CALL FOR PAPERS

more than printing

Digital Fabrication and Digital Printing

NIP31

September 27 - October 1, 2015
Portland, Oregon

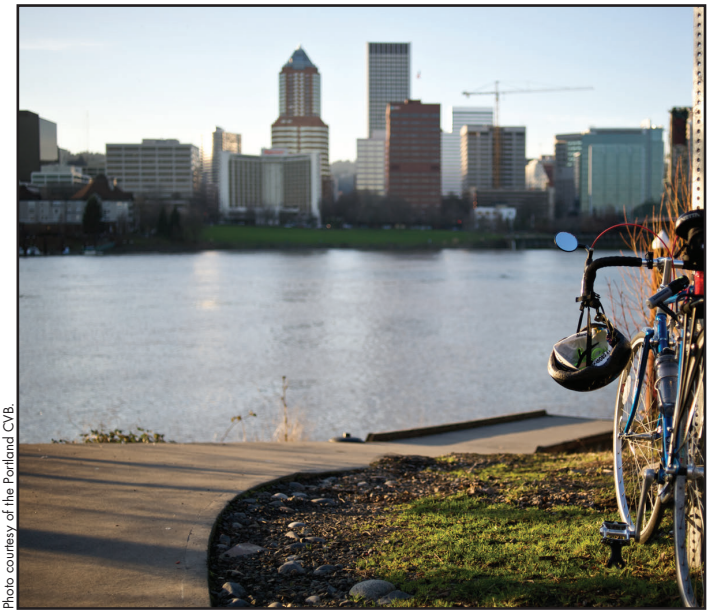

Photo courtesy of the Portland CVB.

General Chair: Masahiko Fujii, Fuji Xerox Co. Ltd.

www.imaging.org/portland

Abstract Deadline: March 20, 2015

Accepted Papers Deadline: July 7, 2015

Sponsored by the
Society for Imaging Science and Technology (IS&T) and the
Imaging Society of Japan (ISJ)

IS&T
imaging.org

The Venue
Portland, Oregon

The NIP31/Digital Fabrication conference takes place at the Portland Marriott Downtown Waterfront, on the banks of the Willamette River. It's proximity to the city's riverfront park offers lovely vistas and miles of running, biking, and walking trails. It's an easy city to navigate by foot, bike, or public transportation.

Portland is a lively, yet relaxed city known for microbrews, food carts, world-famous rose and japanese gardens, and tax-free shopping, as well as its proximity to a stunning Pacific Ocean coastline, vibrant wine making region (famous for pinot noirs and pinot gris), and the beautiful Columbia Gorge Valley and Cascade Mountains.

The city's cultural offerings include the Portland Art Museum, the Oregon Historical Society Museum, Oregon Museum of Science and Industry, and the Museum of Contemporary Crafts. There is also the lovely Lan Su Chinese Garden, an accurately built Ming Dynasty-style garden in Portland's historic Old Town Chinatown. The artsy Pearl Arts District—which houses Powell's Books, the largest bookstore in the world—offers boutiques and galleries to explore.

Portland is served by Portland International Airport (PDX), located about nine miles from the hotel.

The conference's location promises to delight all attendees, from those who love nature and the outdoors to those who love exploring cuisines of the world. To learn more about Portland, visit www.travelportland.com.

Conference Committee as of December 2014

General Chair
Masahiko Fujii, Fuji Xerox Co., Ltd.

Executive Program Chair
James Stasiak, Hewlett-Packard Company

Program Chairs
Asia & Oceania
Kye-Si Kwon, Soonchunhyang University
Teruaki Mitsuya, Ricoh Company, Ltd.
Koei Suzuki, Ricoh Company, Ltd.

The Americas
Greg Herman, Oregon State University
Jim Przybyla, Hewlett-Packard Company

Europe/Middle East
Ingo Reinhold, Xaar Jet AB
Chris Tuck, University of Nottingham

Publicity Chairs
Shinjiro Umezu, Waseda University
Jolke Perelaer, Wiley-VCH Verlag GmbH Co. KgaA

University Liaison Chair
Trevor Snyder, 3D Systems

Audio-Visual Chair
Steven V. Korol, Evolutionary Technology

Advisory Chair
Reinhard Baumann, Fraunhofer Institute for Electronic Nano Systems, ENAS, and Chemintz
University of Technology

Keep up-to-date on the details of these meetings! Join the NIP (Digital Printing)/Digital Fabrication Conference Group on LinkedIn!

A New Structure to Accommodate the Evolution of Printing

The printing industry is evolving and transforming. On one hand, familiar digital printing technologies such as inkjet and electrophotography continue to advance with improvements in print quality, color science, image processing, and workflow. However, over the last decade, we have witnessed the remarkable transformation of traditional printing technologies. The transformation has extended printing beyond marks on paper and is playing an increasingly important role in redefining fabrication and manufacturing. Adaptations of traditional printing technologies are now being used to produce and manufacture functional two- and three-dimensional devices and objects on a wide range of surfaces and substrates. These new methods are enabling new markets and changing the fabrication and manufacturing landscape.

The advances in conventional printing and the emergence of digital fabrication are both being fueled by the discovery of new materials, novel processes and methods, and easier access to high performance computing and data processing capabilities. For example, by leveraging recent advances in nanotechnology and material science, it is now possible to print high-performance electronic and photovoltaic devices, highly-sensitive chemical and biological sensors, and even biological materials and structures. Nanotechnology has also played a significant role in advancing conventional printing with the introduction of new toners, inks, substrates, and imaging techniques. More recently, the development and application of these new materials and printing methods are enabling new 3D printing and additive manufacturing technologies that promise to help launch the next industrial revolution.

Like the printing industry, the NIP and Digital Fabrication conferences continue to evolve. During the last decade, the line that divided the traditional NIP and digital fabrication communities has become increasingly blurred and new ideas and concepts are routinely shared and repurposed. In 2015 this amazing convergence of printing technologies will continue in Portland, Oregon. The goal of this conference is to bring together everyone working in the printing ecosystem—teachers, researchers, developers, practitioners, manufacturers, distributors—to share ideas, learn from each other, and be part of the next wave of the future of printing.

In an effort to reflect the evolution and transformation of our industry, next year's conference will be organized and structured to make it easier for attendees to accommodate diverse and cross-functional interests and specialties. Although the organization of next year's conference will look different, we will be continuing the tradition of offering outstanding keynote presentations that explore state-of-the-art technology topics and new industry perspectives. We will also continue to offer an excellent short course program with both introductory and advanced offerings.

The conference committee is working hard to engage the local wider Portland community to leverage the conference location and offer attendees opportunities to visit local industries and universities. If you have ideas for industry or academic lab tours, please contact us. Finally, if you would like to serve as a paper reviewer, session chair, or contribute in some other capacity, we welcome your participation. Feel free to contact the conference committee at NIP_DF@imaging.org.

We look forward to seeing you next year in Portland!

—General Chair Masahiko Fujii and Executive Program Chair James Stasiak

SUBMISSIONS IN THE FOLLOWING AREAS ARE ENCOURAGED:

Digital Printing and Fabrication Principles and Processes
- Hybrid Technologies
- Laser Imaging and Patterning
- Aerosol-based Processes
- Digital Finishing and Converting
- Metrology Tools for Digital Printing Processes
- Performance of Digital Print Products (Quality, Robustness, Permanence, Functionality)
- Pagewide Printing
- Toner-based Processes
- Inkjet-based Processes
- Thermal Printing

Physics and Chemistry of Materials
- Colloids and Colloidal Suspensions (Toner, Particles, Ink Formulation, Functionality)
- Substrates for Digital Processes (Paper, Plastics, Textiles, Ceramics, Glass)
- Ink-Substrate Interactions
- Process Materials – Machine Interactions
- Metrology for Digital Production Materials
- Environmental Sustainability

Lab2Fab
- Design/Build of Digital Production Machines
- Standardization

Digital Workflows
- Printing Services and Solutions
- RIP and Pre-Press Solutions; CAM for Digital Production
- Digital Printing Fulfillment; Digital Finishing
- Printing Systems Optimization
- Document Workflows; Custom Printing and Print Ordering

Applications
- 3D Printing/Additive Manufacturing
- Industrial Digital Printing
- Bio-Printing
- Digital Fabrication of Functional Products (Solar Cells, Displays, Sensors, Lighting)
- Electronic Paper and Paper-like Displays
- Smart Packaging & Internet of Things
- Security Printing
- Textile Printing

Short Courses and Workshops

The conference offers an extensive array of 2- to 4-hour short courses and workshops taught or organized by world-renowned experts on a wide range of subjects related to digital printing technologies.

Past classes have included: *Introduction to Digital Fabrication, Printed Electronics, Printing of Biomaterials, Industrial Ink Jet Technology for Printing and Fabrication,* and *Role of Ink Jet in Commercial and Industrial Printing.* In addition to the traditional types of course offered in past years, we are looking for instructors/experts to offer location-based and application/industry-focused classes or workshops. We are also looking for classes with a hands-on, practical nature, and/or untraditional format.

Short courses are published in the Preliminary Program. Those interested in offering a workshop or course should send a proposal to NIP_DF@imaging.org by January 20, 2015.

Networking Session and Late Breaking News Panel

The **2015 Networking Session** will appeal to those interested in collaboration/cooperation between companies working to solve problems of universal interest to the digital printing community. We are using LinkedIn to organize the 2015 Networking Session. To contribute to the discussion, join the NIP (Digital Printing)/Digital Fabrication group on LinkedIn. Once you are a member of the group, you can join the subgroup: *Collaboration for Digital Printing Partners.*

The **Late Breaking News** compiles recent success stories on the implementation of digital printing applications into manufacturing lines. Every new successful implementation strengthens the standing of our community and the general perception of digital fabrication. We encourage you to present your success story. Please, contact NIP_DF@imaging.org to do so.

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How to Submit

Submission Deadline: March 20, 2015

Please read the submission criteria carefully as it has changed from last year.

Option 1: *Journal of Imaging Science and Technology* Focused Section Submission—submit via jist.msubmit.com (NOTE: All papers submitted via Option #1 will automatically also be submitted to the conference program committee for reivew per Option #2.) Submit a complete JIST manuscript of original work in the related science and/or technology to the web address noted above; under manuscript type, select: *Focused Section NIP31/Digital Fabrication 2015*. Prior to submission, pay close attention to the Author Guidelines for Conference Focused Sections, found at www.imaging.org/ist/pdfs/JIST_Conference_Focused_Section_Guidlines.pdf. Authors will be notified by the end of May 2015. Accepted papers will be included in the conference oral presentation program. Rejected papers will still be elegible for Option #2 and do not need to be resubmitted.

Option 2: Conference Paper Submission—submit via www.imaging.org/portland Submit a technical paper representing original work in the science and/or technology related to digital printing or fabrication, to the Conference Paper web address noted above. Submissions should be based on the template provided and must include an extended abstract of approximately 500 words, clearly stating the technical content of the paper, the methods, and conclusions; if appropriate, emphasize what is new compared to previously presented/published results. You will be asked to indicate your preference for giving an oral or an interactive paper. Abstracts are peer-reviewed; authors will be notified in April 2015 as to acceptance. Accepted papers (4-6 pages in length) are published in the conference proceedings. Papers are due in electronic form by July 7, 2015. Direct submission inquiries to Diana Gonzalez at 703/642-9090, NIP_DF@imaging.org.

Special Topic Sessions

Following on the highly successful Special Sessions on Digital Biology (2013) and 3D Printing (2014), the 2015 conference will feature special sessions on the convergence of nanotechnology and printing. There will also be a session focused on recent advances in bio-printing and biofabrication. These expanded sessions feature focal presentations by industry experts. Feel free to contribute your research results by submitting papers on these topics.

Keynote Presentations

Keynote Presentations given by leaders in the industry and related scientific fields are a highlight of the conference. These talks provide attendees with broader context on industry-wide issues, important technical achievements, and/or international market trends. The 2015 keynotes will focus on how the relevance of printing and imaging continues to expand beyond traditional printing to hybrid and new systems—not only in the areas of functional applications (printed electronics, bio-printing, and 3D printing), but also in the development of new techniques for traditional processes, like electrophotography.

Technology Roundtables

Special Technology and Application Roundtables are being planned for next year. What topic would you like to discuss with leading experts from industry and academia? Past topics have included the future of digital fabrication, digital packaging, additive manufacturing, and university/industry collaboration. Send ideas to NIP_DF@imaging.org.

Exhibition Opportunity

A highlight of the conference, the exhibit features industry-leading companies and their state-of-the-art printing products and applications, including materials, inks/toners, papers, films, textiles, and test equipment.

The exhibit runs September 29-30. Early exhibitor registration rates are in effect until June 15, 2015. For information, contact Donna Smith (dsmith@imaging.org).

Digital Fabrication and Printing/NIP31: Portland, Oregon

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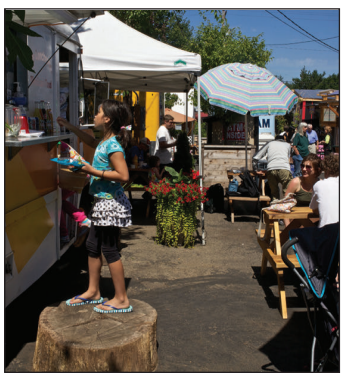

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