

New Grant Funding

DOE Awards \$1.6 Million

New Grant: Materials Manufacturing Development for Automotive Components



Diran Apelian (left) and Carl Söderhjelm

Oct. 7, 2024 - **Principal**

investigators: [Diran Apelian](#),

Distinguished Professor of materials science and engineering, and Carl Söderhjelm, assistant researcher, [Advanced Casting Research Center \(ACRC\)](#)

Award: \$1.6 million over 3 years

Funding agency: Department of Energy

Project: Advance Tooling for the Manufacture of Lightweight Automotive Components

We are thrilled to share that Diran and Carl have been awarded \$1.6 million over three years for research that will further the development of materials for automotive manufacturing.

Their work will improve the way auto components are made via die casting (gigacasting) by re-engineering the mold through development of novel materials, tool/die design and thermal exchange technologies. The research team will develop 3D-printed dies of novel material and architecture that can temporarily and spatially control the solidification process for high pressure diecasting.

This project will transform manufacturing of these large scale dies for the auto industry and have a long-term impact in energy and carbon footprint reduction as well as profitability and value creation for the whole foundry and metal casting industry.

The UCI material scientists will collaborate with researchers from MIT, Solvus Global and QuesTek Innovations.

To learn more, please click [here](#).