

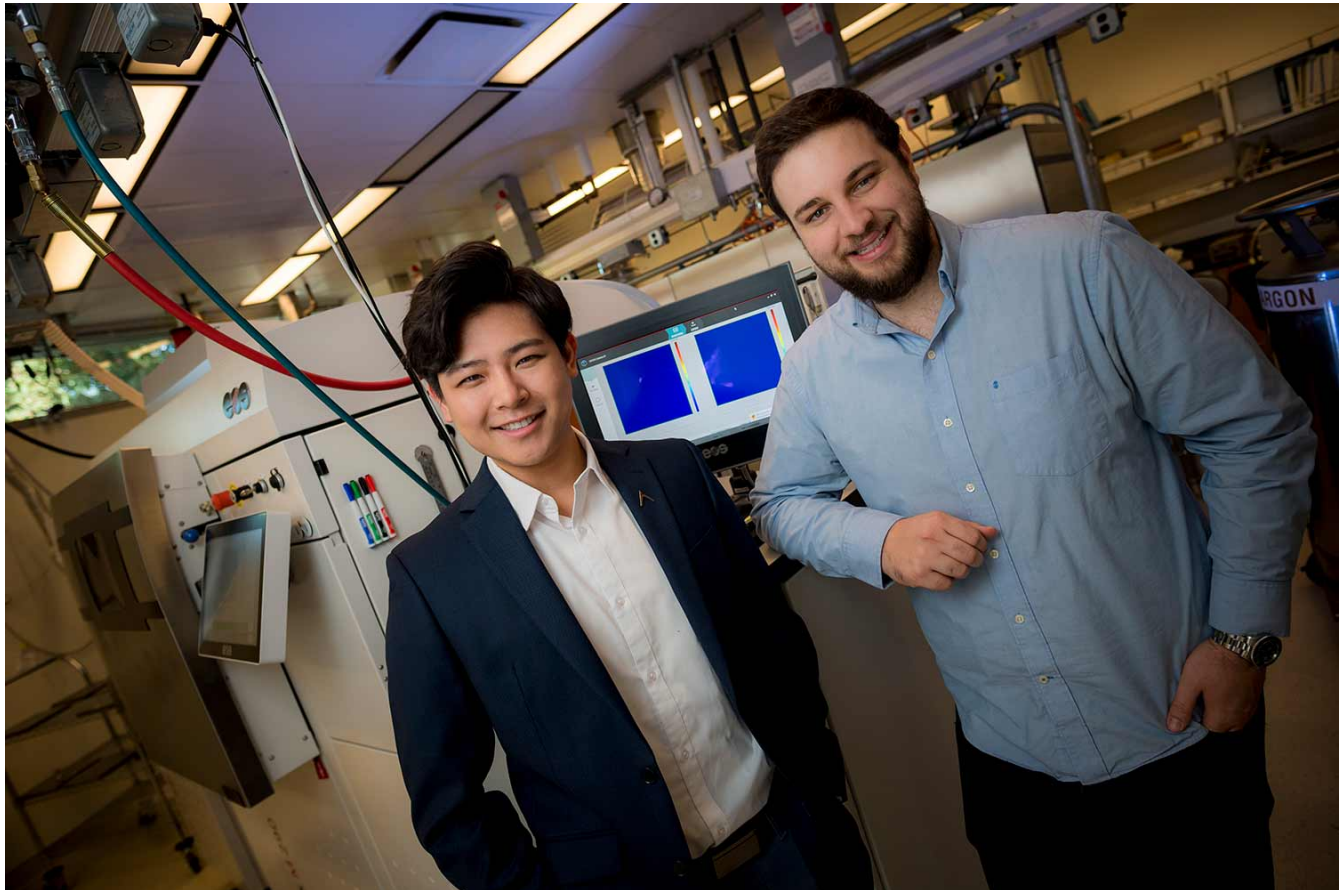
UC San Diego

# UC San Diego News Center

---

By Xochitl Rojas-Rocha

Jan 24, 2019



*Photos by Erik Jepsen/UC San Diego Publications*

## Partnership with Rocket Engine Startup Brings New 3D Metal Printer to UC San Diego

Research at UC San Diego is about to take off, thanks to a partnership with a local startup that specializes in 3D-printed rocket engines. Now, aspiring inventors and innovators at the university can make their creations real with the startup's powerful, 3D metal printer.

“When we started out as undergraduates at UC San Diego involved in the Students for the Exploration and Development of Space (SEDS), we wished we had access



to such equipment. Now, this cutting edge capability is available to everyone at UC San Diego,” said Kyle Adriany, co-founder of [Additive Rocket Corporation](#) (ARC).

The 3D metal printer is located in the Qualcomm Institute’s Prototyping Lab on the first floor of Atkinson Hall. ARC has invited research groups, students, faculty and staff at UC San Diego to apply through the Prototyping Lab for a chance to print new tools and devices for their research and more. The printer will give users the freedom to work with diverse materials and to design their products with fewer manufacturing limits.

While most 3D printers use relatively inexpensive plastics or polymers, these materials can be limited in their strength and their ability to withstand extreme temperatures. Metals, on the other hand, generate a 3D-printed product that is stronger and more durable than one made of plastics or polymers, and lighter than anything created by traditional means.



3D printers also have the benefit of flexibility in design. Instead of having to work around the restrictions of regular, industrial machinery, engineers like Adriany and ARC co-founder Andrew Kieatiwong are free to create whatever layout is most effective for their needs. The user can choose the parameter they would like to optimize (e.g. fluid flow), and build with that in mind.

Founded in 2015 by UC San Diego alumni Adriany and Kieatiwong, ARC’s mission is to use 3D metal printing to reduce the cost of rocket engines and make space exploration more accessible to industry and the public. ARC is currently housed in the [Qualcomm Institute Innovation Space](#), or QIIS, an incubator space for startup companies and national laboratories. QIIS embodies QI’s dedication to scientific progress and innovation by bringing partners in the private and public sector together with university researchers.

Keep up with campus news by subscribing to *This Week @ UC San Diego*