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April/May 2016

Iowa State engineers develop micro-sized, liquid-metal particles for heat-free soldering



MSE Assistant Professor Martin Thuo holds a vial of the liquid-metal particles produced by his research group. Working behind him are, left to right, Simge Cinar, Jiahao Chen, and Ian Tevis (Photo by Christopher Gannon/Iowa State University News Service)

Story originally published by the *lowa State University News Service*

Martin Thuo likes to look for new, affordable and clean ways to put science and technology to work in the world.

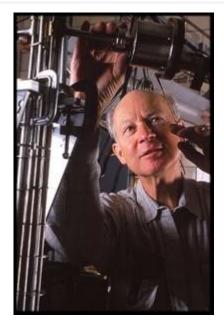
That goal has Thuo and his research group using their materials expertise to study soft matter, single-molecule electronics, and renewable energy production.

"Nature has a beautiful way of working for us," he said. "Self-assembly and ambient oxidation are great tools in our designs."

One of the latest innovations from Thuo's lab is finding a way to make micro-scale, liquidmetal particles that can be used for heat-free soldering plus the fabricating, repairing and processing of metals--all at room temperature.

<u>*Click here for more information about this story.*</u>

The internationally-recognized • Iowa State alum, professor and researcher Karl A. Gschneidner Jr. passed away April 27 at the age of 85. Known as Mr. Rare Earth, Gschneidner's work with rareearth materials led to the creation of the Critical Materials Institute at Ames Laboratory as well as the publishing of over 544 scientific journal articles and 170 book chapters and conference proceedings. More on Dr. Gschneidner can be found on the College of Engineering website and in a news release from Ames Laboratory.





 Materials engineering student Carter Francis presented his research at the Iowa State University Undergraduate Research Symposium on Tuesday, April 5 Research by MSE Assistant
 Professor <u>Ludovico Cademartiri</u> and
 his team was published
 in <u>Advanced Materials</u>. The paper
 focused on self-healing and water repellent silicone coatings.





- Team PrISUm, Iowa State's solar car team, <u>unveiled</u> this year's car during an event on Thursday, April 21. The car will compete at the American Solar Challenge later this summer. MSE has a number of student involved with Team PrISUm, including Project Director Matt Goode. Goode recently received the university-wide Outstanding Club Member award for his leadership with Team PrISUm.
- semester working with Dr. Steve Martin's Glass and Optical Materials research group. He discussed his ISU experience in a <u>recent article</u>.

Johannes Betz is a student from

Germany who spent the spring

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• The Engineering College Relations Department recently published a profile of graduate student <u>Darrel Enyart</u>

 MSE had a delegation of students led by adjunct professor and Ames Lab scientist Iver Anderson attend Congressional Visit Days. This annual event is a joint effort coordinated by TMS, ASM, AcerS, and AIST.



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