

## Ceramics alumnus featured in Albany business paper

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For Ceralink engineer, youthful demeanor belies technical savvy  
The Business Review (Albany) - by Joanne E. McFadden  
DONNA ABBOTT VLAHOS | THE BUSINESS REVIEW  
Shawn Allan, a senior materials engineer with Ceralink, held a patent before he even graduated from college. Before he even graduated from the ceramics program at Alfred University in western New York in 2002, Shawn Allan held a patent. The initial explanation of what that patent was for is a bit esoteric. It was for--brace yourself--the "fabrication of metallic microstructures by micromolding nanoparticles." In an interview, however, Allan easily and patiently translates this into lay terms as a "new way to make tiny gears with microscopic teeth on them." If you spotted Allan snowboarding with the Albany-based Out of Control Ski Club, you probably wouldn't guess that he was part of a team from Sandia National Laboratories in California that created technology that was intended for use in safety devices on missiles. He and another student from his college were the only ceramic materials people in the department. "It was strange to have just completed my sophomore year and then be told that I was the ceramic 'expert' at a national lab," Allan said. A young-looking 27, Allan, now a senior materials engineer at Ceralink Inc., still gets carded when he orders a drink. He considers it a compliment. When he's not at work, you might find him tending his plot at the Capital District Community Gardens, or volunteering at community events like the Tulip Festival or the AIDS Walk, both in Albany. This is a sharp contrast to the technical work he does at Troy-based Ceralink, discovering new ways to manufacture parts that have a good chance of ending up in something you own, like a cell phone, computer or some other electronic device. Ceralink, founded in 2000 by materials scientist Holly Shulman, focuses on developing ceramics and microwave heating technologies that will improve production processes, and in turn, cut energy costs for its clients. Its clients make components for a variety of products, including insulators for power transmission lines and fuel-cell materials. A Niagara Falls native, Allan found Ceralink when he was doing research in its laboratory for his undergraduate thesis. After graduation, he worked at the company for eight months before heading off to earn a master's degree from the Georgia Institute of Technology in 2005. Afterward, Allan went back to work for Ceralink. To Shulman, Allan stood out because of his ability to look for and assimilate masses of new information and come up with new ways to solve complex technical challenges. Working together, Allan and Shulman came up with the idea to recycle platinum and a valuable plastic from used fuel cells--a discovery that can save money and cut pollution. Part of his ability to innovate comes from his keen observation. Ken Sandhage, a professor of material science and engineering at Georgia Tech who had Allan in his research group, said that Allan recognized things as being important that other students didn't see as dramatic or different. "They wouldn't get the significance of it," Sandhage said. "Shawn takes advantage of what could be serendipitous reactions" and uses them, he said. One example is a process for using radio frequency heating that resulted in Ceralink filing another patent application last year. Allan was part of a team that found ways to replace the energy-intensive process of laminating glass with a process using radio frequency, which uses much less energy. Other Ceralink technologies are cost-savers, too. One for firing ceramics cuts energy consumption 50 to 90 percent, which translates into an estimated savings of over \$200,000 in electricity a year for clients using a single industrial-sized system. While Allan does spend a good portion of his work day in the lab, he spends anywhere from 20 to 40 percent of his time working with clients, examining their manufacturing processes to see how they can be improved. This could include assisting clients in designing and building new equipment. Being at a small company of only six employees also has Allan involved in just about every aspect of the company, from advertising and marketing to day-to-day financial decisions. Even though he's developing technology that has the potential for big energy--and dollar--savings and has his hand in a wide range of company activities, Allan doesn't experience much stress in the 45 hours or so he puts in weekly. This may have to do with his personality. Lawrence Shore, a senior research associate for BASF Catalysts LLC in Iselin, N.J., said that working with Ceralink, and Allan in particular, was "very easy going." Allan worked on process optimization for a precious metal recovery project for BASF. "He's very soft spoken," Shore said, "but he delivers." Shulman, meanwhile, has high praise for the young engineer. "He is a team player, and an excellent communicator," she said, "which is often lacking in engineers." Allan said that his communication skills have developed over time through various jobs, college, church and experiences volunteering. "I think communication is very important," he said, "to be able to express what I do, or my opinions, and to do so in a thoughtful way."