Welcome to MicroTAS 2011, the 15th International Conference on Miniaturized Systems for Chemistry and Life Sciences. Now approaching two decades, this Conference is the latest in a Conference series that aims to maintain the international presence that has served as the foundation for our organization. MicroTAS has rotated between Europe/Africa, the Americas, and Asia/Oceania since its debut in Enschede, THE NETHERLANDS, in 1994. We now return to the Americas following a very successful Conference in Groningen, THE NETHERLANDS, chaired by Sabeth Verpoorte.

Amidst the breath-taking beauty of the Seattle skyline, MicroTAS 2011 continues to provide the largest international forum dedicated to the latest research advances in the science and technology of microfluidics. The four-day Conference brings together researchers from the engineering, chemical, physical and life sciences in an event that is truly multidisciplinary. While the early Conferences involved presentations from a small number of research groups, recent meetings exceed 1,000 attendees from universities and corporations from around the globe.

It is interesting how the development and use of micro- and nanotechnologies have evolved. Science and technology have a ratchet-like relationship, where science can only experience a paradigm shift following major advancements in the supporting technology – the sequencing of the human genome by capillary electrophoresis is one example. As scientific focus has changed over the last two decades, largely driven in the US by NIH roadmaps, so have the popular themes at MicroTAS Conferences. While early-on efforts focused on separations, we witnessed a constant evolution of what were once monotasking devices, to true lab-on-a-chip devices through better, faster and more cost-effective fabrication, with accurate flow control through valving and micromixers. Ultimately, this allowed for chip-based exploration of genomics, proteomics, cellomics and, more recently, led to integrated systems for studying complex biological systems. This latter arena extends beyond the study of basic biological systems, and branches into Systems Biology, Clinical Diagnostics, Point-of-Care Analysis and even into Forensics, all driven by devices that are easily operated, disposable in nature, and designed with cost-effectiveness in mind.

There are two essential ingredients in the recipe for a successful MicroTAS Conference – an excellent Technical Program, and attendees who value the opportunity to present their findings, exchange ideas and gain knowledge. An excellent Technical Program is built on quality presentations from groups around the globe. Without question, this is (and has always been) defined by an excellent, diligent and committed Technical Program Committee (TPC). With more than 1350 paper submissions this year (a new record, again), we followed in the footsteps of last years chair, Sabeth Verpoorte, and established an executive TPC (eTPC) and an extended TPC (TPC). The eTPC was a conglomerate of 22 experts covering the full breadth of microfluidics. They reviewed and scored the paper submissions, and then met in Seattle in June to discuss those that would ultimately be part of the Technical Program. The TPC was expanded from 31 last year to 45 this year to accommodate the increase in the number of paper submissions. These members, providing representation for each global region and a wide range of expertise, reviewed abstracts remotely, providing scores that contributed to the overall paper rankings - the basis for submitted paper discussions by the eTPC in June. While admitting that no system is flawless, we had a superb review team of 67 experts assuring that each paper submission was reviewed and scored independently by no fewer than 5 reviewers (some as many as 8). This, I believe, is the keystone in building a quality Technical Program, something that has long been the hallmark of the MicroTAS Conference series.
Honoured with the opportunity to chair this Conference, it is interesting for me to look back on all pieces that had to fall into place in order for MicroTAS 2011 to happen. As I do so, the saying “No man (or woman!) is an island” seems fitting, because one name is listed as ‘chair’, but the supporting cast is significant in size and indispensable in function. I extend a sincere thank you to the 67 eTPC and TPC members who handled 1350+ paper submissions with a critical eye, while being diligent, unselfish and committed to generating the framework for a high quality meeting. I believe that it is safe to say that, only through experience, can you fathom the amount of effort and time that goes into reviewing submissions, and reviewing them well. As a result of the efforts of the eTPC and TPC and with the aim of filling three parallel sessions with quality presentations, we have 92 oral presentations, flanked by 598 poster oral presentations and framed by 6 outstanding plenary lectures (two each from Europe/Africa, the Americas, and Asia/Oceania), the latter from experts that cut across disciplines on subjects either pertinent to or directly involving microfluidics.

A special thank you to the eTPC members (capably guided by group leaders Joel Voldman/Teruo Fujii, Amy Herr, Nicole Pamme and Jorg Kutter) who gathered in Seattle for ‘robust’ discussion of the submitted papers, and to finally define the program. I am grateful to the Chemical and Biological Microsystems Society (CBMS), whose Board members guided the growth of MicroTAS 2011, and in particular, Thomas Laurell, CBMS President, and Laurie Locascio, head of the TPC. Thanks also go out to Aaron Wheeler who, again, headed up a Promotions Committee that reached out to candidate MicroTAS attendees, and to a fund-raising committee, cored by Susan Barker, Don DeVoe, Jolanda Fintschenko, Chuck Henry and Amy Herr, who relentlessly sought funds to support this Conference.

Finally, I want to express my sincere thanks to Katharine Cline and her staff at PMMI, Sara Stearns and Shirley Galloway. This team makes the daunting task of chairing a major International Conference seem (almost) effortless. As you can imagine, this is critical because chairing a MicroTAS Conference is a full-time job in addition to the two or three other full-time jobs chairs already have. Katharine’s team would arrive ahead of time, set the stage, make sure all of the necessary components were set up and functional, so that (almost) all we needed to do was show up and perform – absolutely invaluable. In that sense, I suppose you could look at Katharine as the Band Manager and her team (for lack of a better term) as MicroTAS roadies. But, in fact, they are rock-stars. A heartfelt thank you.

I close by thanking you for joining us in Seattle for MicroTAS 2011. I am grateful that you have done so in an uncertain economic climate, particularly our Japanese colleagues who continue to recover from disaster. I hope you take time to enjoy the beautiful surroundings of Seattle and the Pacific Northwest with the same vigor, interest and enthusiasm that you bring to the science and technology exposition at this MicroTAS.

James Landers
Chair, MicroTAS 2011