



New outreaching efforts of Microscopy Society of Northeastern Ohio (MSNO) in 2015

Min Gao (Current MSNO president)

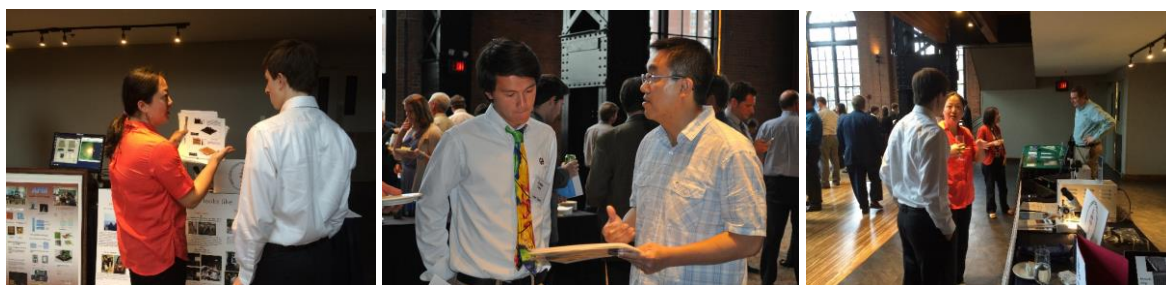
MSNO has recently started to elevate the efforts to connect with different local groups, for example, students, microscopy facilities and professionals beyond MSNO's traditional Cleveland-Akron-Kent coverage, technical societies in related fields in northeastern Ohio, local companies, etc. These efforts, initialized by the new leadership, are part of our new comprehensive approach to respond to some of the challenges faced by many of the technical societies like us. We believe that these timely adjustments combined with the strong foundation built over the years could make MSNO a more sustainable success.

MSNO, which will celebrate its 50th anniversary next year, has been an active regional group in the past and in the recent years. A well-established program includes two small annual meetings (2 talks and dinner format, with 40-70 attendees for each meeting) in winter and fall, a local May Conference (with 170-180 attendees in recent years) co-organized with 3 other local societies (with MSNO as the leading and most active party), a strong sponsorship from vendors, and an active website and LinkedIn/Facebook pages. However, we have observed a losing appeal to new members (especially students) and a lack of members willing to run for board positions. We recently joined Cleveland Technical Societies Council (CTSC, 25 local societies in Cleveland area) and Akron Council of Engineering and Scientific Societies (ACCESS, 15 local societies in greater-Akron area). Being an active members in both councils, we also noticed that similar challenges are faced by many of the regional and even national societies.

The internet era, among other things, is obviously modifying the way how knowledge is shared and how professionals and students are connected. It is currently beyond our ability to fully understand the developing trend of future of technical societies. But microscopy being a highly technical and interdisciplinary field, we believe there are still a lot of room for us to grow in a more sustainable way and to better promote microscopy and better serve the microscopy community. Starting from 2015, we plan to use a few years to implement a comprehensive set of changes to improve our operation. Our current plan includes 1) Focusing first on the members and member benefit to increase the membership value and get more members (starting with all the board members) involved in the society management; 2) reaching out to a variety of local groups (with a main emphasis on students in 2015) and finding common interests and ways to work with them; 3) creating more MSNO "hot spots" (organizations and active professionals/students) beyond the traditional Cleveland-Akron-Kent areas and facilitate them to co-organize microscopy-related events with MSNO (for example, we will have our Fall Meeting 2015 at Youngstown State University); 4) diversifying our activities starting with educational programs while adding new functions and values to the 3 traditional meetings; 5) promoting some new roles for the vendors in our new educational programs and getting them more involved in student awards and regional scholarships; 6) enhancing the visibility of regional and national microscopy societies and their impact on the regional education, research and industrial communities.

In 2015, we put our outreaching focus on students. In the following, we give a simple summary of our main activities and plans in that regard. We hope that some of our current efforts can become new MSNO traditions. We also believe that much better ideas and performance will come up by continuing with an open mind and with new people joining in.

1) Connecting with high school students and teachers. One of the main missions that CTSC and ACCESS share is to support the regional high school STEM (science, technology, engineering, and math) education partly through scholarships for some of the best high school students in northeastern Ohio. Starting by actively participating CTSC events, MSNO is exploring good ways to contribute in this very important area. In 2015, Min Gao served in CTSC scholarship committee. On May 4th, 4 MSNO members, Min Gao and Lu Zou from Liquid Crystal Institute Characterization Facility (LCICF) at Kent State University, Ina Martin from Materials for Opto/Electronics Research and Education (MORE) Center at Case Western Reserve University, and Hao Qu from Momentive Performance Materials Inc., gave a microscopy demo at the CTSC Annual Scholarship and Awards Event. An atomic force microscope from LCICF was set up as the main demo item to show a very different approach to obtain microscopic information in addition to the well-known lens imaging. Through computer presentations and printouts, we introduced a variety of microscopy techniques and challenged the students with some basic microscopy-related questions. We also had the opportunity to chat with a few high school science teachers at the event on what we could do to help. We found this event very enjoyable and the students showed a quick understanding of the materials. Some students asked very insightful questions, for example, how the electrons could influence the samples and results in electron microscopy. Planning to make this event a new tradition, we are thinking creatively how to integrate more advanced technologies (display, computer presentation, online access to remote control lab instruments, etc.) and materials into our demos and make such demos a ready-to-go routine for many similar opportunities.



Left: Lu Zou (left), a MSNO member, was explaining how AFM works to a high school student. Middle: Min Gao (right) was giving a high school junior a “serious” microscopy challenge. Right: event scene.

2) MSNO Student Awards. In 2015, MSNO started the MSNO Student Awards that honor excellent research in microscopy and microanalysis performed by MSNO student members. The first two awards were given to selected student presenters at the May Conference 2015. In addition to a moderate amount of monetary prize, each award will sponsor up to \$500 for the student to go to the national Microscopy & Microanalysis meetings. We hope that the MSNO Student Awards can help encourage high quality student research using microscopy techniques in northeastern Ohio, and increase the visibility of the national societies (MSA & MAS), and the M&M meeting.



MSNO president (Min Gao, 2nd from left) with the first MSNO Student Award winners Emmanuel Anim-Danso (left, University of Akron) and Samantha Mock/Thomas Stoner (right, Youngstown State University).

- 3) **MSNO Summer School.** As part of our efforts on educational programs and member benefits, we start a MSNO summer school program in 2015. The first one will be hosted by Liquid Crystal Institute, Kent State University on July 17th. 3 current MSNO board members (Min Gao; Adam Smith from University of Akron; and Midori Hitomi from Cleveland Clinic) will be teaching through lectures and live/video demos on light and electron microscopy of soft-matter materials, a common interest in the region. The program is planned to be free to the MSNO members. We hope that the first attempt and experience could encourage more organizations and experts to join and organize similar and upgraded events on a variety of topics under the umbrella of MSNO.
- 4) **A student board position.** The MSNO board has agreed to set up a student board position at the next MSNO board election in November, 2015. We hope this position can help us build a better connection with students and have a better understanding of what students need and what we can provide to them.
- 5) **Integrating job-networking function into MSNO events.** The job-searching question was raised by a student member early this year and is obviously a major concern of students. As a regional microscopy society, an advantage we have is that our associated microscopy and microanalysis facilities often have close connections to research organizations and local companies. We are currently seriously looking into the possibility to integrate job-networking function into the 3 MSNO meetings.

Some of the above efforts and plans, though strongly based on promoting microscopy and serving the microscopy community, are obviously leading to different directions compared to our traditional activities. Some efforts may also seem to be aimed at “big” goals, for example, fitting in and being part of the regional STEM education and other important issues. But in practice, we try to start everything with a few small steps and finish at a reasonable quality, which may help to get more people on board and go much further in building a sustainable society. As regional volunteers, we also need to use wisely our limited resources and especially work efficiently with national societies, local microscopy facilities and professionals, and vendors.

As we decide on some new directions, we often have the feeling that some new ideas would come up every time we talk to people outside our normal circle. For example, we heard not long ago that our colleagues at University of Toledo (in northwestern Ohio) have applied their S.C.O.P.E. project for years to enable pre-college students to operate SEM and confocal light microscope from their classrooms, which is certainly something we can learn or help promote in our region. That is also the reason we like to share our experience and plans so that we could hear suggestions, feedback and other societies’ experience.