MSE Alumni Chapter

MARCH 2019

Recent Developments

Dr. Amy Walker is currently serving as the Interim Head of the Department of Materials Science and Engineering.

"The collaborative spirit of MSE includes you, whether you are alumni, industry partners, donors, students, staff, faculty, colleagues or friends. We hope you stay in touch and look forward to working with you!"

Dr. Amy Walker

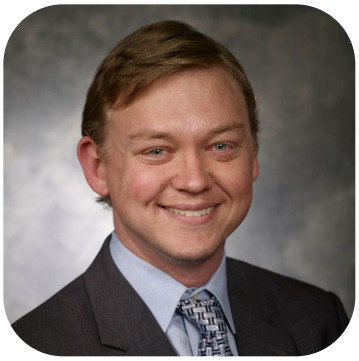
You can read Dr. Walker's message to the UT Dallas - MSE community here.

If you want to stay in touch you can join our monthly newsletter here.

Career Story

Dr. Walter Voit

Associate Professor



Dr. Voit joined UT Dallas in 2001 as a McDermott Scholar. He eventually became the Founder and PI of the Advanced Polymer Research Group.

Here is the story in his words.

In 2006, UT Dallas was an aspiring research institution built upon a solid foundation that was laid by the founders of Texas Instruments and pioneering leadership from the previous decade. UT Dallas invested heavily in people and technology and was not the well-rounded institution that it is today.

Campus was much uglier then, but there was a sense from everyone that Dallas as a city was doing something great.

Since the invention of the integrated circuit and the explosion of semiconductor technologies and a connected world, Dallas and by virtue UT Dallas were in the heart of a technology corridor that was changing the world a little bit at a time.

As a computer scientist and artificial intelligence master's student, I saw firsthand through research experiences at Zyvex and Los Alamos National Labs that there were still major technical problems across the world to be solved and had been given the training at UT Dallas to start solving them.

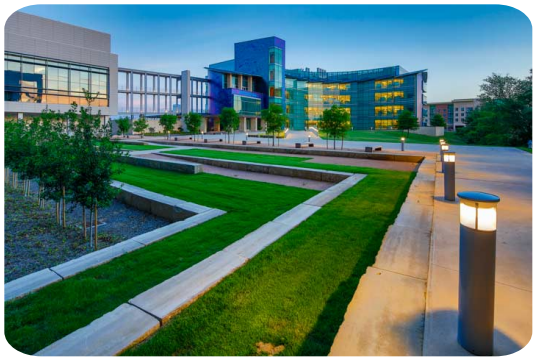
After graduating I kept in close contact with the university, I had two brothers and future wife back at UT Dallas. I remained actively engaged in recruiting processes for the honors college and the McDermott program. **While at Georgia Tech, I spun out Syzygy Memory Plastics as a graduate student** as part of an NSF funded IGERT program called TI:GER (Technological Innovation: Generating Economic Results). I was paired up with two aspiring lawyers from Emory Law School and an MBA student from Georgia Tech. We founded the company and began the technology quest that ultimately led to Adaptive3D.

We filed patents, won business plan competitions and ultimately received an NSF grant to get the company formally launched.

We moved the company to Dallas when I accepted a faculty position in the MSE department in 2010. **Today, Adaptive3D, the parent company of Syzygy, seeks to change how the world mass manufactures plastics.** We closed a Series A funding round last month (Jan. 19) co-led by DSM and Applied Materials (press release). We seek to micro-lattice materials at small scales and high throughput to reduce the amount of plastic needed to solve problems in multiple industry verticals. These capabilities are based on DARPA

funded research into thiol-based chemistries we performed over the last ½ decade at UT Dallas.

UT Dallas continued to grow, expand, beautify and focus on its core strengths. Thanks in large part to the leadership of President Daniel and Provost Wildenthal and the extraordinary generosity of Margaret McDermott, the university continued its trajectory into Tier 1 status. The leadership from then Dean Bob Helms and Project Emmitt helped establish even greater technology and research capabilities at the university.



The launching of the MSE and ME department and several well-engineered, highly functional research buildings, gave us as researchers capabilities that were not available to many other faculty across the world.

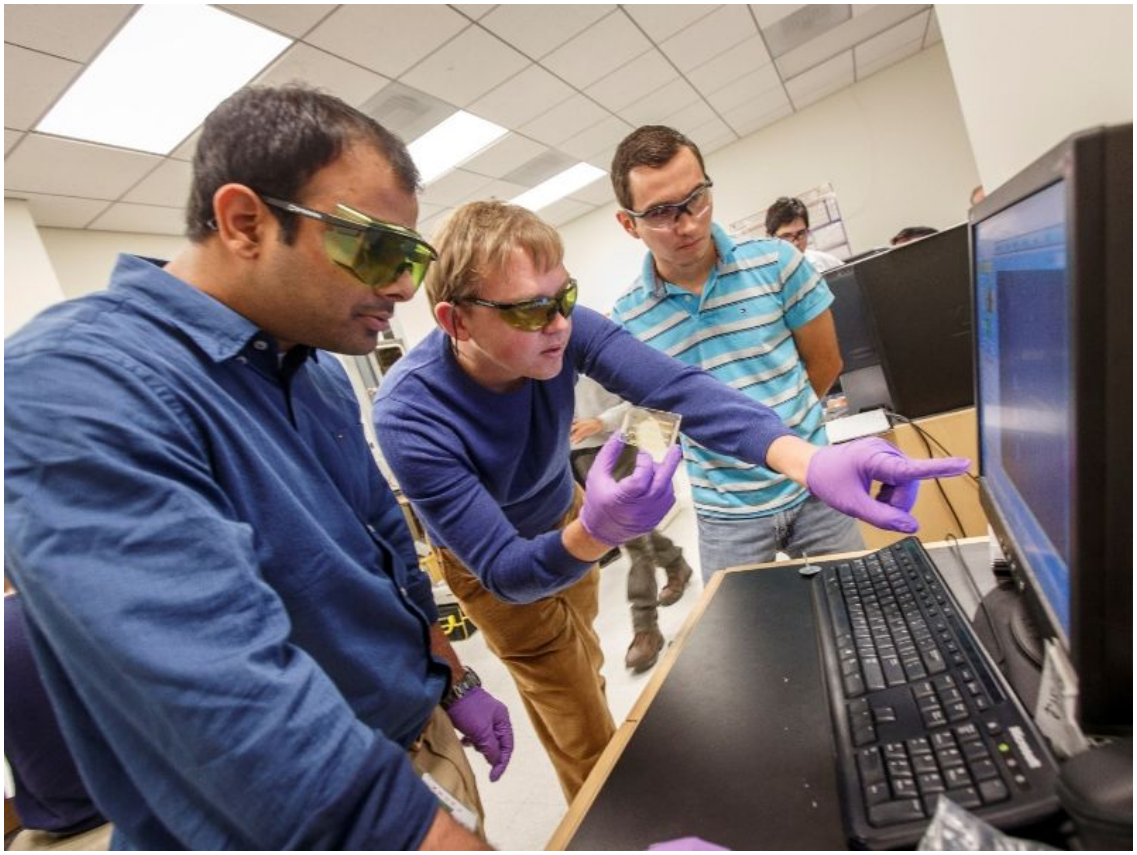
The Cleanroom facilities, ultra-high vacuum systems and microscopy facilities in NSERL spearheaded by **Bruce Gnade, Bob Wallace and Moon Kim** gave us a competitive advantage to study and explore new materials at tiny scales with precise equipment. This allowed the department to land top researchers like **Julia Hsu** from Sandia, **Yves Chabal** who won a Tech Titans award in 2007 for his research, **Orlando Auciello** who had recently been president of the Materials Research Society and **Amy Walker and Lev Gelb,** doing pioneering work in better understanding physical phenomena using advanced spectroscopy techniques and chemical models.

When this infrastructure was coupled with hard-working, energetic and highly competent administrative staff that the MSE department attracted, we were able to do great things in a short amount of time.

None of this existed when I left as a master's student and this environment and culture that was created, gave my students and me tremendous opportunities to translate clever ideas into spin-out companies.

I see technology and technical innovation as a tremendous force for good

in the world. Many of the problems we face today in society, will be overcome and aided as we develop new tools and understanding to change how we interact with the world. The research that is happening at UT Dallas and by extension at some of our spin-out companies, seek to better understand how materials work at very small scales and translate that understanding into viable business models to bring better products to consumers, whether that be in consumer, industrial, medical, transportation or oil & gas sectors.



Success is not an endpoint but rather an ongoing quest to be surrounded by brilliant people who want to learn, understand, improve and make the world a better place. At the university, this means enfranchising students to dream big, but reach for those dreams based upon fundamental laws of physics, materials, matter and energetic interactions.

Here are some specific non-obvious skills that have helped me:

1. Working at the school newspaper and really mastering InDesign, Illustrator and Photoshop - the ability to rapidly convey meaning through compelling graphics is a skill that takes practice

2. Playing multiplayer games (board, card, video) - you can experiment,

try different strategies, and learn rapidly from your mistakes.

3. Finding the good in other people - taking time to learn about others, really care about others and enfranchise others to maximize their own talents is multiplicative

We are in a very special world.

Dr. Walter Voit

Share this story around

Invite the community to join this MSE Chapter.

Don't be shy, be featured. Interested?
Have some feedback?
Send me an e-mail at mirelesmarce@gmail.com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