neary, B. Gunawan, M. C. Richmond, V. Durgesh, B. Polagye, J. Thomson, M. Muste, and A. Fontaine. Field Measurements at Rivers and Tidal Current Sites for Hydrokinetic Energy Development: Best Practices Manual. FY-2011 Technical Report. In ORNL/TM-2011/419.

Richmond M. C., V. Durgesh, J. Thomson, and B. Polagye. Inflow Characterization for Marine and Hydrokinetic Energy Devices. FY-2011 Annual Progress Report. In PNNL Technical Report, PNNL-20463

Richmond M. C., V Durgesh, J. Thomson, and B. Polagye. Inflow Characterization for Marine and Hydrokinetic Energy Devices. FY-2010 Annual Progress Report. In PNNL Technical Report, PNNL-19859

Conference Presentations:

Yu, Paulo, and Vibhav Durgesh. "Framework for unsteady flow analysis in a circular cavity using Dynamic Mode Decomposition." Bulletin of the American Physical Society (2020).

Rodrigo Padilla, Conal Thie, Vibhav Durgesh and Tao Xing, Experimental and computational study of flexible membrane aerodynamics, Bulletin of the American Physical Society, 2019, 62 American Physics Society-Division of Fluid Dynamic (APS-DFD)

Paulo Yu, and Vibhav Durgesh, Field Estimation on Flow over a Sidewall Aneurysm, Bulletin of the American Physical Society, 2019, 62 American Physics Society-Division of Fluid Dynamic (APS-DFD)

Durgesh V, Rodrigo Padilla, Johari, Hamid, Aerodynamic Performance of NACA-0012 Airfoil at Low Reynolds Numbers in Wake of Bluff Body, Bulletin of the American Physical Society, 2018, 61 American Physics Society-Division of Fluid Dynamic (APS-DFD)

P Yu, V Durgesh. Experimental Study of Flow Behavior in Aneurysm with Varying Bottleneck Factor Bulletin of the American Physical Society, 2018, 61 American Physics Society-Division of Fluid Dynamic (APS-DFD)

W Conlin, P Yu, V Durgesh. Application of Dynamic Mode Decomposition: Temporal Evolution of Flow Structures in an Aneurysm, Bulletin of the American Physical Society, 2017, 60 American Physics Society-Division of Fluid Dynamic (APS-DFD)

P Yu, V Durgesh, H Johari. Impact of Inflow Conditions on Coherent Structures in an Aneurysm, Bulletin of the American Physical Society, 2017, 60 American Physics Society-Division of Fluid Dynamic (APS-DFD)

Durgesh V Garcia, Elifalet Johari, Hamid. Experimental Study of Thin NACA Symmetric and Cambered Airfoils at Low Reynolds Numbers. Bulletin of the American Physical Society (2016), 59, American Physics Society-Division of Fluid Dynamic (APS-DFD)

Durgesh V Garcia, Elifalet Johari, Hamid. Experimental Study of Fluid Flow in an Aneurysm for Varying Shape Indices. Bulletin of the American Physical Society (2015), 59, American Physics Society-Division of Fluid Dynamic (APS-DFD)

Paulo Yu, Cyrus Choi, and Durgesh V., Experimental Study of Fluid Flow in an Aneurysm for Varying Shape Indices. Bulletin of the American Physical Society (2014), 59, American Physics Society-Division of Fluid Dynamic (APS-DFD)

Marshall R., J. Thomson, V. Durgesh, and B. Polagye. Field measurements to characterize turbulent in flow for Marine Hydrokinetic devices - Marrowstone Island, WA. In AGU Fall Meeting Abstracts, vol. 1, p. 06. 2011, American Geophysical Union (AGU), Marine Renewable Energy Conference -2011.

Durgesh V., M. Koochesfahani. Influence of the accuracy in index of refraction matching on fluid flow measurements. Bulletin of the American Physical Society 53 (2008), American Physics Society-Division of Fluid Dynamic (APS-DFD) meeting

Durgesh V., and J. W. Naughton. Effect of flow parameters on bluff body near wake structure associate with base drag. Bulletin of the American Physical Society 52 (2007), American Physics Society-Division of Fluid Dynamic (APS-DFD)

Durgesh V., and J. W. Naughton. Vortical structure in the near wake of a bluff body and its relationship to base pressure. Bulletin of the American Physical Society (2006), American Physics Society-Division of Fluid Dynamic (APS-DFD)

Grants and Contracts Awarded: (External, *at UI*)

- [G15] Vibhav Durgesh (**PI**), An Experimental Investigation of Fluid-Membrane Interactions with Applications in Unsteady Aerodynamics, NASA-EPSCoR Research Initiation Grant \$82k
- [G14] Vibhav Durgesh (**PI**), Summer visiting faculty fellowship CAES-INL, 2021, ~19k
- [G13] Vibhav Durgesh (**PI**), Andrew Tranmer, and Daniele Tonina, Professional training to address critical groundwater issues: resolving flow dynamics from pore- scale laboratory experiments and watershed-scale field measurements- Idaho Water Resources Research Institute-2021, ~\$95k
- [G12] Tao Xing, Gordon Murdoch, Vibhav Durgesh (**co-PI**), Nathan Schiele, Bryn Martin, NSF MRI: Acquisition of a 3D Printer for Studying Biofluids and Biomechanics, Award Number; 2019231, ~\$252k
- [G11] Ralph Budwig, Daniele Tonina, Vibhav Durgesh (**co-PI**), William (Jeff) Reeder, Quantifying bed architecture and interstitial processes within granular sediment beds by laser induced fluorescence, Idaho Water Resources Research Institute,- 2019, ~\$52k

Grants and Contracts Awarded: (Internal at UI)

- [G10] V. Durgesh (**PI**), Acquisition of 2D Particle Image Velocimetry System for Investigation of Unsteady Flows, 2018-19, ORED, \$105,000

Grants and Contracts Awarded: (*External, at Prior institution*)

- [G9] H. Nhut, and V. Durgesh (**co-PI**), Design and analysis of the VAWT, International Precision Engineering, 2015-16, ~\$100k
- [G8] V. Durgesh (**PI**), H. Johari: Acquisition of Stereoscopic Particle Image Velocimetry System for Investigation of Unsteady Flows, Department of Defense 2014, \$220,000
- [G7] K. Sedghisigarchi, V. Durgesh (**co-PI**), and Benjamin Mallard, Exploratory project: Alternative Micro Powering techniques for Implantable Biomedical Devices, Medtronics Mini-Med, 2014, \$50,000

Grants and Contracts Awarded: (*Internal, at Prior institution*)

- [G6] V. Durgesh (**PI**), Development of undergraduate measurement laboratory, California State University Northridge, 2014-15, \$30,000
- [G5] V. Durgesh (**PI**), Aero-senior design projects, California State University Northridge, 2015-17, \$20,000
- [G4] V. Durgesh (**PI**), Acquisition of super-pump system, NIH-BUILD PODER, California State University, Northridge, 2015, \$45,000
- [G3] V. Durgesh (**PI**), Development of experimental bio-fluids test facility, California State University Northridge, 2014-Research Scholarship and Creative Activity (RSCA), 3 unit release time
- [G2] V. Durgesh (**PI**), Detailed experimental study of fluid flow in an aneurysm. University Research Fellowship, College of Engineering and Computer Science, California State University Northridge, 2012, \$5000 and 12 unit release time
- [G1] V. Durgesh (**PI**). Developing Oil-Film Interferometry system. Department of Mechanical Engineering, College of Engineering and Computer Science, California State University Northridge, mini-grant, 2013-14, \$2000

Grants pending:

1. Vibhav Durgesh (**co-PI**), MRI-Acquisition of micro-CT scanner, M. J. Murdock Charitable Trust
2. Vibhav Durgesh (**co-PI**) High-fidelity CFD for predicting regional lung deposition for two DPIs

Grant not funded:Pre-proposals:

1. PI, Machine learning-aided forecasting and identifying methods for improving building energy performance - AVISTA
2. PI, Renewable power generation for residential and commercial buildings using flexible piezoelectric membranes – AVISTA

3. PI, Machine Learning-based predictive models for assessment of risk of rupture based on hemodynamics, and morphology of aneurysm – IMCI White paper (No response yet)
4. PI, Four-Dimensional Data to Investigate the Aerodynamics and Control of Aerobots in Venus's Middle Atmosphere – NASA- Rapid Response Research (R3)
5. PI, E Experimental and Computational Thermofluidic Study of TCR Core, NEUP
6. PI, Development of High Temperature Auto-Calibrating and Economical Stereoscopic-DIC (sDIC) for Microreactor Application, NEUP
7. PI, White paper submitted to Office of Naval Research Air Warfare and Weapons, Title: Impact of Large-Scale Flow Structures on Aerodynamics Performance of an Airfoil, \$356k

Proposals:

8. PI, An Experimental Investigation of Fluid-Membrane Interactions with Application to Unsteady Aerodynamics – NASA EPSCoR
9. PI, Experimental Study of Hydrology of Subglacial Conduits, Presidential Initiative on Water and Sustainability
10. PI, Summer 2020 Graduate Research Fellowship Program: Development of framework for advanced data analysis for biofluids research, ORED RISE
11. Co-PI - BlueWave Water Tech: Biochar and Baleen Whale Biomimicry for Clean Water, Schmidt Foundation
12. Co-PI, Experimental Measurements and Computational Simulations of Gas Flow and Heat Transfer in Pebble Bed Reactors – NEUP
13. Co-PI, Collaborative Research: Multiscale Computational and Experimental Studies of Mechanisms of Lung Respiration – INBRE
14. Co-PI Title: Experimental Measurements and Computational Simulations of Gas Flow and Heat Transfer in Pebble Bed Reactors, \$600,000
15. co-PI Title: NSF MRI: Acquisition of a Tomographic Particle Image Velocimetry System at the University of Idaho \$210,695
16. PI DoD-DURIP - Title: Acquisition of a flow visualization water tunnel for unsteady and low-Re aerodynamics research, \$214,000
17. PI, Title: IGEM-Commerce: Testing of a new design of wave energy conversion device for distributed generation, \$164,659
18. PI, Title: ORED SP19 JS: Experimenting with the inaccessible : fluid dynamics studies for the assessment of turbulence in subglacial conduits, \$34k
19. PI, Title: ORED SP19 ACE: Development of an experimental glacier hydrology research (ExGHR) facility : assessment of turbulence in subglacial conduit, \$26k
20. PI, DARPA-RA-18-02 Title: Young Faculty Award (YFA) Tracking and navigation: wake sensing using biomimetic whiskers for UUVs, \$ 856,761.00
21. Co-PI, Title: Keck Research Program Phase I Application: An Interdisciplinary Multiscale Approach for Understanding the Mechanisms of Lung Respiration, \$1,300,000

SERVICE:

Major Committee Assignments:

Department

- Infrastructure committee, Mechanical engineering, Sept-2018 – Present

College

- College curriculum committee, Jan-2021 – Present

University

- Faculty affairs committee, 2021- 2024
- UAS member, Mar-2021 – Aug-2022
- UAS Alternate member, Sept-2019 – Feb-2021

Profession organization

- Organizing committee for APS-DFD conference, Nov-2019

Prior institution

- International Education Council College Representative Aug2013-Aug2018
- Probationary Faculty Research Proposal Review 2016-Aug2018
- College Research Fellowship Committee - Aug2013-Aug2017
- Energy Research Center, CSUN - Member
- Organizing member for California Renewable Energy and Storage Technology (CREST) annual conference

Professional and Scholarly Organizations

- Aerodynamic Measurement Techniques (AMT) AIAA Technical Committee – 2019 - Present
- American Institute of Aeronautics and Astronautics (AIAA) 2012- Present
- American Physics Society (APS) Division of Fluid Dynamics 2012- Present
- Sigma Xi 2013- Present

Reviewer Scholarly Organizations

- Reviewer for Journal of Flow Visualization
- Reviewer for International Journal of Heat Transfer and Fluids
- Reviewer for AIAA Journal
- Reviewer for Experiments in Fluids Journal
- Reviewer for the Journal of Sustainability and Renewable Energy (JSRE)
- IEEE Transactions on Power Systems
- California State University Program for Education and Research in Biotechnology (CSU- PERB) proposals. CSUPERB, 2013
- DOE SBIR/STTR Ocean Wave and Tidal Energy projects. Department of Energy, 2011
- Reviewer for the PNNL Technical Report, 2010-2012

PROFESSIONAL DEVELOPMENT: (workshops and seminars attended)**Workshop:**

- Oceans Wave Measurement and Analysis. IEEE Oceanic Engineering Society, 20 Sept 2010
- Essential Elements of Writing a Pre-Proposal (White Paper). Pacific Northwest National Laboratory, Feb 2011
- Responsible Research Practices. Michigan State University, 2008-2009