ALUMNI PROFILE: MATT MEITL

An original member of John Rogers' research group, Matt Meitl is now a technical manager at his former advisor's start-up company, Semprius.

Published on February 04, 2013

The chance to someday apply what he was learning as an engineering student at the University of Illinois drew Matt Meitl to materials science, and to a researcher who has gained international fame for his groundbreaking innovations in electronics, industry, and medicine.

As he was finishing his bachelor'sdegree in Materials Science and Engineering, Meitl heard a talk from John Rogers, who was working as an industry researcher. Shortly thereafter, Rogers joined Illinois and became a Beckman Institute faculty member. He went on to create a research portfolio with exciting new discoveries like stretchable silicon for applications such as implantable health monitors and solar cells. And Meitl was there from the start.

"A year before I started grad school I heard John give a talk at the University, and the work struck me as innovative, impressive, and having far-reaching real-world applicability," Meitl said. "It was the kind of work I wanted to learn how to do, so when I heard he might accept a faculty position at Illinois, I held out for a chance to join his group. It worked out great."

Great may be an understatement. Meitl ended up being the new professor's first graduate student in the Rogers Research Group (which has a mission of "Science that brings Solutions to Society"). He then went on to become one of the first half-dozen employees at Semprius, a North Carolina company that manufactures new solar cell technology, that was co-founded by Rogers and began at the University's EnterpriseWorks incubator.

Meitl has made the most of his opportunities as part of the Rogers Research Group and as an employee at Semprius, where he has been ever since earning his Ph.D. five years ago with a focus on transfer-printing and microscale hybrid materials systems.

Meitl is technical manager of cell development at Semprius, and a leader in transferring Semprius' printable photovoltaic cell technology to its fabrication facility. He already holds nearly 20 patents and patents pending, and says his work at Illinois led directly to his current efforts at Semprius.

"I think the most significant contributions I made at Illinois were in the physics that govern a process that we refer to as micro transfer printing," Meitl said. "My biggest technical accomplishments at Semprius flowed from the skills and knowledge I gained at Illinois to a great extent. The same transfer printing process and fabrication techniques we developed at Illinois can be applied to high-efficiency multi-junction solar cells."

Meitl said the solar cells are combined with high-efficiency concentrating lens arrays to create the solar module.

"Both the cells and the lens array are produced using techniques that were inspired by the techniques we developed at Illinois — the cells very directly so and the lenses in a more roundabout way," he said. "The high efficiency of both cells and lenses enabled for the first time a commercial solar module to surpass 33.3% efficiency."

The similarities between working at Semprius and in the Rogers group include more than technology development.

"Research at Illinois and Semprius each required fast, high-quality, cutting-edge results, and both organizations had the ability to produce them," Meitl said.

Meitl credits Rogers for the environment he found in the group.

"Professor Rogers himself makes the group so great," Meitl said. "He establishes a fast-paced, results-oriented culture that attracts some really talented students that learn from each other and sharpen each other's skills. It's great to be a part of a team like that where big things happen on a regular basis. I was fortunate to get that opportunity."

Meitl may have been fortunate, but he also took advantage of opportunity — as he is doing again, as part of a cutting-edge technology company. He urges students with a similar opportunity to join a start-up.

"I'd say go for it!" Meitl said. "It's a thrilling ride to blaze a trail in your field that might lead to some really big things; you can generate some jobs and keep on innovating. Find a good team that has a good vision and some good resources, or start building that team yourself. If you have the desire to go that direction and the beginnings of an idea how to do it, you should make that leap."