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Entrepreneurship in the Microscopy Community

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Scientific research and discovery often rely on commercial technology, and in many cases, new commercial technology relies on research and development in scientific labs. The annual Microscopy and Microanalysis Conference reflects this close connection between basic scientific research and entrepreneurship/business, as it includes both a heavy emphasis on academic presentations and commercial exhibition.

In this tutorial, entrepreneurs and business leaders from the microscopy community will share their experiences and perspectives on starting and operating scientific businesses. Each of the panelists will give a brief summary of their own personal journey to their current position and an overview of their company. The remainder of the session will consist of an interactive question and answer forum, including a discussion of:

- How to identify and develop potential new business opportunities
- Steps for successful commercialization
- Methods for funding the early stages of a business
- Marketing and gaining initial customers
- Protecting and leveraging intellectual property
- The role of academic collaborations
- Challenges of start-up businesses and pitfalls to avoid
- Other questions asked by the audience

Attendees will leave with a basic understanding of how to pursue scientific entrepreneurship opportunities and a few contacts of business leaders in the microscopy community who can help answer questions and provide advice.

Founded in 2007, Direct Electron was the first company to successfully develop and commercialize direct detection cameras for transmission electron microscopy (TEM). Our first direct detection TEM camera was delivered over a decade ago and recognized with the 2010 Microscopy Today Innovation Award [1]. Since then, direct detection has revolutionized TEM (especially biological cryo-EM), becoming a de facto requirement for high-performance TEM.

With several other larger companies also now manufacturing their own direct detection cameras, Direct Electron remains competitive by continuing to push the boundaries of technology and collaborating with research labs to develop new methods that take advantage of the innovative features and unprecedented performance in our own custom-designed direct detection sensors. These have enabled exciting new applications in addition to biological cryo-EM, including electron diffraction (microED), high-speed in situ TEM, ultrafast 4D STEM, and energy-filtered EBSD/TKD.

References

[1] Lyman C.E. (2010). Microscopy Today innovation awards. *Microscopy Today*, 18 (5).