

FY 2021 INFRASTRUCTURE REPORT SUMMARY

<i>ISU FY 2021</i>	Total \$	Detailed Allocations
<i>Library Support</i>	\$0	
<i>Graduate Research Assistantships / Research Associates</i>	\$0	
<i>Post-Doctoral Fellows</i>	\$0	
<i>Technician Support</i>	\$0	
<i>Maintenance Contracts</i>	\$0	
<i>Research Equipment</i>	\$219,112	The Leica microscope is being used in the only zebrafish research facility at Meridian ISU Health Sciences Center. The unique fluorescence feature of this versatile stereomicroscope makes it an ideal instrument for zebrafish research and an necessity for zebrafish facility day-to-day operations. Purchased a UV-Vis/Fluorometer and related accesories from Vernier Software and Technology for the Chemistry Department. Cage Washing sytem for Animal Facilities.
<i>Competitvely Awarded Summer Research Support</i>	\$0	
<i>Start-Up Funds for New Hires</i>	\$0	
<i>Incentives to Reward Faculty for Research Achievements</i>	\$0	
<i>Other</i>	\$65,559	Computers, isolation frame, load cells, threaded rods, accessories, and other smaller items.
Total Allocation	\$284,671	

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Publications in Refereed Journals	<p>N/A • Z. Free, M. Hernandez, M. Mashal, and K. Mondal (2021). A Review on Advanced Manufacturing for Hydrogen Storage Applications. <i>mdpi Journal Energies</i>. (Under Review)</p> <ul style="list-style-type: none"> • K. Hogarth, J. Cantrell, M. Mashal, and B. Savage (2021). A Disaster Response Complex for Training of First Responders in the Northwest United States, <i>Countering WMD Journal</i>, United States Army Nuclear and Countering WMD Agency. (Under Review) • M. Mashal, K. Gurung, M. Acharya (2021). Full-Scale Flexural Testing of Slabs Made of Modular Structural Concrete Insulated Panels, <i>PCI Journal</i>. (Accepted for Publication) • M. Mashal and B. Savage (2021). Bringing Precast Concrete to Classrooms, Issue 3/2021, <i>Concrete Plant International North America and Worldwide Editions</i>. • B. Durtschi, M. Mahat, M. Mashal, and A. Chrysler (2021). Preliminary Analysis of RFID Localization System for Moving Precast Concrete Units using Multiple-Tags and Weighted Euclid Distance k-NN algorithm, <i>IEEE RFID</i>, April 27-29, 2021, Atlanta, Georgia, United States.
Presentations at Professional Meetings and Conferences	2 presentations have been submitted to ARO national meeting
Grants Received as a Result	
Grants Pending	Two grant applications have been submitted to American Hearing Research Foudation and Idaho INBRE.
Student Participation	The zebrafish facility and research involve 3 PhD students, 3 rotating PhD students, and numerous PharmD students doing research rotations and taking research electives for the Biology Department. Summer research project - collaboration between Chemistry and Bilological Scienc es with UG Student (Carlyn Osterhout) Use of the intrument in Inorganic Chemistry Laboratory Course (F21). Ten Students in civil and environmental engineering and other engineering departments at ISU
Faculty Participation	2 (electrical and computer engineering; nuclear engineering)
Other Participation	Researchers from Idaho National Laboratory and the Center for Advanced Energy Studies
Patents Awarded	N/A
Patents Pending	<p>Several provisional patent applications are underway. • M. Mashal (2020). "Ductile Connections for Pre-Formed Construction Element", United States Non-Provisional Patent Application, 16/817,042.</p> <ul style="list-style-type: none"> • M. Mashal (2019). "Ductile Connections for Pre-Formed Construction Element", United States Provisional Patent, 62/883,173.