The MetalVox™ Program within the Advanced Technology and Manufacturing Institute at Oregon State University is searching for a creative postdoctoral scholar in the area of polymetal additive manufacturing with a background in laser directed energy deposition (DED), laser powder bed fusion, fusion welding and/or welding metallurgy. The specific project that the postdoctoral scholar will contribute to is a $4M/3-year Department of Energy grant focused on designing and scaling up the production of distributed chemical reactors for producing jet fuel from bio-derived alcohols. In this project, the scholar will be part of a three-person team responsible for integrating catalyst scaffolds within chemical reactors during hybrid DED to improve the economics of producing the reactor. Work will include experimentation and integrated computational materials engineering involving the modeling of processes (FEA) and materials (CALPHAD) necessary to grade reactor materials to FeCrAlY high-surface-area scaffolds. The project will involve extensive material characterization to ensure proper pore size, porosity, surface area, surface chemistries, mechanical adhesion and machinability. The scholar will use novel hybrid DED equipment, capable of the simultaneous deposition of wire and powder, to deposit and machine flow channels and scaffolds. The research will be conducted at ATAMI alongside more than fifteen other researchers working on other polymetal additive manufacturing projects. Opportunities exist for mentorship training, teaching of courses and mentoring in proposal writing.

Minimum qualifications for the position include a Doctorate in Mechanical Engineering, Materials Science, or a closely related field and evidence of ability to conduct high quality scholarly research. This position will be a year appointment with the opportunity for renewal and a start date as soon as the selected applicant is available.

To apply, please email a cover letter (including the date that the applicant is available for the position), detailed curriculum vitae, two example journal publications and the names of at least three references to Professor Brian Paul (brian.paul@oregonstate.edu). The target date for applications is July 7, 2021, but the search will remain open until the position is filled. Consideration of applications will begin immediately.

Oregon State University is a Carnegie R1 research university located in Corvallis, OR having approximately 27,000 students enrolled. The College of Engineering is the largest college within the university having approximately 9,000 students. Within the School of MIME, there are over 2,000 undergraduate and graduate students across the industrial, energy systems, manufacturing and mechanical engineering, robotics, and materials science programs. OSU is situated on a beautiful 400-acre campus adjacent to an idyllic college town. Corvallis has been rated one of the top ten places to live in the U.S., having the highest Peace Corps volunteers per capita, the highest number of green buildings per capita, and in the recent past ranked as the highest patents per capita. Corvallis sits nestled up to the Coast Range in the middle of Oregon’s finest recreational and scenic areas with ocean beaches, lakes, rivers, forests, high desert, and the rugged Cascade Range all within a short driving distance.