Opening: Postdoctoral associate in sprayed particulate coatings

The Holman Research Group at Arizona State University has an opening for an outstanding postdoctoral associate in coatings research. ASU, along with its partners at Colorado School of Mines and University of Minnesota, has been charged by ARPA-E with the challenge of making transparent, thermally insulating coatings for application to single-pane windows. The coatings will reduce thermal energy loss—saving the U.S. up to 1.2 quads and $12 billion per year—as well as provide greater indoor comfort and sound reduction compared to existing products.

Candidates are sought who will pioneer sprayed nanoparticle coatings formed by accelerating aerosolized nanoparticles through a nozzle to supersonic speeds towards a substrate. The researcher will be responsible for synthesizing nanoparticles in the gas phase, depositing coatings, and characterizing the optical (and potentially thermal and mechanical) behavior of those coatings. Consequently, previous experience with aerosols, aerogels, sprayed coatings, and materials characterization is highly desirable. Familiarity with fluid flow—particularly of a rarefied gas—is an advantage, as the homogeneity of the coatings is directly related to the uniformity of the aerosol flow. Experience with equipment design is also a plus; the project will require design and fabrication of a scaled-up spraying tool.

Outside of the lab, the postdoctoral associate is expected to “own” the project and take on the primary leadership role. In particular, he or she will be responsible for communicating with all project members, leading meetings, writing quarterly reports (in addition to scientific manuscripts), and ensuring that the project meets its milestones. Technology commercialization is a focus of all ARPA-E projects, and the postdoc will also have the opportunity to, e.g., participate in the I-Corps customer discovery process and potentially in the creation of a start-up company. All candidates must have the ability to conduct self-directed research, mentor graduate students, and work collaboratively with academic team members in related fields. Candidates should be creative and productive, as evidenced by unique scholarly or other technical contributions to research projects. Excellent writing and presentation skills are a must.

The postdoctoral associate is expected to start in fall 2016, though exceptions may be made for exceptional candidates. He or she will be offered a highly competitive salary and the opportunity to travel regularly to conferences and project meetings. The appointment is for three years pending satisfactory performance and the continued availability of funds.

Interested applicants should send a cover letter with a summary of previous research experience, along with a curriculum vitae that includes three references, to Prof. Zachary Holman at zachary.holman@asu.edu.