

Call for Papers

IS&T/SPIE 21st Annual Symposium

Electronic Imaging

Science and Technology

Conferences + Courses: 18–22 January 2009

San Jose Convention Center
San Jose, California, USA

PRESENT YOUR RESEARCH — PUBLISH IN THE WORLD BODY OF SCIENTIFIC LITERATURE



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- ▶ **Digital Imaging**
 - ▶ **Sensors and Applications**
 - ▶ **3D Imaging**
 - ▶ **Multimedia**
 - ▶ **Image Processing**
 - ▶ **Visualization and Perception**
 - ▶ **Visual Communications**
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Electronic Imaging

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San Jose Convention Center
San Jose, California, USA

PRESENT YOUR RESEARCH — PUBLISH IN THE WORLD BODY OF SCIENTIFIC LITERATURE

Showcase your latest advances and define the future of electronic imaging.

Join presenters from Hewlett-Packard, Micron Technology, Sony, Koninklijke Philips Electronics N.V, Lexmark International, Sharp, Eastman Kodak, Nokia, Xerox, Nikon, and other top organizations. Share your latest discoveries on in imaging systems, methods, instrumentation, and algorithms with top researchers from industry and academia.

Collaborate with your colleagues

Meet potential co-authors or collaborators. Get immediate, face-to-face feedback from top names in digital photography, stereoscopic displays, human vision, and more.

Publish your research

Within weeks of your presentation, your work will be published in the SPIE Digital Library and become part of the scientific literature of the world. U.S. Patent literature currently cites 34,342 SPIE publications, with 161 universities and 2,785 non-academic organizations from 43 different countries citing SPIE papers. All papers are also posted to the IS&T digital library, which is accessible for free by members.

Make your mark—join the ranks of the most innovative minds in electronic imaging.



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Left cover photo courtesy of Raytheon.

Call for Papers

Plan now to participate!

Please join us in San Jose, California, 18-22 January for Electronic Imaging 2009.

On behalf of IS&T—The Society for Imaging Science and Technology and SPIE, we would like to invite you and your colleagues to join us at the 21st Annual Symposium on Electronic Imaging. Electronic Imaging 2009 will feature 24 technical conferences covering all aspects of electronic imaging, from image sensing to display and hardcopy. Topics will include, but not be limited to, sensors, digital photography, color hardcopy, human vision, image processing and compression, image quality, image security, and multimedia imaging systems. Augmenting the oral and poster presentations will be a set of technical courses taught by experts from academia and industry. There will also be demonstrations by representatives from the imaging industry.

This year we are very excited to add three new Special Topics Conferences - Digital Cinema, Multimedia for Education and 3D Imaging Metrology—to our already expansive range of topics.

Imaging is pervasive in the human experience, be it photographs that we take in our everyday lives to those that are used in space exploration, medical imaging, entertainment, science, or national security. Electronic Imaging 2009 is the one international conference where papers on all aspects of electronic imaging are presented, and where you can develop both your career and business by networking with leading researchers and entrepreneurs in the field.

Here are ten reasons for you to join us at Electronic Imaging 2009:

1. Share your work with your peers by presenting an oral or poster paper.
2. Learn about leading edge technology and science across a broad range of imaging disciplines.
3. Gain from the insight of recognized experts in the electronic imaging field by attending the plenary sessions.
4. Network with fellow scientists, engineers, managers, and entrepreneurs.
5. Enhance your knowledge in a specific area by taking one or more of the many short courses offered.
6. Showcase your technology at a special demonstration session.
7. Participate in panel sessions that discuss the current and future states of electronic imaging technologies and products.
8. Become a vital part of the imaging community by volunteering to be a committee member at one of the many conferences.
9. Attend the receptions and coffee breaks and develop life-long relationships with other experts in industry, government, and academia.
10. Enjoy the inviting business, cultural, and entertainment offerings found in Silicon Valley.

I look forward to seeing you in San Jose and sharing with you the joy of the entire spectrum of electronic imaging.

2009 Symposium Chairs:



Nitin Sampat, Rochester Institute of Technology



Jan P. Allebach, Purdue Univ.

Call for Papers

Symposium Steering Committee:

Nitin Sampat, Rochester Institute of Technology
Jan P. Allebach, Purdue Univ.
TBA, Electronic Imaging Conference Chair Representative
Michael A. Kriss, MAK Consulting
Suzanne E. Grinnan, IS&T Executive Director
Bonnie Peterson, <<need her title>>
Ron Scotti, Consultant

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Katy Börner, Indiana Univ.
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Geraldine Cheok, National Institute of Standards and Technology
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Margaret Dolinsky, Indiana Univ.
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Reiner Eschbach, Xerox Corp.
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David Fofi, Univ. de Bourgogne (France)
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Ernest Hall, Univ. of Cincinnati
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Ketan Mayer-Patel, The Univ. of North Carolina at Chapel Hill
Michael McCarthy, National Physical Lab. (United Kingdom)
Ian E. McDowall, Fakespace Labs., Inc.
Nasir D. Memon, Polytechnic Univ.
John Merritt, The Merritt Group
Eric L. Miller, Tufts Univ.
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Valerie Nguyen, Commissariat à l'Energie Atomique (France)

Kurt S. Niel, Fachhochschule Wels (Austria)

Thrasyvoulos N. Pappas, Northwestern Univ.
Jinah Park, Information and Communications Univ. (South Korea)

Ilya Pollak, Purdue Univ.
Majid Rabbani, Eastman Kodak Co.
Fabio Remondino, ETH Zürich (Switzerland)
Reza Rejaie, Univ. of Oregon
Syed A. Rizvi, CUNY/College of Staten Island
Alessandro Rizzi, Univ. degli Studi di Milano (Italy)

Brian G. Rodricks, Fairchild Imaging
Bernice E. Rogowitz, IBM Thomas J. Watson Research Ctr.

Juha Röning, Univ. of Oulu (Finland)
Simone Santini, Univ. Autónoma de Madrid (Spain)

Raimondo Schettini, Univ. degli Studi di Milano-Bicocca (Italy)

Mark Shortis, Royal Melbourne Institute of Technology (Australia)

Robert Stevenson, Univ. of Notre Dame

Sabine Süsstrunk, École Polytechnique Fédérale de Lausanne (Switzerland)

K. S. Thyagarajan, Micro USA, Inc.

Shoji Tominaga, Chiba Univ. (Japan)

Vladimir Uskov, Bradley Univ.

Ping Wah Wong, IDzap LLC

Andrew J. Woods, Curtin Univ. of Technology (Australia)



Critical Dates

► **Abstract Due Date:**
16 June 2008

► **On-Site Proceedings Manuscript Due Date:**
27 October 2008

► **Post-Meeting Proceedings Manuscript Due Date:**
22 December 2008

► **Final Summary Due Date:**
17 November 2008

Submitting your abstract via the Web at electronicimaging.org/call ensures that your 250-word abstract, if accepted, will be published in the Abstract Digest distributed to attendees.

Please Note: Submissions imply the intent of a least one author to register, attend the symposium, and present the paper either orally or in poster format.

Submit your abstract today!

electronicimaging.org

3D Imaging, Interaction, and Measurement

Stereoscopic Displays and Applications XX (EI101)

Conference Chairs: Andrew J. Woods, Curtin Univ. of Technology (Australia); Nicolas S. Holliman, Durham Univ. (United Kingdom); John O. Merritt, The Merritt Group

Program Committee: Neil A. Dodgson, Univ. of Cambridge (United Kingdom); Gregg E. Favalora, Actuality Systems, Inc.; Takashi Kawai, Waseda Univ. (Japan); Janusz Konrad, Boston Univ.; Shojiro Nagata, Japan 3D Forum/InterVision (Japan); Vivian K. Walworth, Jasper Associates; Chris Ward, Lightspeed Design, Inc.; Michael A. Weissman, TrueVision Systems

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: 16 June 2008

Final Summary (200 words) Due: 17 November 2008

Manuscript Due: 22 December 2008

This conference focuses on recent advances in stereoscopic imaging, including 3D display hardware, computer software, algorithms, digital techniques, and applications illustrating the user-interface issues or cost/benefit trade-offs of stereoscopic 3D displays. In both real-world and computer-generated imaging applications, stereoscopic 3D display technologies can enhance the user's ability to perceive objects in their correct spatial locations, to move through display space easily, and to identify objects efficiently and accurately. The conference's parallel focus on human factors issues and applications requirements is intended to guide future display system development and task-based evaluation of 3D technologies. The conference brings together practitioners and researchers from industry and academia to facilitate an exchange of current information on stereoscopic imaging topics. Hardware demonstrations of 3D technologies and applications are strongly encouraged at the conference demonstration session. Large-screen stereoscopic projection (both still and video) will be available, and presenters are encouraged to make full use of these facilities during their presentations.

Papers are solicited for, but not limited to, the following topics:

Applications of stereoscopic displays:

We are especially interested in novel applications and in user trials of existing applications. Application areas include scientific visualization, medical imaging, teleoperation, telepresence, industrial inspection, communications, entertainment, games, broadcast/cable TV, training, CAD/CAM, molecular modeling, and advertising.

Advances in true three-dimensional display technologies:

- autostereoscopic displays, super and high-density multi-view displays, volumetric displays, mobile 3D displays, stereoscopic projection, electro-holographic, and other 3D displays
- methods for recording, playback, transmission, and processing of stereoscopic video
- stereoscopic computer graphics and stereoscopic gaming

Stereoscopic 3D digital cinema:

including production, presentation, and case studies

Digital stereoscopic imaging:

- stereoscopic and multi-view computer graphics
- image processing and compression of stereoscopic imagery
- stereoscopic image synthesis: 2D to 3D conversion, depth map generation, and multi-viewpoint generation
- transmission standards supporting digital stereoscopic images
- software and hardware issues for computer display of stereoscopic images

3D image acquisition and generation techniques:

- single- and multi-lens camera systems
- motion parallax, volume projection, graphical construction, stereoscopic computer graphics, computational photography, and other stereoscopic image generation techniques
- guidelines for stereoscopic content development

Systems design and integration of stereoscopic displays:

for teleoperation, telerobotics, telesurgery, augmented reality, virtual reality, consumer and professional broadcast, mobile infrastructure, game systems, including content delivery and interaction technologies

Human factors issues in stereoscopic display systems:

- task performance comparisons between stereoscopic and non-stereoscopic displays
- side benefits of stereoscopic display techniques
- evaluation methodologies (e.g., depth-acuity measurement) and task-performance testing
- benefits for processing and compression of stereoscopic images

User-interface issues in stereoscopic display system design

- perceptual and cognitive guidelines for stereoscopic displays
- 3D remote manipulation and control of viewpoint
- ortho-stereo, hyper-stereo, and the geometry of 3D perceptual space

Standards for stereoscopic imaging

This year will mark the 20th Anniversary conference of SD&A—a significant milestone. Several special events are being organized to mark this very special occasion.

Visit the SD&A conference website for more information: www.stereoscopic.org

Call for Papers

The Engineering Reality of Virtual Reality 2009 (EI102)

Conference Chairs: Ian E. McDowell, Fakespace Labs., Inc.; Margaret Dolinsky, Indiana Univ.

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

Virtual and augmented reality systems are evolving. In addition to research, the trend toward real applications continues and practitioners find that technologies and disciplines must be tailored and integrated for specific visualization and interactive applications. This conference serves as a forum where advances and practical advice toward this end is presented and discussed, and where research results can be presented. In addition to the general topic area, the 2007 conference is encouraging the submission of work in the following areas:

- **Industrial Applications:** Systems that solve real-world problems from a wide variety of disciplines are a mainstay of the conference. It especially promotes papers that describe systems which are important because of the problems they solve, and not the technology they use, and papers that describe systems which can quantify their utility. Practitioners in industry are highly encouraged to make submissions.
- **Compelling Experiences:** A compelling immersive experience transports the user to a place that is viscerally felt, not easily forgotten, yet completely synthetic. This requires subtle interplay between the technological and creative arts. Papers that present working systems or ongoing research into the delicate balance between these disciplines are desired.
- **Stubborn Problems:** Interaction, tracking, lag, rendering speed, field of view, resolution B these are but a few of the topic areas which vex the field every year. Papers presenting work improving the state of the art in these areas are encouraged. In addition, the 2006 conference is specifically seeking work that explores manual interaction in 3D environments.
- **Demonstrations:** A half-day joint session with the Stereoscopic Displays and Applications conference provides a welcome forum to present work with additional hands-on demonstrations. Past demonstrations have ranged from optical sub-assemblies to complete products ready for market. If desired, submitted abstracts should indicate interest in demonstration session participation.
- **Late Breaking Progress:** One to two presentations are allotted for exciting 'late breaking' work that is submitted after the formal paper deadline but within a month of the conference date. Papers reporting on work-in-progress, last minute results, or interesting but incomplete findings are welcome for these limited spots.

Peer Reviewed Papers: If you would like to submit your paper for a Reviewed Papers Section, please indicate such interest and submit a completed paper, as opposed to a simple abstract, by the abstract due date.

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Submit your abstract today!

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3D Imaging, Interaction, and Measurement

3D Imaging Metrology (EI103)

Conference Chairs: **J. Angelo Beraldin**, National Research Council Canada (Canada); **Geraldine S. Cheok**, National Institute of Standards and Technology; **Michael McCarthy**, National Physical Lab. (United Kingdom); **Ulrich Neuschafer-Rube**, Physikalisch-Technische Bundesanstalt (Germany)
Program Committee: **Burcu Akinci**, Carnegie Mellon Univ.; **Robert Bridges**, FARO Technologies Inc.; **Jan Böhm**, Univ. Stuttgart (Germany); **Simone Carmignato**, Univ. degli Studi di Padova (Italy); **Luc Cournoyer**, National Research Council Canada; **Sabry F. El-Hakim**, National Research Council Canada; **Guy Godin**, National Research Council Canada; **Tom Greaves**, Spar Point Research LLC; **Darin Ingimarson**, Quantapoint; **Kenichi Kanatani**, Okayama Univ. (Japan); **Derek D. Lichti**, Curtin Univ. of Technology (Australia); **Alan M. Lytle**, National Institute of Standards and Technology; **Hans-Gerd Maas**, Technische Univ. Dresden (Germany); **Masaaki Mochimaru**, National Institute of Advanced Industrial Science and Technology (Japan); **David Ober**, Metris, Inc.; **Norbert Pfeifer**, Technische Univ. Wien (Austria); **Steven D. Phillips**, National Institute of Standards and Technology; **Stuart Robson**, Univ. College London (United Kingdom); **Robert Sablatnig**, Technische Univ. Wien (Austria); **Kamel S. Saidi**, National Institute of Standards and Technology; **Jonathan M. Saint Clair**, Boeing Phantom Works; **Marc-André A. Soucy**, ABB, Inc. (Canada); **M. G. Vosselman**, Technische Univ. Delft (Netherlands); **Gregory C. Walsh**, Leica Geosystems HDS, LLC

Onsite Proceedings Due Dates:

Extended Abstract (2-3 pages) Due: **16 June 2008**
Manuscript due: **27 October 2008**
Final Summary Due: **17 November 2008**

Three-dimensional (3D) imaging systems are now widely available, but standards, best practices and comparative data are limited. The need for standards is mainly driven by users and product developers who are concerned with 1) the applicability of a given system to the task at hand (fit-for-purpose), 2) the ability to fairly compare across instruments, 3) instrument warranty issues, 4) costs savings through 3D imaging. This conference focuses on two topics. The first topic is the metric performance of 3D imaging sensors and algorithms where the performance of a system is usually evaluated using quality parameters such as resolution, uncertainty, accuracy and complexity. Metrology provides a framework to assess the overall performance of a system in terms of uncertainty characterization and reporting. The second topic focuses on the development of standards for 3D imaging systems.

This conference on 3D imaging metrology provides a unique forum for researchers, developers, users and policy makers to present the latest advances in 3D imaging and modeling of existing object and sites along with the most recent work in standard definitions. These 3D measurement systems, based on high speed, non-contact optical sensors, provide dense 3D surface data. Systems include 3D capture methods that use coded-light projection systems, triangulation and time-of-flight systems for distances from a few centimeters to several kilometers. This conference is in response to the rapidly growing interest in 3D imaging technology and the increase in demand of such technology and standards in applications and disciplines such as 3D modeling (e.g., structures, human body) rapid product development, manufacturing, construction, forensics, medicine, cultural heritage objects/sites documentation, and exploration of remote and hazardous sites, to name a few.

We invite submission of original research contributions, state-of-art summaries, as well as demonstrations of successful and less successful applications in, but not limited to, the following technical areas:

Performance evaluation of 3D sensing methods, sensor calibration, data processing and surface modeling

- 3D surface sensing (measurement "physics"), systems, and methods (e.g., fringe projection, time-of-flight, triangulation, dense stereo methods)
- advances in calibration techniques
- performance evaluation: artifacts, methodologies, facilities and fundamentals
- object and large volume metrology
- multiview registration and integration
- data processing (e.g., data segmentation, data cleaning, object recognition)
- modeling of deformable surfaces
- human body scanning and modeling
- validation of computer vision algorithms

Emerging and new standards for 3D imaging systems

- dimensional standards and their impact (e.g., VDI/VDE 2634, ASTM E57, ISO TC 172)
- measurement uncertainties & traceability issues
- standards & calibrations at National Metrology Institutes
- best practice (e.g., test cases, in-field checks)
- performance evaluation and calibration facilities
- free-form verification artifacts: construction, surface finish and shape
- education, training and operator capability
- policy making.

The program committee will review all submissions: please send your extended abstract in 2 pages with one illustration maximum.

Call for Papers

Videometrics X (EI104)

Conference Chairs: **Fabio Remondino**, ETH Zürich (Switzerland); **Mark R. Shortis**, Royal Melbourne Institute of Technology (Australia)

Cochair: **Sabry F. El-Hakim**, National Research Council Canada

Program Committee: **J. Angelo Beraldin**, National Research Council Canada (Canada); **Hirofumi Chikatsu**, Tokyo Denki Univ. (Japan); **Dieter Fritsch**, Univ. Stuttgart (Germany); **Joao G. M. Goncalves**, European Commission (Italy); **Armin Grün**, ETH Zürich (Switzerland); **Gabriele Guidi**, Politecnico di Milano (Italy); **Henrik G. A. Haggren**, Helsinki Univ. of Technology (Finland); **George I. Karras**, National Technical Univ. of Athens (Greece); **Hans-Gerd Maas**, Technische Univ. Dresden (Germany); **Lars S. Nyland**, Univ. of North Carolina/Chapel Hill; **Luc J. Van Gool**, Katholieke Univ. Leuven (Belgium)

Onsite Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Manuscript Due: **27 October 2008**

Final Summary (500 words) Due: **17 November 2008**

For the past thirteen years, the conference on Videometrics has been providing a unique forum for computer vision and photogrammetry researchers and practitioners to present the latest advances in precise 3D measurement and modeling from imaging and range sensors. This conference was originally focused on the metric performance of sensors and algorithms to produce the most accurate and reliable geometric measurements and models. Topics such as sensor calibration, performance evaluation, and accurate object reconstruction were prevailing. This has now been expanded to encompass all phases of 3D imaging and modeling of real scenes including automation of data collection and processing, improving the visual quality and realism, visualization, animation, and data management for real-time manipulation. This is in response to the fast growing interest in 3D imaging and modeling technology and the increase in demand of such models in applications such as rapid product development, virtual museums, documentation of monuments and architecture for cultural heritage, marketing and tourism, human body modeling, medicine, and exploration of remote and hazardous sites, to name a few.

We invite submission of original research contributions, as well as demonstrations of successful applications in, but not limited to, the following technical areas:

3D Sensing and Calibration

- 3D sensing and scanning devices, systems, and methods
- advances in practical and automatic calibration techniques
- automatic data acquisition and strategies for next best view planning
- sensor and data fusion
- performance evaluation: methodologies, facilities, standards.

3D Processing and Modeling

- precise object, site, and complex environment modeling
- image-based 3D modeling
- assessment of model quality (including view registration and surface modeling)
- automatic matching and segmentation of structured and unstructured scenes
- projective vs. perspective transformations
- range data processing and modeling
- multiview registration and integration
- modeling of deformable surfaces
- 3D medical image analysis.

Visualization

- hybrid image- and model-based rendering
- multiresolution 3D representations
- texture acquisition and integration
- viewpoint/illumination dependent texture mapping
- realistic rendering representations and techniques.

Motion Capture and Animation

- capture, storing, archiving, analysis, and display of image sequences
- procedures that facilitate the use of cameras as transducers
- image matching and tracking in motion analysis and surface deformation.

Applications

- industrial, medical, cultural heritage, entertainment,

Imaging, Visualization, and Perception

Human Vision and Electronic Imaging XIV (EI105)

Conference Chairs: **Bernice E. Rogowitz**, IBM Thomas J. Watson Research Ctr.; **Thrasivoulos N. Pappas**, Northwestern Univ.

Post-Meeting Proceedings Due Dates:

Abstract (500-1,000 words) Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

The goal of this conference is to explore the role of human vision, perception, and cognition in the design, analysis, and use of computer-based image and data systems. Over the years, it has brought together researchers from a wide variety of disciplines, from all over the world, for a rich and lively exchange of ideas. This dialogue is based on the growing understanding that the human observer is a fundamental key to the advancement of image systems, and that advances in these systems and applications stimulate new research into the vision, perception, and cognition of the human observer. Papers are welcome on basic and applied research in:

Human perception and cognition

- models and experimental research
- psychophysical, neurophysiological, and computational approaches
- fundamental contributions in spatial, temporal, and color vision
- fundamental contributions in auditory, haptic, and chemical senses
- multimodal perception (e.g., spatial/auditory interactions)
- attention, memory, and learning
- pattern recognition, visual organization, object perception.

Color perception and its applications

- computational and perceptual models of color vision
- spatial/temporal/color interactions
- perceptual approaches to device-independent color
- effective use of color.

Psychophysical evaluation of image and multimedia quality

- perceptual and cognitive evaluation of image and video quality
- perceptual metrics for compression and rendering
- audio-visual interactions.

Human vision-based algorithms for:

- still image and video compression
- image enhancement and restoration
- image halftoning and rendering
- computer graphics and animation.

Image analysis and perception

- image semantics, segmentation, and representation
- perception of shape, texture, and color features
- perceptual approaches to multimedia retrieval for digital libraries
- perceptual image and video similarity metrics
- visually-intuitive navigation through large databases
- human vision-based approaches to face, gesture, and gait recognition.

Perceptual issues in visualization and virtual reality

- interactive exploration of data
- visual cues for data mining
- perceptual scaling and visual organization
- incorporating intelligence into interactive systems.

Art, aesthetics, and emotion in electronic imaging systems

- exploiting perception in art
- emotion and aesthetics in human-computer interfaces.

Perceptual approaches in life sciences and medical imaging

- perceptual features for data representation and analysis
- image rendering and visualization
- diagnostically-lossless medical image compression.

Biological vision and comparative physiology

Visual prosthesis technology

Brief description of the work (suggested length 500-1000 words):

- What problem does this work address?
- How is this work novel or innovative?
- Relation to the literature (a few key references)
- How is this related to perception/cognition?
- What are the experimental or analytical methods and procedures?
- What are the main outcomes, observations, results?
- A figure or two that best summarizes the work, is encouraged, but not required.
- A full paper can be attached, but is not required.

Conference information may also be found at www.ece.northwestern.edu/~pappas/hvei

Call for Papers

Color Imaging XIV: Displaying, Hardcopy, Processing, and Applications (EI106)

Conference Chairs: **Reiner Eschbach**, Xerox Corp.; **Gabriel G. Marcu**, Apple Computer, Inc.; **Shoji Tominaga**, Chiba Univ. (Japan); **Alessandro Rizzi**, Univ. degli Studi di Milano (Italy)

Program Committee: **Jan P. Allebach**, Purdue Univ.; **Scott J. Daly**, Sharp Labs. of America, Inc.; **Phil J. Green**, London College of Communication (United Kingdom); **Roger-David Hersch**, École Polytechnique Fédérale de Lausanne (Switzerland); **Choon-Woo Kim**, Inha Univ. (South Korea); **Michael A. Kriss**, Consultant; **Fritz Lebowsky**, STMicroelectronics (France); **Nathan Moroney**, Hewlett-Packard Co.; **Chris Tuijn**, Agfa-Gevaert Group (Belgium)

Onsite Proceedings Due Dates:

Abstract Due: **16 June 2008**

Manuscript Due: **27 October 2007**

Final Summary (200 Words) Due: **17 November 2008**

Color imaging is a highly active and rapidly evolving area. New understanding of visual color processes along with the availability of ever more powerful computational resources enables the exploration of novel approaches to the processing and reproduction of color images, both on soft-copy display, as well as on hardcopy devices. Advances in both digital image processing and printing now enable short run color printing to challenge high quality offset by allowing a dynamic, image-adaptive approach to rendering. In soft-copy display, the advance of adaptive gamut and tone mapping, dynamic contrast, adaptive power usage and color management continue to support the unprecedented development of the display hardware spreading from mobile displays to large size screens.

This conference provides an opportunity for presenting, as well as getting acquainted with the most recent developments in color imaging technologies and applications. Focus of the conference is on color image input, color image output and rendering, color image automation, emphasizing color in context and color in images, and on the reproduction of images across local and remote devices. The conference covers software, media, and systems. Special attention is given to applications and requirements created by new disciplines.

Areas of interest include:

- image processing for color input, softcopy/hardcopy output and electronic publishing: halftoning, data compression and artifact reduction, automatic color correction, image preference processing (automatic as well as user-guided), visual tolerance, quantization
- color reproduction: spatial aspects of color, color in context, color reproduction across devices, network color management, color appearance, color preference and estimation, chromatic adaptation, computational color science, high dynamic range imaging and tone mapping, wide gamut imaging systems, wide pixel encoding and image processing pipelines
- device modeling and characterization: scanners, digital cameras, displays, systems, color models, lookup table methods, color conversion algorithms, gamut mapping, color correction,

device limitations, device characterization, methodology, color metrology

- effects of extra-spectral attributes: paper UV fluorescence, infra-red behavior, etc. and their influence on rendering
- systems and architectures: device independent color implementation in commercial systems, color management, color matching device drivers, system performance, imaging workflow
- applications of color hard and soft copy: medical imaging, cartography, fine arts, use of color in documents, new communications media, knowledge delivery
- color image encoding and standards: interchange languages, file formats, color encoding, ICC profiles
- representation and encoding of compound documents: mixed raster content, multiplane imaging models, document compression.

Critical Dates

► **Abstract Due Date:**
16 June 2008

► **On-Site Proceedings Manuscript Due Date:**
27 October 2008

► **Post-Meeting Proceedings Manuscript Due Date:**
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Imaging, Visualization, and Perception

Image Quality and System Performance VI (EI107)

Conference Chairs: Susan P. Farnand, Rochester Institute of Technology; Frans Gaykema, Océ Technologies B.V. (Netherlands)

Program Committee: Peter D. Burns, Carestream Health, Inc.; Majed Chambah, Univ. de Reims Champagne-Ardenne (France); Luke C. Cui, Lexmark International, Inc.; Mark D. Fairchild, Rochester Institute of Technology; Dirk W. Hertel, Sensata Technologies, Inc.; Robin Jenkins, Revision Technology, Inc.; Sang Ho Kim, Samsung Electronics Co. (South Korea); Lindsay W. MacDonald, London College of Communication (United Kingdom); Yoichi Miyake, Chiba Univ. (Japan); Göte S. Nyman, Univ. of Helsinki (Finland); D. René Rasmussen, Xerox Corp.; Sophie Triantaphillidou, Univ. of Westminster (United Kingdom); Eric K. Zeise, Eastman Kodak Co.

Onsite Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Manuscript Due: **27 October 2008**

Final Summary (200 words) Due: **17 November 2008**

We live in a visual world where images have tremendous power. They can efficiently convey information, trigger emotion, and entertain. Because of this power, imaging systems have been developed to serve many applications from marketing to security, from medicine to entertainment. Traditional imaging systems evolve and create opportunities for new applications. Traditional printing goes digital. Traditional display technology goes 3D. The power of images rests directly on the quality of the images and the systems that produce them. This conference brings together industrial and academic engineers and scientists who strive to understand what makes a quality image and how to assess the requirements and performance of modern imaging systems. We include applications throughout the imaging chain including image capture, processing, and output, whether print or display. Abstracts are welcome which describe recent developments in the following and related areas:

Image quality attributes characterization and measurement

- advances in perceptual image quality understanding
- color and spatial attribute characterization and metrics
- interactions between, or integration of, visual attributes
- image defect perception, classification and simulation
- tools and instrumentation to quantify visual attributes
- digital versus analogue techniques.

Subjective image quality evaluation

- psychophysical scaling, modeling and metrics
- preference measurement and modeling
- image quality survey design and analysis (traditional or web-based)
- vision based modeling of image quality perception
- multimedia system evaluations
- applications of subjective evaluation methods.

Image quality evaluation for emerging technologies

- readability of electronic paper, mobile display, and signage
- image quality analysis of viewing experiences for head mounted display, 3D display, gaming, and digital cinema
- image quality evaluation for usability (e.g. medical imaging, automotive vision, and remote sensing)
- metrics for imaging device performance.

System performance measurement and modeling

- linking perceptual image quality to system performance parameters
- advances in image acquisition, sampling and encoding
- extraction of image quality measures from digital images
- measurement of print and display microstructure (dots, edges, color, resolution, distortion, etc)
- technology dependent characterization (banding, streaking, defective pixels, etc)
- image noise analysis and color error propagation
- methods for system performance benchmarking
- balancing image quality against cost, features and reliability
- statistical methods for system performance specification.

Image quality standards for capture, print, and display

- emerging standards for image quality
- performance of existing and proposed standards
- poorly defined or ambiguous attributes that would benefit from standardization.

Call for Papers

Visualization and Data Analysis 2009 (EI108)

Conference Chairs: **Katy Börner**, Indiana Univ.; **Jinah Park**, Information and Communications Univ. (South Korea)

Cochairs: **Matti T. Gröhn**, Ctr. for Scientific Computing (Finland); **Ming C. Hao**, Hewlett-Packard Labs.; **Jonathan C. Roberts**, Bangor Univ. (United Kingdom); **Pak C. Wong**, Pacific Northwest National Lab.

Program Committee: **Uwe Brinkschulte**, Univ. Karlsruhe (Germany); **Paul Craig**, Napier Univ. (United Kingdom); **Steve Eick**, Visual Insights; **Robert F. Erbacher**, Utah State Univ.; **Zhanping Liu**, Mississippi State Univ.; **Joerg Meyer**, Univ. of California/Irvine; **Hans-Georg Pagendarm**, Deutsches Zentrum für Luft- und Raumfahrt e.V. (Germany); **Alex T. Pang**, Univ. of California/Santa Cruz; **Aaron J. Quigley**, National Univ. of Ireland/Dublin (Ireland); **Deborah E. Silver**, Rutgers Univ.; **Kalpathi R. Subramanian**, The Univ. of North Carolina at Charlotte; **Yinlong Sun**, Purdue Univ.; **J. Edward Swan II**, Naval Research Lab.; **Yingcai Xiao**, Univ. of Akron; **William J. Yurcik**, Univ. of Illinois at Urbana-Champaign

Onsite Proceedings Due Dates:

Full Paper for Review Due: **16 June 2008**

Final Manuscript Due: **27 October 2008**

Final Summary Due: **17 November 2008**

This conference covers all aspects of visualization and issues affecting successful visualizations. The conference has grown rapidly over the years and has attracted participants from throughout the world. Submissions are peer reviewed with an acceptance rate of ~50% making the quality of the conference and its publications extremely high. We invite you to contribute quality papers covering research results as well as works-in-progress.

The papers from this conference will be published in a bound Proceedings available from SPIE. Authors of the best papers in the conference will have the option of having extended versions of their papers reviewed for publication in the Journal of Electronic Imaging or a future special issue of the Journal of Electronic Imaging focusing on visualization. Additional information can be found at: <http://vv.indiana.edu/vda2007/>.

Sample topics include, but are not limited to:

- Internet imaging, medical imaging, image processing
- biomedical visualization and applications
- Internet, web, and security visualizations
- analysis techniques and data mining
- data exploration using classical and novel approaches
- databases and visualization
- high-performance computing and parallel rendering

- tools and applications exemplified by case studies
- virtual environments and data visualization
- information and scientific visualization
- volume and flow visualization
- interaction paradigms and human factors.

The conference organizers will also accept suggestions on poster-only presentations, panel topics, and suggestions for invited speakers. Full papers for review are due 16 June 2008. Please contact Mirja Salminen (mirjas@spie.org) or Jinah Park (jinah@icu.ac.kr) if you have any questions or require further information.

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Image Processing

Real-Time Image and Video Processing (EI109)

Conference Chairs: Nasser Kehtarnavaz, The Univ. of Texas at Dallas; Matthias F. Carlsohn, Computer Vision & Image Communication (Germany)

Program Committee: Mohamed Akil, École Supérieure d'Ingénieurs en Électronique et Électrotechnique (France); Chang Y. Choo, San José State Univ.; Reiner Creutzburg, Fachhochschule Brandenburg (Germany); Philip P. Dang, STMicroelectronics; Sergio R. Goma, ATI Technologies Inc. (Canada); Christos Grecos, Univ. of Central Lancashire (United Kingdom); Rastislav Lukac, Univ. of Toronto (Canada); Antonio Núñez Ordóñez, Univ. de Las Palmas de Gran Canaria (Spain); Volodymyr I. Ponomaryov, Instituto Politécnico Nacional (Mexico); Fatih M. Porikli, Mitsubishi Electric Research Labs.; Luis L. Salgado, Univ. Politécnica de Madrid (Spain); Mukul V. Shirvaikar, The Univ. of Texas at Tyler; Stephan Stilkerich, EADS Astrium GmbH (Germany); Shan Suthaharan, The Univ. of North Carolina System; Leonid P. Yaroslavsky, Tel Aviv Univ. (Israel)

Post-Meeting Proceedings Due Dates:

Full Paper for Review Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

Real-time image and video processing involves algorithmic, hardware, and software aspects of making an image or video processing system to operate in real-time. The SPIE Real-Time Image and Video Processing Conference is the only conference that is dedicated to the subject of real-time image and video processing. It is intended to be the field catalyst bringing together scientists and researchers from industry and academia working in real-time image and video processing to present recent research results pertaining to new real-time algorithmic, hardware, and software approaches as well as real-time system designs and applications.

Papers addressing real-time issues are solicited but not limited to the following topics:

- real-time image and video processing algorithms
- real-time embedded image/video processing systems
- real-time image and video processing hardware including FPGA, DSP, GPU, GPP, ASIC, SoC, and SiP implementations
- real-time software optimizations and related design paradigms
- real-time image and video processing applications including digital and cell-phone cameras, machine vision, video surveillance, image and video compression for transmission and for database storage and retrieval, smart cameras, medical imaging, spectral imaging, etc.

Image Processing: Algorithms and Systems VII (EI110)

Conference Chairs: Jaakko T. Astola, Tampere Univ. of Technology (Finland); Karen O. Egiazarian, Tampereen Teknillinen Yliopisto (Finland)

Program Committee: Til Aach, RWTH Aachen (Germany); Sos S. Agaian, The Univ. of Texas at San Antonio; Junior Barrera, Univ. de São Paulo (Brazil); Reiner Creutzburg, Fachhochschule Brandenburg (Germany); Paul D. Gader, Univ. of Florida; Atanas P. Gotchev, Tampere Univ. of Technology (Finland); John C. Handley, Xerox Corp.; Vladimir V. Lukin, National Aerospace Univ. (Ukraine); Stephen Marshall, Univ. of Strathclyde (United Kingdom); Françoise J. Prêteux, TELECOM & Management SudParis (France); Giovanni Ramponi, Univ. degli Studi di Trieste (Italy); Jagath K. Samarabandu, The Univ. of Western Ontario (Canada); Akira Taguchi, Musashi Inst. of Technology (Japan)

Post-Meeting Proceedings Due Dates:

Extended Abstract (1000 words) or

Full Paper Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

The conference Image Processing: Algorithms and Systems VII continues the tradition of the conferences Nonlinear Image Processing and Pattern Analysis in exploring new image processing algorithms. It also reverberates the growing call for integration of the theoretical research on image processing algorithms with the more applied research on image processing systems.

Specifically, the conference aims at highlighting the importance of interaction between linear, nonlinear, and transform-based approaches for creating sophisticated algorithms and building modern imaging systems for new and emerging applications.

The conference chairs and program committee invite high-quality submissions of papers discussing new results in, but not limited to, the following topics:

Methods

- linear filtering
- morphological filtering
- stack and median-type filtering
- transforms and denoising
- wavelets
- multiresolution
- statistical modeling
- estimation
- fuzzy systems
- neural networks
- genetic and evolutionary computing
- logic-based algorithms
- graph theoretic methods
- interpolation, scaling, morphing

Applications and Systems in

- machine vision
- visual and multimedia communications
- biomedical image processing
- microarray imaging
- data fusion
- human-machine interaction.

Note: Please follow the submission instructions and submit a 1000-word abstract plus Figures, Tables, etc., clarifying your approach. Full-length manuscript submission (8-12 pages) is highly encouraged in order to help the peer-reviewing process.

Call for Papers

Applications of Artificial Neural Networks in Image Processing XII (EI111)

Conference Chairs: **Nasser M. Nasrabadi**, Army Research Lab.; **Syed A. Rizvi**, CUNY/College of Staten Island

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Final Summary (200 words): **17 November 2008**

Manuscript Due: **22 December 2008**

Recent advances in neural networks and kernel-based learning theory has resulted in a large number of parallel techniques and nonlinear models for real-world applications. Kernel-based learning theory allows one to solve complex nonlinear vision problems using simpler learning algorithms. Kernel-based methods can be used to extend the conventional linear algorithms to nonlinear versions. Kernelization of a large number of image processing algorithms are currently under investigation. Neural networks are parallel arrays of simple processing units that can be used for computationally complex tasks such as image processing, machine vision, and computer vision. Neural network models have been applied in low-level image processing, clustering techniques for image coding, image restoration and reconstruction, nonlinear image filtering, target detection, radar imaging, medical imaging, document analysis, character, signature, face and object recognition.

The focus of this conference is on the emerging applications of neural networks and machine learning to image processing. The objective is to bring together researchers in the field of neural networks, machine learning and image processing to exchange ideas on their applications. Papers are solicited in the following areas:

- applications of neural networks in low-level image processing, filtering, image enhancement, compression segmentation, coding, and image reconstruction
- nonlinear filtering and neural network predictors
- object recognition, target recognition and face recognition
- neural-network-based character recognition, document image processing, medical image processing
- stochastic optimization algorithms applied to vision
- fuzzy clustering, fuzzy neural networks and their applications
- support vector machine, kernel clustering, kernel feature extraction, kernel principal component analysis, kernel-based discriminant analysis algorithms
- kernel-based learning algorithms applied to image processing applications
- Gaussian processes, committee models, Bayesian modeling and parameter estimation, data fusion
- Independent component analysis, blind source decomposition, dimensionality reduction procedures, and neural network clustering
- time-series networks and their applications.

Computational Imaging VII (EI112)

Conference Chairs: Charles A. Bouman, Purdue Univ.; Eric L. Miller, Tufts Univ.; Ilya Pollak, Purdue Univ.

Program Committee: Samit Basu, GE Global Research; Thomas S. Denney, Jr., Auburn Univ.; Peter C. Doerschuk, Cornell Univ.; Peyman Milanfar, Univ. of California/Santa Cruz; Joseph A. O'Sullivan, Washington Univ. in St. Louis; Zygmunt Pizlo, Purdue Univ.; Stanley J. Reeves, Auburn Univ.; Yongyi Yang, Illinois Institute of Technology

Post-meeting Proceedings Due dates:

Abstract (500 words) Due: 16 June 2008

Final Summary (200 words) Due: 17 November 2008

Manuscripts Due: 22 December 2008

An ever increasing number of imaging modalities critically depend on computers in the image formation process. Relevant applications arise in fields as diverse as medical imaging, geophysical exploration, environmental monitoring, remote sensing, crystallography, and nondestructive evaluation. The imaging problems in these and related areas are remarkably similar in terms of the algorithmic tools required from disciplines such as computed tomography, inverse methods, statistical estimation, and more traditional image processing tasks such as segmentation, mosaicing, and image modeling. In all cases, the imaging pipelines depend on computationally demanding algorithms for the rendering of high-quality images from the available data. Typically, such computational imaging systems require the solution of inverse problems to determine the desired image or characteristics of the unknown scene.

This conference focuses on algorithms and methods for optimizing the performance and quality of computational imaging methods and systems. The conference emphasizes the interplay between the mathematical theory, physical models, and computational algorithms that make these systems effective. Publications are solicited on topics ranging from fundamental theory to system level implementation. Areas of particular interest include:

Algorithmic Methods

- inverse methods
- Bayesian estimation methods
- projections onto convex sets (POCS)
- cross validation techniques
- multiscale processing and modeling
- optimization algorithms
- multigrid algorithms
- parameter and hyperparameter estimation
- imaging system modeling and simulation
- processing and validation on field data

Motivating Problem Classes

- deblurring and high-resolution rendering
- image recovery
- image mosaicing
- image and color transformations
- computed tomography
- positron emission tomography
- confocal microscopy
- synthetic aperture radar
- acoustic imaging
- electrical resistance and impedance imaging
- imaging through scattering media
- optical coherence imaging
- optical diffusion imaging
- crystallography
- inverse problems in image analysis
- inverse problems in vision and perception

Driving Applications

- medical imaging and image guided surgery
- geophysical exploration
- environmental remediating and monitoring
- nondestructive test and evaluation
- remote sensing
- surveillance, tracking and target identification
- microscopy.

Document Recognition and Retrieval XVI (EI113)

Conference Chairs: **Kathrin Berkner**, Ricoh Innovations, Inc.; **Laurence Likforman-Sulem**, Ecole Nationale Supérieure des Télécommunications (France)

Program Committee: **Gady Agam**, Illinois Institute of Technology; **Tim L. Andersen**, Boise State Univ.; **Apostolos Antonacopoulos**, Univ. of Salford (United Kingdom); **Elisa H. Barney-Smith**, Boise State Univ.; **Xiaoqing Ding**, Tsinghua Univ. (China); **David S. Doermann**, Univ. of Maryland/College Park; **Jianying Hu**, IBM Thomas J. Watson Research Ctr.; **Matthew F. Hurst**, Intelliseek, Inc.; **Tapas Kanungo**, Yahoo! Inc.; **Xiaofan Lin**, Riya, Inc.; **Daniel P. Lopresti**, Lehigh Univ.; **Hiroshi Sako**, Hitachi, Ltd. (Japan); **Lambert R. B. Schomaker**, Univ. of Groningen (Netherlands); **Sargur N. Srihari**, Univ. at Buffalo; **Venkata Subramaniam**, IBM India Research Lab. (India); **Kazem Taghva**, Univ. of Nevada/Las Vegas; **George R. Thoma**, National Library of Medicine; **Alessandro Vinciarelli**, IDIAP Research Inst. (Switzerland); **Berrin Yanikoglu**, Sabanci Univ. (Turkey)

Onsite Proceedings Due Dates:

Abstract (5-7 pages) Due: **16 June 2008**

Manuscript Due: **27 October 2008**

Final Summary (200 words): **17 November 2008**

We are pleased to announce the 16th Document Recognition and Retrieval Conference (DRR), to be held 18-22 January 2009, in San Jose, CA, USA. DRR is an international conference for state-of-the-art research in document recognition and retrieval, for offline, online and web documents. The conference is part of the *Electronic Imaging Symposium*, which brings together researchers from various backgrounds related to electronic imaging for an exciting research event. For the second year, the *Best Student Paper will be selected among papers whose lead authors are full-time students*. Additional details and updated information of this conference can be found at <http://www.drr2008.org>.

Recognizing handwritten or degraded machine print documents (e.g. faxed and old/historical documents) remains as a challenging problem. Beyond OCR, document recognition includes the recovery of a document's logical structure and format. With successful layout analysis and recognition, document recognition aims to fully reconstruct a document in electronic form, in its original format (fonts, layout etc.). Among the remaining challenges for machine-printed documents are complex layouts (text written on images, complex backgrounds, etc.) and robust recognition of tables and equations, while handwritten documents written with unconstrained writing style pose a challenge. Furthermore, converting line drawings in a document from raster to vector format, creating graphical objects endowed with semantic meaning, is another goal of document recognition. Documents with online handwriting (where the image is accompanied with temporal information, as in Tablet PCs) and Web documents pose both similar and new challenges, as two "new" classes of documents.

We are soliciting papers describing algorithms and systems in all aspects of document recognition, for offline, online and Web documents. Since the primary reason for digitizing existing paper materials is to simplify retrieval and organization of information, we are particularly interested in papers which address any of the following issues: (1) retrieval in the face of corrupted readings of the terms in a document; (2) retrieval based on sketches, images, tables, diagrams or other non-linguistic objects that appear in the document; (3) retrieval based on text appearing with non-standard

alignment, in images or graphics; (4) recognition and tagging of mathematical arrays and equations which serve as indicators of subject content or methodology used in the document; (5) novel methods for retrieval and organization of information based on text or other information in a document. Papers addressing retrieval-specific issues are encouraged to use a standard methodology from either statistics (such as the ROC representation) or IR (such as precision versus recall) to assess the effectiveness of proposed techniques against the endpoint goal of correct recognition and retrieval of the entire document, or a section thereof.

Papers are solicited in, but not limited to, the following areas:

Document Recognition:

- document segmentation and layout analysis
- machine-print and handwritten text recognition (degraded documents such as faxed or old/historical documents, multilingual documents, etc.)
- identification and recognition of tables or equations
- graphics recognition (for line-art, maps, and technical drawings)
- web document recognition and analysis (including wikis and blogs)
- video-, camera-, and mobile phone-based OCR (recognition of text from natural scenes, analysis and recognition for mobile phone applications)
- algorithms, systems, and quality assurance methods towards large-scale digital libraries
- filtering, enhancement, and compression techniques for document images
- document degradation models
- document analysis and synthesis for digital publishing (template reuse and layout generation for new contents)

Document Retrieval:

- keyword spotting in document images
- approximate string matching algorithms for OCR'd text
- nontextual retrieval and search in multimedia databases
- summarization of text documents and imaged documents
- text categorization from imaged documents
- retrieval of noisy text documents (messages, blogs, etc.)
- information extraction from forms
- recovery and use of logical structure for retrieval
- cross-language and multi-lingual retrieval
- benchmarking and evaluation issues
- relevance feedback techniques for document retrieval
- impact of recognition accuracy on retrieval effectiveness
- techniques to support spoken language access to document text (audio browsing of document databases).

Notes: Submissions to Document Recognition and Retrieval XV should be abbreviated papers (5-7 pages). The paper should be informative and make sure to address the following questions: i) What is the paper about? ii) What is the original contribution? iii) What is the most closely related work by others and how does this work differ? iv) What are the main experimental/theoretical results? A list of detailed submission guidelines is available at <http://www.drr2008.org>

If you are qualified and would like to compete for the Best Student Paper, please indicate in the abbreviated paper. Full papers (10-12 pages) will be needed for the final proceedings. Please contact Berrin Yanikoglu (berrin@sabanciuniv.edu) or Kathrin Berkner (berkner@rii.ricoh.com) for questions related to the conference.

Digital Imaging Sensors and Applications

Sensors, Cameras, and Systems for Industrial/Scientific Applications X (EI114)

Conference Chairs: **Erik Bodegom**, Portland State Univ.; **Valérie Nguyen**, Commissariat à l'Energie Atomique (France)

Program Committee: **Morley M. Blouke**, Ball Aerospace & Technologies Corp.; **Terrence S. Lomheim**, The Aerospace Corp.; **Kevin J. Matherson**, Hewlett-Packard Co.; **Gloria G. Putnam**, Eastman Kodak Co.; **Alice L. Reinheimer**, e2v; **Nobukazu Teranishi**, Matsushita Electric Industrial Co., Ltd. (Japan); **Bruce True**, Intevac, Inc.; **Penny G. Warren**, Ball Aerospace & Technologies Corp.

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

Solid state optical sensors and solid state cameras have established themselves as the imaging systems of choice for many scientific and industrial applications. The advantages of low-power, low-noise, high-resolution, high-geometric fidelity, broad spectral sensitivity, and extremely high quantum efficiency have lead to a number of revolutionary uses.

This conference will focus on current work in the areas of solid state detectors, solid state cameras, and novel applications with emphasis given to the following subjects:

- large format and mosaic imagers for astronomical and medical applications
- high frame rate sensors for adaptive optics, plasma diagnostics, confocal microscopy, motion capture, and neural imaging
- CCDs, CIDs, and CMOS sensors and camera integration
- HDTV cameras and sensors
- new and novel processes for making CCD and CMOS arrays
- system-on-chip solutions for smart sensors and applications
- CMOS process and design enhancements for next generation active pixel sensors
- low-power imagers for portable applications
- color imaging sensors and cameras with improved dynamic range and resolution
- linear arrays used in cameras for industrial and airborne applications
- color and hyperspectral imaging sensors and sensor systems
- amorphous and polycrystalline silicon arrays for non-destructive test and medical imaging
- active pixel sensors and cameras
- smart sensors and applications
- sensors and cameras enhanced for increased UV and IR response
- e-beam, x-ray, EUV, and charge particle arrays and applications
- novel imaging devices and applications
- CMOS and CCD TDI arrays and applications
- new optical systems for improved photon collection, resolution, optical image processing.

You are invited to submit papers on any of the above or related topics.

Call for Papers

Digital Photography V (EI115)

Conference Chairs: Brian G. Rodricks, Fairchild Imaging; Sabine E. Süsstrunk, École Polytechnique Fédérale de Lausanne (Switzerland)
Program Committee: Eiji Atsumi, Nokia Japan Co., Ltd. (Japan); Peter B. Catrysse, Stanford Univ.; Ted J. Cooper, Foveon, Inc.; Jeffrey M. DiCarlo, Hewlett-Packard Labs.; Joyce E. Farrell, Stanford Univ.; Boyd A. Fowler, Fairchild Imaging; Michael A. Kriss, Consultant; Jingqiang Li, Qualcomm, Inc.; Russel A. Martin, Foveon, Inc.; Kevin J. Matherson, Hewlett-Packard Co.; Gloria G. Putnam, Eastman Kodak Co.; John R. Reinert-Nash, Lifetouch, Inc.; Nitin Sampat, Rochester Institute of Technology; Dietmar Wueller, Image Engineering (Germany); Feng Xiao, Motorola, Inc.

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

Digital photography is experiencing explosive growth both in the consumer and professional markets. Digital camera sales have exceeded multi-use film camera sales for several years, and in 2004, cell-phone camera sales exceeded both digital and film camera sales combined. Due to the many advances, by way of new component technologies and image processing techniques, digital photography has become a reality for consumers and professionals alike.

This conference serves to bring together researchers, scientists, and engineers working in the imaging field to describe recent progress in digital photography and all its relevant areas, from capture, processing, color, compression, transmission and applications, to photo-finishing and hard and soft output.

Papers are solicited in the following areas:

Image sensor technologies

- sensor advancements
- pixel design
- signal conditioning
- filter design
- CFA (color filter array) layouts
- micro-lens and lens design
- camera on a chip

Sensor and system characterization

- pixel characterization
- sensor characterization
- crosstalk and vignetting
- ADC characterization
- lens characterization
- IR, UV, anti-aliasing filter

Image processing technologies

- autofocus and autoexposure
- illuminant estimation and correction
- noise suppression and sharpening
- demosaicing
- tone correction and color correction
- image enhancement algorithms
- compression
- image rendering

Applications and solutions

- home printing
- digital photo-finishing
- image kiosks
- on-line photo services
- embedded imager platforms
- product photography
- archival photography

Mobile imaging

- cell-phone and PDA cameras
- size, power, and processing issues
- storage, distribution, display and printing
- mobile imaging standards
- multimedia applications
- camera module usage patterns

Rendering technologies

- profiling techniques
- color management
- soft and hard copy rendering
- perceptual and colorimetric renderings
- high-dynamic range renderings

Imaging standards

- image communications
- ISO speed, MTF, and color image encodings
- image storage technologies
- file formats and image metadata.

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Please Note: Submissions imply the intent of at least one author to register, attend the symposium, and present the paper either orally or in poster format.

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Digital Imaging Sensors and Applications

Image Processing: Machine Vision Applications II (EI116)

Conference Chairs: **Kurt S. Niel**, Fachhochschule Wels (Austria); **David Fofi**, Univ. de Bourgogne (France)

Program Committee: **Pierrick T. Bourgeat**, Commonwealth Scientific and Industrial Research Organisation (Australia); **Michael J. Cree**, The Univ. of Waikato (New Zealand); **Marc M. Ellenrieder**, Carl Zeiss Optronics GmbH (Germany); **Lixin Fan**, Nokia Research Ctr. (Finland); **Ewald Fauster**, Polymer Competence Ctr. Leoben GmbH (Austria); **Steven P. Floeder**, 3M Co.; **Luciano F. Fontoura Da Costa**, Univ. de São Paulo (Brazil); **Ralph M. Ford**, The Pennsylvania State Univ.; **Edmund Y. Lam**, The Univ. of Hong Kong (Hong Kong China); **Fabrice Meriaudeau**, Univ. de Bourgogne (France); **Dinesh Nair**, National Instruments Corp.; **Jeffery R. Price**, Oak Ridge National Lab.; **A. Ravishankar Rao**, IBM Thomas J. Watson Research Ctr.; **Joaquim Salvi**, Univ. de Girona (Spain); **Hamed Sari-Sarraf**, Texas Tech Univ.; **Ralph Seulin**, Univ. de Bourgogne (France); **Kenneth W. Tobin, Jr.**, Oak Ridge National Lab.; **Yvon Voisin**, Univ. de Bourgogne (France)

Post-Meeting Proceedings Due Dates:

Abstract (500 Words) Due: **16 June 2008**

Final Summary (200 words) Due: **17 November 2008**

Manuscript Due: **22 December 2008**

The goal of this conference is to bring together real-world practitioners and laboratory researchers in machine vision to share recent applications and developments. Topics of interest include the integration of imaging sensors, supporting hardware, computers, and algorithms for manufacturing inspection, characterization, and/or control. The decreased cost of computational power and vision sensors has motivated the rapid proliferation of machine vision technology in a variety of industries. Examples of such industries include aluminum, automotive, forest products, textiles, glass, steel, metal casting, and chemicals. Other industries, such as semiconductor and electronics manufacturing, have been employing machine vision technology for several years. Machine vision supporting handling robots is another main topic for industrial applications. There is need of accurate, fast and robust detection of objects and their position in space. Their surface, the background and illumination is uncontrolled, in most cases the objects of interest are within a bulk of many others. For both new and existing industrial users of machine vision, there are numerous innovative methods to improve productivity, quality, and compliance with product standards.

There are several broad problem areas that have received significant attention in recent years. For example, some industries are collecting enormous amounts of image data from product monitoring systems. New and efficient methods are required to extract insight and to perform process diagnostics based on this historical record. Regarding the physical scale of the measurements, microscopy techniques are nearing resolution limits in fields such as semiconductors, biology, and other nanoscale technologies. Techniques such as resolution enhancement, model-based methods, and statistical imaging may provide the means to extend these systems beyond current capabilities. Furthermore, obtaining real-time and robust measurements in-line or at-line in harsh industrial environments is a challenge for machine vision researchers, especially when the manufacturer cannot make significant changes to their facility or process.

Abstracts are sought that are related to both novel applications of existing methodology and/or new algorithms or techniques. Abstracts are encouraged from, but not limited to, the following list of topics:

- image processing algorithms and applications
- image-related pattern recognition techniques and applications
- image-related data mining and knowledge discovery
- three-dimensional imaging (stereo, structure-from-motion, laser range finding)
- thermal, color, and/or spectroscopic imaging algorithms and applications
- novel hardware designs
- vision system architectures
- imaging and inspection in harsh environments
- machine vision for process control/diagnosis, trend analysis, or preventative maintenance
- high-throughput systems for medical or biological applications
- case studies on the impact of machine vision in manufacturing
- machine vision applications for industrial research and development
- machine vision supporting handling robots.

Abstract submissions should be ~500 words in length and should contain all of the following information: (1) a clear problem statement and motivation for the work, (2) methods, (3) experimental results (these may be preliminary), and (4) a summary or conclusion. Submissions that do not meet these requirements will not be considered. All abstracts will be peer reviewed. Papers of exceptional quality will be invited to submit revised, extended drafts to the IS&T/SPIE Journal of Electronic Imaging.

There will be a Best Paper Award within this conference.

Call for Papers

Intelligent Robots and Computer Vision XXVI: Algorithms and Techniques (EI117)

Conference Chairs: **David P. Casasent**, Carnegie Mellon Univ.; **Ernest L. Hall**, Univ. of Cincinnati; **Juha Röning**, Univ. of Oulu (Finland)

Program Committee: **Norbert Lauinger**, CORRSYS 3D Sensors AG (Germany); **Dah Jye Lee**, Brigham Young Univ.; **Charles A. McPherson**, The Charles Stark Draper Lab., Inc.; **Kurt S. Niel**, Fachhochschule Wels (Austria); **Yoshihiko Nomura**, Mie Univ. (Japan); **Greg Pearly**, BAE Systems; **Wolfgang Pölzleitner**, Sensotech GmbH (Austria); **Daniel Raviv**, Florida Atlantic Univ.; **Neelima Shrikhande**, Central Michigan Univ.; **Oliver Sidla**, Sensotech GmbH (Austria); **Bernard L. Theisen**, U.S. Army Tank-automotive and Armaments Command; **Dili Zhang**, Monotype Imaging

Onsite Proceedings Due Dates:

Abstract Due: **16 June 2008**

Manuscript Due: **27 October 2008**

Final Summary Due: **17 November 2008**

This meeting will focus on new algorithms and techniques for intelligent robots and computer vision with emphasis on algorithms and techniques. With computer vision, the conference is focused on the development of the science of computer imaging, theory, algorithms, paradigms and applications.

This conference emphasizes intelligent robotics, new computer vision and pattern recognition algorithms and applications in robotics and product inspection, modeling of human visual processing, learning for swarms of robots, etc. In 2008, we plan several major sessions on new advances in intelligent mobile robots (systems, navigation, obstacle avoidance, route planning, etc.) with emphasis on results obtained in diverse government and other programs. New sessions are also planned on detection and tracking of people and vehicles in complex environments, product inspection, cognitive learning strategies and systems, autonomous multi-vehicle collaboration and vehicle automation and enhanced safety through driver assisted aids for manned and unmanned vehicles for the military and automotive applications.

Papers are solicited specifically for the following topics:

- intelligent mobile robot methods and advancements (tracking, scene analysis, path planning, obstacles)
- autonomous multi-vehicle collaboration
- cognitive learning strategies and systems (intelligent robots that adapt, learn, and manage complexity)
- people and vehicle recognition and tracking
- computer vision algorithms and applications for intelligent robots
- tracking and scene analysis for intelligent vehicles
- product inspection, testing, and assembly
- intelligent packaging, processing, and material handling
- segmentation for object location and obstacle avoidance for intelligent robots
- pattern recognition and image processing for computer vision and robotics

- active vision and real time techniques
- color image processing
- image understanding and scene analysis
- object modeling and recognition
- 3D vision: modeling, representation, perception, processing, and recognition; predictive 3-D vision
- industrial applications
- novel sensors for intelligent robots.

Intelligent Robots and Computer Vision Best Student Paper Awards

Awards will be given for Best Oral and Poster Paper Presentation for student authors. For award consideration, the student author or co-author must present the paper and verify their student status to the session chair. Awards will be based on relevance, creativity, theoretical and experimental quality, and presentation effectiveness.

Critical Dates

► **Abstract Due Date:**
16 June 2008

► **On-Site Proceedings Manuscript Due Date:**
27 October 2008

► **Post-Meeting Proceedings Manuscript Due Date:**
22 December 2008

► **Final Summary Due Date:**
17 November 2008

Submitting your abstract via the Web at electronicimaging.org/call ensures that your 250-word abstract, if accepted, will be published in the Abstract Digest distributed to attendees.

Please Note: Submissions imply the intent of at least one author to register, attend the symposium, and present the paper either orally or in poster format.

Digital Imaging Sensors and Applications

Digital Cinema (EI118)

Conference Chair: **K.S. Thyagarajan**, Micro USA, Inc.

Cochairs: **David Long**, Rochester Inst. of Technology; **Barry Sandrew**, Legend Films, Inc.

Post-Meeting Proceedings Due Dates:

Abstract Due: **16 June 2008**

Final Summary Due: **17 November 2008**

Manuscript Due: **22 December 2008**

Distribution of movies in digital format is gaining ever increasing importance, thanks to the advancements in digital compression techniques, digital projection technology and host of other supporting casts. Hundreds of theaters around the country have already been equipped for digital cinema shows. The commercial side of digital cinema is driven by large cost reduction in movie distribution in digital format, higher visual quality, rich experience by the moviegoers and simulcasts of other entertainment programs. As an emerging technology, there is great scope for innovation in several aspects of this exciting field ranging from movie production to mastering to distribution.

This conference emphasizes all aspects of producing and distributing movies in digital format. Topics of interest include but not limited to telecine conversion, high quality image and video compression, movie editing software, format conversions, visual quality assessment, encryption techniques, digital projection technology, black & white to color conversion algorithms and software. These include:

Telecine Technology

- equipments
- software capability.

Film Quality HD Camcorders

- camcorders
- storage devices
- lighting.

Image & Video Compression

- motion transparent techniques
- intra and interframe techniques suitable for cinema quality
- advancement in human visual perception
- visual quality based compression
- lossless compression methods
- format conversions
- metadata and transport mechanism.

Software Editing

- high-end tools for editing
- algorithms and software for BW to color conversion
- parallel processing.

Visual Quality Assessment

- measures of quality suitable for digital cinema
- subjective evaluation of quality
- automatic detection of compression artifacts and rectification
- modulation transfer function.

Theater Management System

- automating screen projection
- business model for theater management using digital projection
- digital projection
- digital distribution.

Security Issues

Audio for Digital Cinema

Multimedia Processing and Applications

Multimedia Computing and Networking 2009 (EI119)

Conference Chairs: **Reza Rejaie**, Univ. of Oregon; **Ketan D. Mayer-Patel**, The Univ. of North Carolina at Chapel Hill

Program Committee: **Tarek F. Abdelzaher**, Univ. of Illinois at Urbana-Champaign; **Kevin C. Almeroth**, Univ. of California/Santa Barbara; **Scott A.**

Brandt, Univ. of California/Santa Cruz; **Surendar Chandra**, Univ. of Notre Dame; **Mark Claypool**, Worcester Polytechnic Institute; **David H. Du**, Univ. of Minnesota; **Wu-chi Feng**, Portland State Univ.; **Pascal Frossard**, École Polytechnique Fédérale de Lausanne (Switzerland); **Christos Gkantsidis**, Microsoft Ltd.; **Carsten Griwodz**, Simula Research Lab. (Norway); **Yang Guo**, Thomson Lab.; **Pål Halvorsen**, Simula Research Lab. (Norway); **Seon Ho Kim**, Univ. of Denver; **Baochun Li**, Univ. of Toronto (Canada); **Kang Li**, The Univ. of Georgia; **Andreas U. Mauthe**, Lancaster Univ. (United Kingdom); **Klara Nahrstedt**, Univ. of Illinois at Urbana-Champaign; **Wei-Tsang Ooi**, National Univ. of Singapore (Singapore); **Karsten Schwan**, Georgia Institute of Technology; **Subhabrata Sen**, Univ of Massachusetts/Amherst; **Nalini Venkatasubramanian**, Univ. of California/Irvine; **Dongyan Xu**, Purdue Univ.; **Zhi-Li Zhang**, Univ. of Minnesota; **Roger Zimmermann**, National Univ. of Singapore (Singapore); **Michael H. Zink**, Univ. of Massachusetts/Amherst

Onsite Proceedings Due Dates:

Full Paper for Review Due: **16 June 2008**

Final Manuscript Due: **27 October 2008**

Final Summary (200 words) Due: **17 November 2008**

In cooperation with  ACM SiGMultimedia

For 16 years, the multimedia computing and networking conference has brought together researchers, practitioners and developers to contribute new ideas in all facets of multimedia systems, networking, applications, and other related areas of computing. Traditionally the conference features presentations of full and short papers, a keynote talk, and a panel of experts. Presenters are encouraged to make multimedia presentations and demonstrate their proposed solutions. Authors of a few accepted papers with the highest quality are invited to submit the extended version of their papers to a special issue of *ACM/Springer Multimedia Systems Journal*.

Original papers on all emerging technologies and traditional areas of multimedia, including but not limited to:

Multimedia Systems

- multimedia OS services
- power-aware systems
- video-on-demand services
- mixed and augmented reality systems.

Measurement and Modeling

- performance measurement of multimedia systems
- statistical modeling of server traffic and server software
- multimedia system simulations and benchmark comparisons.

Multimedia Networking

- home, mobile and broadband networks
- QoS control and scheduling
- push technologies and content distribution
- peer-to-peer media systems
- Internet data streaming, delivery and wide-area caching
- multimedia security and rights management.

Case Studies and Applications

- multimedia search engines
- entertainment and networked games
- distributed augmented and virtual reality
- multimedia authoring.

Authors are invited to submit both research and industrial papers on original, unpublished work that is not currently under submission at any other conference. Papers whose contributions are supported by experimental evaluations are strongly encouraged. Both full and short papers are considered. Full paper submissions should not exceed 12 single-spaced, single column pages including figures, tables, and references, using a typeface no smaller than 10 points. Short paper submissions should not exceed 8 pages. All papers must be electronically submitted to the conference website at <http://www.electronicimaging.org>. Please also submit a 500-word text abstract with your paper submission that includes your topic area.

Submit your abstract today!

electronicimaging.org

Multimedia Processing and Applications

Media Forensics and Security XI (EI120)

Conference Chairs: **Edward J. Delp III**, Purdue Univ.; **Jana Dittmann**, Otto-von-Guericke-Univ. Magdeburg (Germany); **Nasir D. Memon**, Polytechnic Univ.; **Ping Wah Wong**, IDzap LLC
Program Committee: **Adnan M. Alattar**, Digimarc Corp.; **Mauro Barni**, Univ. degli Studi di Siena (Italy); **Jeffrey A. Bloom**, THOMSON Corporate Research; **Hany Farid**, Dartmouth College; **Jessica Fridrich**, Binghamton Univ.; **Ton Kalker**, Hewlett-Packard Co.; **Andrew D. Ker**, Univ. of Oxford (United Kingdom); **Benoit Macq**, Univ. Catholique de Louvain (Belgium); **Bangalore S. Manjunath**, Univ. of California/Santa Barbara; **Pierre Moulin**, Univ. of Illinois at Urbana-Champaign; **Bülent Sankur**, Bogaziçi Univ. (Turkey); **Gaurav Sharma**, Univ. of Rochester; **Qibin Sun**, A*STAR Institute for Infocomm Research (Singapore); **Claus Vielhauer**, Fachhochschule Brandenburg (Germany); **Sviatoslav V. Voloshynovskiy**, Univ. de Genève (Switzerland); **Min Wu**, Univ. of Maryland/College Park

Post-Meeting Proceedings Due Dates:

Extended Abstract (2,500 words) Due: **16 June 2008**
Final Summary (200 words) Due: **17 November 2008**
Manuscript Due: **22 December 2008**

The availability of multimedia content in digital form and the distribution of this content across the worldwide web and wireless systems have brought a number of security issues to the forefront. The importance of these issues has promoted research and innovative applications of secure technologies in the context of multimedia creation, distribution, usage and forensics.

This conference provides an opportunity for researchers and practitioners to present their work as well as to keep abreast with the latest developments in security and forensics. Areas of interest include, but are not limited to:

- digital watermarking algorithms
- digital forensic methods and systems
- steganography and steganalysis
- media authentication
- media encryption
- attacks on digital watermarks
- theoretical aspects of information hiding
- content protection systems
- applications and benchmarking of watermarks
- implementations of security and watermarking systems
- watermarking protocols and systems
- secure publishing systems
- digital rights management (DRM) systems
- biometrics
- standardization aspects (e.g., MPEG IPMP and MPEG-21)
- legal implications of watermarking and/or security systems.

Multimedia Content Access: Algorithms and Systems III (EI121)

Conference Chairs: **Raimondo Schettini**, Univ. degli Studi di Milano-Bicocca (Italy); **Ramesh C. Jain**, Univ. of California/Irvine; **Simone Santini**, Univ. Autónoma de Madrid (Spain)

Cochairs: **Alan Hanjalic**, Technische Univ. Delft (Netherlands); **Nicu Sebe**, Univ. van Amsterdam (Netherlands); **Edward Y. Chang**, Google, Inc. (Taiwan); **Theo Gevers**, Univ. van Amsterdam (Netherlands)

Program Committee: **Kiyoharu Aizawa**, The Univ. of Tokyo (Japan); **Noboru Babaguchi**, Osaka Univ. (Japan); **Nozha Boujemaa**, INRIA Rocquencourt (France); **Tsuhan Chen**, Carnegie Mellon Univ.; **Tat-Josef Chua**, National Univ. of Singapore (Singapore); **Rita Cucchiara**, Univ. degli Studi di Modena e Reggio Emilia (Italy); **Alberto Del Bimbo**, Univ. degli Studi di Firenze (Italy); **Ajay Divakaran**, Sarnoff Corp.; **Chitra Dorai**, IBM Thomas J. Watson Research Ctr.; **Arun Hampapur**, IBM Thomas J. Watson Research Ctr.; **Alexander G. Hauptmann**, Carnegie Mellon Univ.; **Alejandro Jaimes**, IDIAP (Switzerland); **Mohan S. Kankanhalli**, National Univ. of Singapore (Singapore); **John R. Kender**, Columbia Univ.; **Josef Kittler**, Univ. of Surrey (United Kingdom); **Anil C. Kokaram**, The Univ. of Dublin, Trinity College (Ireland); **Clement H. C. Leung**, Victoria Univ. of Technology (Australia); **Michael S. Lew**, Univ. Leiden (Netherlands); **Rainer W. Lienhart**, Univ. Augsburg (Germany); **Alan F. Smeaton**, Dublin City Univ. (Ireland); **John R. Smith**, IBM Thomas J. Watson Research Ctr.; **Hari Sundaram**, Arizona State Univ.; **Ahmet M. Tekalp**, Univ. of Rochester; **Qi Tian**, The Univ. of Texas at San Antonio; **Alain Tremau**, Univ. Jean Monnet Saint-Etienne (France); **Joost van de Weijer**, Univ. van Amsterdam (Netherlands); **Luc J. Van Gool**, Katholieke Univ. Leuven (Belgium); **Svetla Venkatesh**, Curtin Univ. of Technology (Australia); **Marcel Worring**, Univ. van Amsterdam (Netherlands); **Lei Zhang**, Microsoft Research Asia (China); **Andrew Zisserman**, Univ. of Oxford (United Kingdom)

Onsite Proceedings Due Dates:

Extended Abstract (5,000 words) Due: **16 June 2008**
Manuscript Due: **27 October 2008**
Final Summary (200 words) Due: **17 November 2008**

Modern computer technology has brought multimedia to the limelight as a new communication form, quite possibly the first original communication form of the computer age. Today, “being multimedia” is a real possibility for almost any computer user, and the communicative possibilities that will ensue from this fact will have an impact in a wide range of fields. To benefit from this potential, developers need reliable techniques for the analysis, search, and management of multimedia data, as well as distributed system architectures in which these techniques can be embedded to effectively help the users. The purpose of this conference is to create an international forum to address the research challenges and opportunities of multimedia content analysis, management and retrieval. We are soliciting high quality submissions to present new and daring ideas, question established paradigms and unwritten rules, and introduce new and original research directions in the following (and related) areas:

Call for Papers

Multimedia on Mobile Devices 2009 (EI122)

Content Analysis:

- image, audio and video characterization (feature extraction)
- fusion of text, image, video and audio data
- content parsing, clustering and classification
- semantic modeling
- image, video and audio similarity measures
- object and event detection and recognition
- content analysis methods and algorithms
- benchmarking of content analysis methods and algorithms
- affective content analysis
- image and video quality assessment

Content Management and Delivery:

- multimedia databases
- multimedia standards
- peer-to-peer storage and search techniques
- indexing and data organization
- system optimization for search and retrieval
- storage hierarchies, scalable storage
- personalized content delivery

Content Search/browsing/retrieval:

- multimedia data mining
- active learning and relevance feedback
- query models
- browsing and visualization
- search issues in distributed and heterogeneous systems
- benchmarking search, browsing, and retrieval algorithms and systems
- generation of video summaries and abstracts
- cognitive aspects of human/machine systems

Internet Imaging and Multimedia:

- peer-to-peer imaging systems for the internet
- content creation and presentation for the internet
- web cameras: impact on content analysis techniques
- interactive multimedia creation for the internet
- content rating, authentication, non-repudiation, and cultural differences in content perception
- web crawling, caching, and security
- multimedia on the semantic web
- user interfaces
- mobile visual information processing and management

Applications:

- commerce
- medicine
- news
- entertainment
- geovisualization
- wearable and ubiquitous computing
- management of meetings
- biometrics
- cultural heritage and education
- collaborative systems and multi-device
- security
- gestural information systems.

The conference program will include invited keynote speakers, invited special sessions, and a panel of experts who will be discussing the research challenges related to multimedia content analysis, management and retrieval.

Conference Chairs: **Reiner Creutzburg**,

Fachhochschule Brandenburg (Germany); **David Akopian**, The Univ. of Texas at San Antonio

Program Committee: **Sos S. Agaian**, The Univ. of Texas at San Antonio; **Linda Breitlauch**, Mediadesign Hochschule Düsseldorf (Germany); **Jianfei Cai**, Nanyang Technological Univ. (Singapore); **Alan Chalmers**, Univ. of Bristol (United Kingdom); **Surendar Chandra**, Univ. of Notre Dame; **Chang Wen Chen**, Florida Institute of Technology; **Kenneth J. Crisler**, Motorola, Inc.; **David S. Doermann**, Univ. of Maryland/College Park; **Uwe Dummann**, Siemens AG (Germany); **Elizabeth Dykstra-Erickson**, Kinoma, Inc.; **Stefan Edlich**, Technische Fachhochschule Berlin (Germany); **Lajos Hanzo**, Univ. of Southampton (United Kingdom); **Zhihai He**, Univ. of Missouri/Columbia; **Hendrik O. Knoche**, Univ. College London (United Kingdom); **Xin Li**, West Virginia Univ.; **Manzur M. Murshed**, Monash Univ.; **Sethuraman Panchanathan**, Arizona State Univ.; **Kari A. Pulli**, Nokia Research Ctr. Cambridge; **Matthias Rautenberg**, Technische Univ. Eindhoven (Netherlands); **Phillip A. Regalia**, Institut National des Télécommunications (France); **Thomas Schwotzer**, Fachhochschule Brandenburg (Germany); **Olli J. Silvén**, Univ. of Oulu (Finland); **Jarmo H. Takala**, Tampere Univ. of Technology (Finland); **Kaisa A. Väänänen-Vainio-Mattila**, Tampere Univ. of Technology (Finland); **Haitao Zheng**, Univ. of California/Santa Barbara

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due: 16 June 2008

Final Summary (500 words) Due: 17 November 2008

Manuscript Due: 22 December 2008

The goal of this conference is to provide an international forum for presenting recent research results on multimedia for mobile devices, and to bring together experts from both academia and industry for a fruitful exchange of ideas and discussion on future challenges.

Submissions are solicited on, but not limited to, the following topics on mobile and ubiquitous multimedia:

- multimedia signal processing and modern compression for mobile devices
- streaming mobile multimedia
- new compression techniques for mobile devices
- novel energy efficient architectures and algorithms for mobile multimedia
- protocols, and algorithms to cope with mobility, roaming, limited bandwidth, or intermittent connectivity for mobile multimedia
- case studies, field trials and evaluations of new applications and services for mobile multimedia
- HCI, interaction design and techniques, user-centered studies for mobile devices
- wearable computers
- new displays for mobile and ubiquitous multimedia, intelligent, aware, proactive, and attentive environments, perception, sensing, and modeling of the environment
- middleware and distributed computing support for mobile and ubiquitous multimedia
- power issues when transmitting multimedia content
- mobile healthcare
- mobile computer graphics
- mobile games and entertainment
- novel adaptive/context-aware/mobile/ubiquitous/ambient/wireless multimedia applications and systems
- m-commerce and m-learning systems
- Digital Rights Management for mobile applications.

For more information on this and other related conferences, please see www.electronicimaging.org

Multimedia Processing and Applications

Multimedia for Education 2009 (EI123)

Conference Chairs: **Reiner Creutzburg**, Fachhochschule Brandenburg (Germany); **Vladimir L. Uskov**, Bradley Univ.

Program Committee: **Ignacio Aedo Cuevas**, Univ. Carlos III de Madrid (Spain); **Mario Allegra**, Consiglio Nazionale delle Ricerche (Italy); **Luis E. Anido Rifon**, Univ. de Vigo (Spain); **Elena Barbera Grigori**, Univ. Oberta de Catalunya (Spain); **Linda Breitlauch**, Mediadesign Hochschule Düsseldorf (Germany); **Daniel Burgos Solans**, Open Univ. Nederland (Netherlands); **Helmar Burkhardt**, Univ. Basel (Switzerland); **Katy Campbell**, Univ. of Alberta (Canada); **Virginia Cano**, WBL Consulting (United Kingdom); **Jan Cerny**, Univ. of Calgary (Canada); **Vicki L. Cohen**, Fairleigh Dickinson Univ.; **Thomas M. Connolly**, Univ. of the West of Scotland (United Kingdom); **David E. Cook**, Polytechnic of Namibia (Namibia); **Alexandra I. Cristea**, Univ. of Warwick (United Kingdom); **Paul Dan A. Cristea**, Univ. Politehnica Bucharest (Romania); **George Dafoulas**, Middlesex Univ. (United Kingdom); **Barney Dalgarno**, Charles Stuart Univ. (Australia); **Alessandro D'Atri**, LUISS Guido Carli Univ. (Italy); **Giuliana Dettori**, Consiglio Nazionale delle Ricerche (Italy); **Federico Flueckiger**, Scuola Univ. Professionale della Svizzera Italiana (Switzerland); **Angel Garcia del Dujo**, Univ. de Salamanca (Spain); **Brian J. Garner**, Deakin Univ. (Australia); **Alexander Gelbukh**, Instituto Politécnico Nacional (Mexico); **Denis Gillet**, École Polytechnique Fédérale de Lausanne (Switzerland); **Katie Goeman**, Vrije Univ. Brussel (Netherlands); **Angela Goh**, Nanyang Technological Univ. (Singapore); **Kazuaki Goshi**, Kyushu Univ. (Japan); **Igor Hawryszkiewycz**, Univ. of Technology/Sydney (Australia); **Maung M. Htay**, Radford Univ.; **Brian G. Hudson**, Sheffield Hallam Univ. (United Kingdom) and Umeå Univ. (Sweden); **William J. Hunter**, Univ. of Ontario Institute of Technology (Canada); **Horace H. S. Ip**, City Univ. of Hong Kong (Hong Kong China); **Samuel N. Kamin**, Univ. of Illinois at Urbana-Champaign; **Akihiro Kashihara**, The Univ. of Electro-Communications (Japan); **Lisa Kervin**, Univ. of Wollongong (Australia); **Gurprit Kindra**, Univ. of Ottawa (Canada); **Kinshuk**, Massey Univ. (New Zealand); **R. J. Koper**, Open Univ. Nederland (Netherlands); **Roberto Moriyon**, Univ. Autónoma de Madrid (Spain); **Noritaka Osawa**, National Institute of Multimedia Education (Japan); **Carlos E. Palau Salvador**, Univ. Politècnica de Valencia (Spain); **George M. Papadourakis**, Technological Educational Inst. of Crete (Greece); **F. L. Pontecorvo**, ITESM-CSF (Mexico); **Valeri Pougatchev**, Univ. of Technology Jamaica (Jamaica); **Ekaterina Prasolova-Foerland**, Norwegian Univ. of Science and Technology (Norway); **Jerzy Rutkowski**, Politechnika Śląska (Poland); **Graeme Salter**, Univ. of Western Sydney (Australia); **Demetrios Sampson**, Univ. Piraeus (Greece); **Richard L. Schumaker**, Univ. System of Maryland; **Nikola Serbedzija**, Fraunhofer Inst. für Rechnerarchitektur und Softwaretechnik (Germany); **Leonid B. Sheremetov**, Instituto Mexicano del Petróleo (Mexico); **Miguel A. Sicilia**, Univ. de Alcalá de Henares (Spain); **Robert O. Slater**, Univ. of Louisiana at Lafayette; **Marcus M. Specht**, Open Univ. Nederland (Netherlands); **Judith B. Strother**, Florida Institute of Technology; **W. Tarng**, National Hsin-Chu Teachers College (Taiwan); **Chin-Chung Tsai**, National Chiao Tung Univ. (Taiwan); **Kaisa A. Väinänen-Vainio-Mattila**, Tampere Univ. of Technology (Finland); **Yu-Mei Wang**, The Univ. of Alabama at Birmingham; **Maia Wentland Forte**, Univ. de Lausanne (Switzerland)

Post-Meeting Proceedings Due Dates:

Abstract Due: 16 June 2008

Final Summary (200 words) Due: 17 November 2008

Manuscripts Due: 22 December 2008

The goal of this conference is to provide an international forum for presenting recent research results on multimedia for education, and to bring together experts from both academia and industry for a fruitful exchange of ideas and discussion on future challenges. As keyboards replace chalkboards, the Web's impact on traditional educational theories and practices is increasingly apparent. It has transformed and expanded the conventional boundaries of education. New innovations such as virtual colleges, laboratories, and universities are creating an abundance of additional areas of study. These include innovative hardware and software technology, online testing and assessment, training and teaching applications, and courseware design and development.

WBE 2007 aims to provide scholars, faculty, researchers, and administrators in all web-based educational areas with an excellent opportunity to convene with colleagues from approximately 50 countries and discuss innovative ideas, results, and outcomes of research in this new and exciting field. All papers submitted to this conference will be peer evaluated by at least two reviewers. Acceptance will be based primarily on originality of ideas and approaches, uniqueness and completeness of research, and significance of contribution.

Submissions are solicited on, but not limited to, the following topics on mobile and ubiquitous multimedia:

- Web-based education (WBE) and Web-based training
- online education and training
- e-learning and e-training
- innovative teaching and learning technologies for Web-based education
- streaming multimedia applications in Web-based education
- communication technology applications in Web-based education
- mobile e-learning
- collaborative e-learning
- e-pedagogy
- Web-lecturing technology
- innovative Web-based teaching and learning technologies
- virtual reality applications in Web-based education
- scientific Web-based laboratories and virtual labs
- software and hardware systems for Web-based education
- authoring systems for Web-based education
- multi-agent technology applications in Web-based education
- design and development of online courseware
- reusable learning objects for Web-based education
- educational portals for Web-based education
- virtual universities and colleges
- online degree and certificate programs
- quality issues of Web-based education
- testing and assessment issues of Web-based education
- best practices of Web-based education
- national policies and strategies on Web-based education

Call for Papers

- national projects on virtual universities and Web-based education
- international projects and international collaboration on Web-based education
- academia/industry collaboration on Web-based training
- corporate Web-based training
- Web-based methods and tools in traditional, open, and distance education
- blended education and training
- faculty development on Web-based education
- funding opportunities for projects in Web-based education
- case studies, field trials and evaluations of new applications and services for multimedia supported learning
- HCI, interaction design and techniques, user-centered studies for multimedia supported learning
- mobile computer graphics, games and entertainment
- novel adaptive/context-aware/mobile/ubiquitous/ambient/wireless • multimedia in learning
- m-commerce and m-learning systems.

For more information on this and other related conferences, please see www.electronicimaging.org

Critical Dates

- **Abstract Due Date:**
16 June 2008
- **On-Site Proceedings Manuscript Due Date:**
27 October 2008
- **Post-Meeting Proceedings Manuscript Due Date:**
22 December 2008
- **Final Summary Due Date:**
17 November 2008

Submitting your abstract via the Web at electronicimaging.org/call ensures that your 250-word abstract, if accepted, will be published in the Abstract Digest distributed to attendees.

Please Note: Submissions imply the intent of at least one author to register, attend the symposium, and present the paper either orally or in poster format.

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Visual Communications and Image Processing

Visual Communications and Image Processing 2009 (EI124)

Conference Chairs: **Majid Rabbani**, Eastman Kodak Co.; **Robert L. Stevenson**, Univ. of Notre Dame

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Onsite Proceedings Due Dates:

Extended Abstract (4 pages) Due: **16 June 2008**

Manuscript Due: **27 October 2008**

Final Summary (200 words) Due: **17 November 2008**

Visual Communications and Image Processing (VCIP) was the first conference devoted to image and video processing and communications. VCIP has become a leading forum for the presentation of fundamental research results and technological advances in the field of visual communication and image processing. Original and unpublished contributions are solicited on the following and related topics:

- multimedia coding: image, video, graphics coding; emerging coding standards; very-low bit rate coding, high-quality image/video/graphics coding, stereoscopic and 3D coding
- multimedia coding/transmission: joint source and channel coding; distributed coding and transmission; multiple description coding for SISO and MIMO wireless channels
- multimedia over networks: media streaming, video over wireless networks, error resilience, scalability, quality of service, cross-layer optimization for improved media delivery, streaming media content delivery networks
- image/video processing: filtering, restoration, enhancement, interpolation, superresolution, compressed-domain processing
- image/video analysis: object segmentation and tracking, feature extraction, multiresolution, subbands, wavelets, morphological and nonlinear filtering
- multimedia content retrieval: image/video storage, indexing, search, and retrieval
- multimedia information security: image/video authentication and content protection
- synthetic imaging and rendering: stereo, multiview and 3-D video, synthetic image/video and graphics representations, 3-D and animated 3-D models, virtual reality
- multimedia system design: hardware and software architectures, scalable computations, low-power and low-memory implementations
- application systems: DTV, digital cinema, man-machine interface, imaging/video surveillance, telemedicine, medical imaging
- emerging topics: Other timely topics related to image and video communication and processing.

Special sessions: There will be a few special sessions devoted to topics of currently high interest. Examples of topics under consideration are distributed video coding; 3-D image/video coding, transmission, and retrieval; digital cinema; algorithms and architectures for embedded systems (hardware).

Prospective authors are invited to submit extended summaries of not more than four (4) pages including problem statement, review of prior work, proposed approach, experimental or theoretical results, figures and tables, and references. Papers will be accepted only by electronic submission through the conference web site: <http://electronicimaging.org>.

Awards: At this meeting, cash prizes for a Best Paper Award and a Best Student Paper Award will be presented.

To qualify for the student paper award, the candidate must be the principal author. A letter from the student's advisor stating that the major work was done by the student must accompany the final manuscript in order to be considered by the award committee. Candidates for the best paper award will be chosen from among the best submissions. Both paper awards will be judged from their final submitted manuscripts.

Travel Grants: There will be a limited number of travel grants available to students presenting their papers. Applications for these grants will be accepted after the manuscript decision date in August.

The awards and travel grants are made possible through the gracious support of Eastman Kodak, Hewlett-Packard, and IBM.



General Information

Wavelet Applications in Industrial Processing VI (EI125)

Conference Chairs: **Frederic Truchetet**, Univ. de Bourgogne (France); **Olivier Laligant**, Univ. de Bourgogne (France)

Post-Meeting Proceedings Due Dates:

Abstract (500 words) Due Date: **16 June 2008**

Final Summary (200 words) Due Date:
17 November 2008

Manuscript Due Date: **22 December 2008**

The wavelet transform, multiresolution analysis, and other space-frequency or space-scale approaches are now considered standard tools by researchers in image and signal processing. Promising practical results in machine vision and sensors for industrial applications and non destructive testing have been obtained, and a lot of ideas can be applied to industrial imaging projects.

This conference is intended to bring together practitioners, researchers, and technologists in machine vision, sensors, non destructive testing, signal and image processing to share recent developments in wavelet and multiresolution approaches. Papers emphasizing fundamental methods that are widely applicable to industrial inspection and other industrial applications are especially welcome.

Papers are solicited but not limited to the following areas:

New trends in wavelet and multiresolution approach, frame and overcomplete representations, Gabor transform, space-scale and space-frequency analysis, multiwavelets, directional wavelets, lifting scheme for:

- sensors
- signal and image denoising, enhancement, segmentation, image deblurring
- texture analysis
- pattern recognition
- shape recognition
- 3D surface analysis, characterization, compression
- acoustical signal processing
- stochastic signal analysis
- seismic data analysis
- real-time implementation
- image compression
- hardware, wavelet chips

Applications:

- machine vision
- aspect inspection
- character recognition
- speech enhancement
- robot vision
- image databases
- image indexing or retrieval
- data hiding
- image watermarking
- non destructive evaluation
- metrology
- real-time inspection.

Applications in microelectronics manufacturing, web and paper products, glass, plastic, steel, inspection, power production, chemical process, food and agriculture, pharmaceuticals, petroleum industry.

Note: All submissions will be peer reviewed. Please note that abstracts must be at least 500 words in length in order to receive full consideration.

Registration

Registration fees for the symposium and short courses, the registration form, and technical and general information for Electronic Imaging 2009 will be available in the Advance Technical Program, which will be released in November.

Participant Registration Fee

Authors and coauthors are accorded a reduced symposium registration fee.

Advance Technical Program

Available: November 2008

The comprehensive Advance Technical Program for Electronic Imaging 2009 will list conferences, paper titles, and authors in presentation order; the educational program schedule, including course descriptions and instructor biographies; an outline of all planned special events; and information detailing the hotel reservations process. All those who submit an abstract will receive a copy of the Advance Technical Program. You may also contact SPIE or IS&T to request a copy.

Hotel Accommodations

Information detailing the hotel reservations process will be included in the Advance Technical Program (see above).

Exhibit at Electronic Imaging 2009

Electronic Imaging attracts the world's leading scientists, researchers, product and process design engineers, product developers, and system integrators in electronic imaging related fields. Showcase your products and/or services during the two-day exhibit.

Companies interested in exhibiting should contact Donna Smith at +1 703 642 9090; +1 703 642 9094 (fax); dsmith@imaging.org.

Demonstration Session at Electronic Imaging 2009

The annual Demonstration Session allows authors and others to showcase their programs, products, and wares to all Electronic Imaging attendees during an evening program held in conjunction with the Interactive Poster Session. Details on how to participate will be included in the Advance Program.

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- Authors and coauthors attending the meeting will obtain funding for their registration fees, travel, and accommodations, independent of IS&T/SPIE, through their sponsoring organizations before submitting abstracts.
- All clearances, including government and company clearance, have been obtained to present and publish. If you are a DoD contractor, allow at least 60 days for clearance.
- IS&T/SPIE are authorized to circulate your abstract to conference committee members for review and selection purposes.
- Accepted abstracts may be published in printed and web programs promoting the conference. Please see individual conference Call for Papers for abstract length requirements.
- A full-length manuscript (8-12 pages) for any accepted oral or poster presentation will be submitted for publication in the Digital Library and conference Proceedings.

2. Prepare to submit

- Have all contact information (full names, affiliations, addresses, phone numbers, and emails) for your coauthors ready.
- Only original material should be submitted.
- Abstracts should contain enough detail to clearly convey the approach and the results of the research.
- Commercial papers, papers with no new research/development content, and papers where supporting data or a technical description cannot be given for proprietary reasons will not be accepted for presentation in this conference.

3. Submit your abstract using the “submit an abstract” link

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Review, Notification, Program Placement

- To ensure a high-quality conference, all abstracts and Proceedings manuscripts will be reviewed by the Conference Chair/Editor for technical merit and suitability of content. Conference Chair/Editors may require manuscript revision before approving publication, and reserve the right to reject for presentation or publication any paper that does not meet content or presentation expectations. IS&T/SPIE's decision on whether to accept a presentation or publish a manuscript is final.
- Applicants will be notified of abstract acceptance and sent manuscript instructions by e-mail no later than 23 September 2007.
- Final placement in an oral or poster session is subject to the Chairs' discretion. Instructions for oral and poster presentations will be sent to you by e-mail.

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