

Women in Science, Technology, Engineering and Entrepreneurship (WiSTEE)

May event “Path to Entrepreneurship – Intersecting Science, Technology, Engineering, and Entrepreneurship ”

The May event for the Women in Science, Technology, Engineering and Entrepreneurship (WiSTEE) group that took place on May 3rd, 2013 saw 39 attendees from more than 20 academic units across campus and industry – 32 of which were women – come together. The attendees’ career stage again spans from faculties, researchers, business executive, entrepreneurs, graduate and undergraduate students. We are pleased to see that this “Path to Entrepreneurship “event has stimulated entrepreneurial thinking in the academic world, and has provided a framework for its members to add entrepreneurial thinking, strategy, and practice into their professional lives. This event also generated many cross-disciplinary interactions among students, scholars, and business people. We plan to expand on the entrepreneurial aspects we have discussed in this event into future more in-depth WiSTEE entrepreneurial events. We also plan to provide more interactions and networking opportunities between the academic and business worlds.



The 39 attendees were split almost equally among the four categories: faculties/researchers, graduate/undergraduate students, entrepreneurs/businesswomen, and staff.

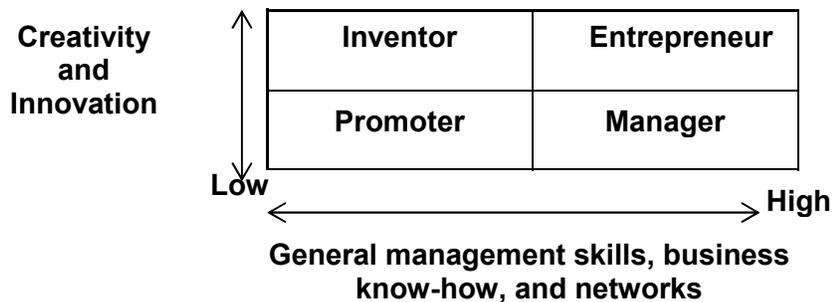
To welcome the many first time comers attending the meeting, WiSTEE Founder and Chairperson Dr. Jie Qiao, scientist at the Laboratory for Laser Energetics, University of Rochester, shared her vision for WiSTEE as the means to create a sense of belonging and an oasis to connect, mentor and collaborate with each other. The networking enabled by WiSTEE takes place at a local level through the monthly meetings, and globally through partnerships with professional society such as the one established with the MWOSA (Minority and Women in OSA) group of the Optical Society. WiSTEE will provide opportunities for mentoring by

developing personal relationships, will foster leadership through its members, and will offer strong role models to encourage young women in STEE to pursue their careers.

Dr. Qiao, who has 14 years' experience of technology development in the optics and photonics industry and in start-ups, corporate, and national-lab-like settings, and a formal MBA education concentrating in Entrepreneurship and Strategy, shared her vision on how entrepreneurial thinking and strategy can empower one's academic career or any career in general.

	<p><i>“Entrepreneurship is a way of thinking, reasoning, and acting for the purpose of value creation and capture”</i></p> <p><i>“Entrepreneurial process is a balance of Opportunity, Resources, and Team, by the Founder”</i></p> <p><i>“Entrepreneurial strategy and process can be directly applied to research environment and can greatly empower women’s career”</i></p>
<p>In her presentation, Dr. Qiao set up a framework to demonstrate the value of entrepreneurial thinking and how it can impact the career of each of the audience.</p>	

Dr. Qiao stimulated attendees' interest to map their individual talents and skills to the dual academic roles of being an entrepreneur to develop innovative and sustainable research portfolio, and being a manager to manage their research groups and projects.



Several attendees from the business world shared one key attribute that they believe is embraced by entrepreneurs.

	<p><u>ENERGY</u> Jane Glazer, President of QCI Direct, believes that if you don't have energy, you won't have the stamina to move forward. An entrepreneur has to be able to make decisions and keep moving.</p> <p>Jane also believes that women have an advantage as entrepreneurs and encouraged everyone to seek opportunities and to not be afraid of failures.</p>
<p><u>TEAM</u> Jennifer Indovina, Founder and CEO of Tenrehte Technologies, Inc., said that the entrepreneur must know what their role in the company is. She added that being humble and appreciating the importance of a team is very important. The people in the startup team are the only ones that will stick by the entrepreneur when the resources are scarce but it essential to keep moving forward.</p>	
	<p><u>DECISIONMAKING</u> Kevin Rolland-Thompson, visiting scientist at The Institute of Optics, shared how in his career he witnessed companies fail because they couldn't make decisions. Making a wrong decision is better than making none.</p>
<p><u>CREATIVITY</u> Kate Washington, CEO, Enterprise Solutions International, LLC, believes that creativity is an extremely important attribute. The ability to apply your analytical background to creative ideas is an extremely valuable skill.</p>	

<p>TOLERANCE FOR RISK Dennis Kessler, the Edward J. and Agnes V. Ackley Clinical Professor of Entrepreneurship at Simon School, said entrepreneurs should be able to take calculated risks and still be able to sleep at night.</p>	
	<p>Christophe Dorrer, senior scientist at the Laboratory for Laser Energetics, said that he is very creative and is interested in being part of an entrepreneurial effort, but he doesn't necessarily want to deal with the business aspect. Dr. Rolland-Thompson shared his belief that it is not possible to be a scientist and an entrepreneur at the same time – if a scientist wants to start a business, he or she should leave science for a few years, and focus on the business.</p>
<p>Kathleen Schubach, Account Executive at IPLogic, Inc., says the entrepreneur has to think outside the box, be persistent, and network. Finding the right people that have the resources you need takes time and effort. She also shared that while twenty years ago she used to be uncomfortable speaking up, she now feels that she is doing herself a disservice if she doesn't, because what seems obvious to her could be something that others haven't even thought about.</p>	
	<p>Jon Zuegel, senior scientist at the Laboratory for Laser Energetics, said he always believed that you need to start a business to be an entrepreneur. If you look at the definition of entrepreneur as being an agent of change, though, it is clear that this can be done in many different roles.</p>

Several WiSTEE members shared their aspirations and experience in intersecting their Science, Technology, and Engineering background with Entrepreneurship.

<p>Jie Qiao, Scientist at the Laboratory for Laser Energetics (LLE), shared her connection with entrepreneurship. Witnessing her father’s experience when he started a business, Dr. Qiao realized at an early age how creating a business can change an entrepreneur’s life and the lives of many around him or her. Dr. Qiao also experienced the full technology commercialization process of her Ph.D. thesis and led the prototype development in a startup company, which further stimulated her interest in entrepreneurship and led her to pursue a MBA education in Entrepreneurship, Strategy, Marketing, and Finance while working as a research scientist at LLE. This entrepreneurial knowledge has empowered her to take an entrepreneurial view on her research and extracurricular activities including pursuing her passion for founding and growing WiSTEE.</p>	
	<p>Leva McIntire, PhD student at The Institute of Optics, said that being born in an entrepreneurial family she always shied away from business, but since starting her graduate work with an advisor who is an entrepreneur himself, she has recognized that business is a part of herself. In fact, many of the skills she picked up by being immersed in an entrepreneurial environment are very useful as she assists her advisor in grant writing.</p>
<p>Cristina Canavesi, PhD candidate at The Institute of Optics, said that she has found herself embracing entrepreneurship and actively pursuing opportunities to learn more about it, from attending the Pre-Seed Workshop twice, and doing the National Science Foundation I-Corps training, to completing an MS in Technical Entrepreneurship and Management at Simon, and more recently competing in the Simon Games and winning the first prize, a full-tuition scholarship for the Executive MBA program at Simon School.</p>	



Jannick Rolland, the Brian J. Thompson Professor of Optical Engineering at The Institute of Optics and Director of the R.E. Hopkins Center for Optical Engineering, shared what had brought her closer to entrepreneurship. As a scientist, she has often witnessed engineers develop breakthrough technologies that just sit on the shelf, and finds it heartbreaking. Seeing a couple of technologies developed in her lab ready for commercialization, Dr. Rolland enrolled in a business training at Stanford University funded by the I-Corps grant by the National Science Foundation with a business mentor, Mike Riedlinger of High Tech Rochester, and an entrepreneurial lead, Cristina Canavesi, a graduate student in her group. Over the course of two months, the team was exposed to several important business steps, including customer discovery and developing a business model canvas; they were required to interview one hundred potential customers, and they ended up talking to 107! The training at Stanford University included a lecture on storytelling led by a designer from Pixar, because developing a story for the customer is a key step for your business. Dr. Rolland also appreciates that there are several opportunities in Rochester for getting on the path of entrepreneurship, such as the Pre-Seed Workshop hosted by High Tech Rochester. She feels that getting started in business is hard – it requires a lot of energy, and networking is key.

WiSTEE members enjoyed active interactions with the invited entrepreneurs and among themselves during the networking and presentation sessions.



We gratefully thank the sponsorship from **Susan B. Anthony Center for Women Leadership**. We thank the sponsorship from **Eugene Kowaluk Photography** for capturing the moments of sharing entrepreneurial aspiration and experience.

Additional feedback received and future plans

A UR women employee at the Medical Center:

“When I completed my Masters degree (Civil/Environmental Engineering), I became aware that being able to do research was contingent on funding. At that time, I was unsure how to make that happen, or even of what was an appropriate framework to consider funding needs and pursue resources. As a current employee at the University of Rochester Medical Center, I found the 5/3/13 event very helpful. Jie's presentation demonstrated that doing academic research has a number of things in common with being an entrepreneur, including leadership, providing value, and pursuing funding. Thinking about an academic career from the perspective of an entrepreneur not only made sense, but provided me with a strategy for pursuing skills and networking to help make the research side of an academic career work. I also had the opportunity to network at the 5/3/13 WiSTEE event. In the past, I have been unsure of how to approach networking. At the 5/3/13 WiSTEE event, I found a very supportive environment for meeting others interested in the ideas behind WiSTEE and women who had faced some of the challenges I am foreseeing. I felt like not networking would have meant missing out on learning from some very interesting and accomplished people.”

From a female undergraduate student:

“I never considered how skills developed by taking a course on entrepreneurship could seem to trickle into other areas of one's life. I've always thought of it as boring and that building a business would be boring. I always thought it was for boring people leading boring lives. Boy was I wrong. A lot of energy, creativity and courage goes into making a business happen and become successful. It is quite comparable to what would be required of someone wanting to become a successful scientist. I think there is a lot to learn from the entrepreneurs in our group. I am excited to hear more from them.”

From a woman professor at the Hajim Engineering School:

“It was very interesting to see an academic career put in terms of entrepreneurship. I've never considered myself an entrepreneur, but certainly I could see the connections after Jie's presentation. I think this is great especially for students considering entering an academic career to think about.”

From an executive business woman:

“The presentation was very focused. I think Jie did a wonderful job helping the group understand the value of entrepreneurial thinking and how it can help their career and objectives.

Although I was surrounded by such brilliant researchers and thinkers working in the world of academia, I quickly realized, after sharing my day to day experience and what is second nature to me, that I probably shared some new information and ideas to the entire group and that they found my feedback helpful and could be applied to each of their own specific needs and objectives. I very much enjoyed the new connections I made and the conversations I had.”

From a women entrepreneur:

“I was so thrilled to be part of the WISTEE meeting on Friday... The opening presentation was inspiring, even giving me some new thoughts on how to grow my business. Please keep me on the list for future events.”

From a UR alumna:

“Great discussions often provide a change or expansion of viewpoint. The WISTEE Entrepreneurship event met this criterion with ease for me, including pearls such as:

- *discovering/meeting need and adding value are entrepreneurial skills worth cultivating in many areas of professional (and personal) development.*
- *there is such a great human skill set that is drawn upon in entrepreneurship including great energy, creativity, managerial skills and team building, healthy risk tolerance, resilience and flexibility.*

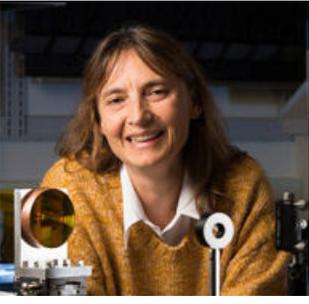
This is such an extraordinary group of women with such a range of talent, intelligence and expertise, one cannot miss networking in this setting!

It is very inspiring to hear process thinking so candidly expressed by highly successful senior faculty and entrepreneurs.”

From a women professor at the Hajim Engineering School:

“Thanks again for your efforts! In addition to the educational component of this event, it's fun to be a part of, and experience the initiation and nourishment of networking at a personal level...”

WiSTEE member news

	<p>Amy Rigatti, Optical Manufacturing Group Leader at the Laboratory for Laser Energetics, nominated as the 2013 Technology Women of the Year by Digital Rochester</p>
	<p>Bianca Jackson, Postdoctoral Research Associate at Institute of Optics, was featured in BBC news for discovering hidden fresco at Louvre using Terahertz scanner</p>
	<p>Toni Whited, Mike and Diane Jones Professor of Business Administration, Simon Business School, has been elected to be a Research Associate in the National Bureau of Economic Research in Corporate Finance.</p>
	<p>Prof. Jannick Rolland and the researchers in her group at the Institute of Optics have applied a sophisticated imaging technique to obtain the first 3D, high-resolution pictures of a recently developed type of optical lenses; results are published in the April 23 edition of Scientific Reports, a Nature Publishing Group journal</p>

If you have some good news to share with WiSTEE members, email Cristina Canavesi at canavesi@optics.rochester.edu for inclusion in the next newsletter.

Sincerely,

Cristina Canavesi, WiSTEE Secretary

Jie Qiao, WiSTEE Chair

<http://www.rochester.edu/diversity/affinity/wistee/index.html>