

*Society for Imaging Science & Technology*

# HONORS AND AWARDS 2017



[imaging.org](http://imaging.org)

Every year IS&T recognizes members of our community who have made noteworthy and significant contributions to advancing the technology and science of imaging. These awards represent the diverse technical interests and the broad geographic reach of the society. Several of these awards are sponsored by major corporations in the field of printing and imaging and we thank them for their generosity. In addition to technical recognition awards, the Society also pays tribute to individuals who have contributed their time and effort to serve IS&T, its members, and its community.

The IS&T honors and awards program is driven by nominations coming from the membership of the society. This is an important responsibility of our members and I encourage all of you to make the effort to nominate worthy recipients.

All nominations are reviewed by the IS&T Honors and Awards Committee. I would like to thank them for their diligent efforts. I especially want to thank the chair of the Honors and Awards committee, Vien Cheung and the chair of the Land Medal Award Committee, Michael Kriss.

It is my privilege to announce the recipients of this year's honors and awards. I congratulate them all and thank them for their contribution to the field of imaging science and the society.

Yours sincerely,



Geoff J. Woolfe, President of IS&T

**2017 IS&T Honors and Awards Committee**

Vien Cheung, (University of Leeds), chair  
Stephen Westland (University of Leeds)  
Jennifer Gille (Qualcomm Technologies Inc.)  
Susan Farnand (Rochester Institute of Technology)  
Eric Hanson (retired, HP Inc.)

**2017 Land Medal Award Committee**

Michael Kriss (MAK Consultants), chair  
Jonathan Mather (Tupel Ltd.)  
Paul Kane (ON Semiconductor)  
Jon S. McElvain (Dolby Laboratories, Inc.)  
Martin James Booth (University of Oxford)  
Eliezer Peli (Schepens Eye Research Institute)  
Dacheng Tao (The University of Technology Sydney)  
Wenbing Yun (Sigray Inc.)



## **Honorary Membership**

*the highest award of the Society, for outstanding contribution to the advancement of imaging science and engineering to*

### **EDWARD J. DELP III**

*for outstanding contributions in multimedia security, in particular the areas of watermarking, data hiding and device forensics, and image and video compression.*

Edward J. Delp was born in Cincinnati, Ohio. He received the BSEE (cum laude) and MS from the University of Cincinnati, and the PhD from Purdue University. He is currently the Charles William Harrison Distinguished Professor of electrical and computer engineering and professor of biomedical engineering and professor of psychological sciences (Courtesy).

His research interests include image and video processing, image analysis,

computer vision, image and video compression, multimedia security, medical imaging, multimedia systems, communication and information theory. He has published and presented more than 500 papers.

Dr. Delp is a Fellow of IEEE, SPIE, the Society for Imaging Science and Technology (IS&T), and the American Institute of Medical and Biological Engineering.



### **IS&T Fellowship**

*for outstanding achievement in imaging science or engineering to*

### **EDMUND LAM**

*for outstanding contributions in image analysis, lithographic imaging, and biomedical imaging.*

Edmund Y. Lam received the BS, MS, and PhD in electrical engineering from Stanford University, being the 49th PhD graduate of Prof. Joseph W. Goodman. At Stanford, he conducted research for the programmable digital camera project in the Information Systems Laboratory. He joined KLA-Tencor Corporation in San Jose, CA, as a senior imaging engineer, before returning to academia in Hong Kong.

He is now a professor in electrical and electronic engineering, director of the computer engineering program, and the founding director of the Imaging Systems Laboratory at the University of Hong Kong. Formerly, he was a visiting associate professor in electrical engineering and computer science at MIT. Professor Lam has broad research interests around the theme of computational optics and imaging, particularly its applications in semiconductor manufacturing and biomedical systems. He is currently the

chair of the OSA Image Sensing and Pattern Recognition technical group. In addition, he has served two terms as a topical editor of the *Journal of the Optical Society of America A*; currently, he is also an associate editor of the *IEEE Transactions on Biomedical Circuits and Systems*, and the *IEEE Signal Processing Letters*. He is a regular contributor to the IS&T Electronic Imaging Symposium, and was the chair of its conference on Image Processing: Machine Vision Applications for several years.

Professor Lam received the IBM Faculty Award for contributions in advanced computational lithography technology. In addition, he is also a Fellow of the Optical Society (OSA), the Society of Photo-optical Instrumentation Engineers (SPIE), the Institute of Electrical and Electronics Engineers (IEEE), as well as the Hong Kong Institution of Engineers (HKIE).



## Senior Membership

*for long-term service to the Society at the national level to*

### **CHOON-WOO KIM**

*for service as the Electronic Imaging 2016 Symposium Chair, leadership for the transition to the IS&T International Symposium on Electronic Imaging, and work to establish the IS&T Korea Chapter.*

Choon-Woo Kim received his BS in control and instrumentation engineering from Seoul National University in Korea (1983) and his MS and PhD in electrical and computer engineering from Purdue University (1985 and 1989, respectively). From 1989 to 1994, Dr. Kim worked at 3M in St. Paul, Minnesota. In 1994, he joined the faculty at Inha University in Incheon, Korea, where he is a professor in the department of information and communication engineering. He served as an associate dean of planning and management of Inha University during 2007-2009. Dr. Kim's research interests include image quality enhancement and evaluation for imaging systems.

Dr. Kim joined IS&T in 1996. He has served on IS&T Electronic Imaging Symposium as course co-chair (2012), course chair (2013, 2014) Symposium Co-chair (2015), Symposium Chair (2016). During 2007 to 2011, he had served as IS&T Vice President. He has served as an associate editor of *Journal of Electronic Imaging* since 2007. He has served as Korea chapter director since 2012.

Dr. Kim is a member ISO/IEC JTC1 SC28 (Office Equipment) and has been a convener of C28's AG (Advisory Group on Strategic Issues) since 2003. He also works as a member of IEC TC110 (Electronic display devices).



## Senior Membership

*for long-term service to the Society at the national level to*

### **SCOTT SILENCE**

*for outstanding performance as the Society's Treasurer (2012-2016), specifically for developing financial key performance Indicators to guide the Society and for bringing clear strategic thinking and direction to the governance of the Society.*

Scott Silence is the chief innovation officer for the Conduent Public Sector Business Group and directly manages the Transportation Innovation Program within Conduent Labs. The Transportation Innovation Program is focused on delivering value through advances in computer vision, image, and data analytics. After 22 years at Xerox, he joined Conduent, the world's largest Business Process Services Company, when it was split off from Xerox in January of 2017.

Dr. Silence holds a BS in chemistry (1986), a MS in physical chemistry (1986) from the University of Chicago, a PhD in physical chemistry (1991) from the Massachusetts Institute of Technology, and an MBA

(2007) from the Simon School of Business at the University of Rochester. He is an inventor on 62 US patents in xerographic materials, components, and systems; has 22 published research papers; and is a certified Green Belt, Design for Lean/Six Sigma.

An IS&T member since 1999, Dr. Silence has been actively involved in the NIP Conference since 2004, serving in a wide variety of roles culminating in general chair for NIP28 (2012). In addition to IS&T, he is a member of the Optical Society of America and a lifetime member of Beta Gamma Sigma the International Honor Society of Business Scholars.



## **Service Award**

*in recognition of service to a Chapter or to the Society to*

### **DAVID AKOPIAN**

*for serving as a Conference Chair for the Electronic Imaging Symposium's Mobile Devices and Multimedia: Enabling Technologies, Algorithms, and Applications Conference since 2009.*

David Akopian, PhD, is a university professor of electrical and computer engineering at the University of Texas at San Antonio (UTSA). Dr. Akopian is an innovator in human-machine interaction and guidance, including mobile applications, wireless sensing and location technologies. His first inventions were in the area of integration of GPS receivers and mobile devices. He holds twenty-five US and international patents and seven filed patent applications, which were applied in Nokia products and UTSA

testbed systems serving several federal and state projects. Dr. Akopian is the recipient of four inventor awards. He has published about 200 articles, three book chapters, and edited eight proceedings. Dr. Akopian chaired ten conferences on mobile technologies and served as chair/vice-chair for the Central Texas Chapter of IEEE SMC Society for eight years. He served in editorial boards of five peer-reviewed journals. He is a Fellow of National Academy of Inventors.



## **Service Award**

*in recognition of service to a Chapter or to the Society to*

### **ADNAN ALATTAR**

*for serving as a Conference Chair for the Electronic Imaging Symposium's Media Watermarking, Security, and Forensics Conference since 2011 and as the at-large chair liaison to the Electronic Imaging Steering Committee.*

Adnan M. Alattar graduated with a PhD in electrical engineering from North Carolina State University (1989). He worked as a senior algorithm engineer at Intel Corporation from 1989 to 1995. He worked as an assistant professor at King Fahd University for Petroleum and Minerals from 1995 to 1998. He has been with Digimarc Corporation since 1998, and he is currently a principle R&D engineer. Dr. Alattar served as reviewer for several IEEE conferences and journals and as a member of the technical program committee of several conferences. He served as an associated editor of the IEEE *Transactions on Information Security and*

*Forensics*, and he is currently an associate editor of the *Journal of Electronic Imaging* and a member of the steering committee of the Electronic Imaging conference. He has been a co-chair of the IS&T Media Watermarking, Security and Forensics conference since 2009. He also served as the general chair of the 2015 Information Hiding and Multimedia Security workshop. Dr. Alattar holds 43 US patents, and he is the author of 36 technical papers and one book chapter. His current areas of interest include digital watermarking, machine learning, signal processing, and video compression. Dr. Alattar is a senior member of the IEEE.



## **Service Award**

*in recognition of service to a Chapter or to the Society to*

### **REINER CREUTZBURG**

*for establishing the Electronic Imaging Symposium's Mobile Devices and Multimedia: Enabling Technologies, Algorithms, and Applications Conference and serving as a Conference Chair since its inception in 2005.*

Reiner Creutzburg received his PhD in mathematics from the University of Rostock (1985) and has been a full professor in the department of informatics and media and department of pervasive computing at Brandenburg University of Applied Sciences in Germany since 1992. Prior to that he was assistant professor at Karlsruhe Institute of Technology, in the Institute of Algorithms and Cognitive Systems. He also has an appointment at Tampere University of Technology in Finland in the Department of Pervasive Computing.

Prof. Creutzburg is a Certified Ethical Hacker (CEH), Computer Hacking

Forensic Investigator (CHFI), Security Analyst (ECSA), Licensed Penetration Tester (LPT), and ISO27001 Auditor (SGS TÜV), among other certifications. His interests are in multimedia signal processing and compression, IT and media forensics, discrete math, and distance learning.

He is a founder of the Electronic Imaging Symposium's Mobile Devices and Multimedia: Enabling Technologies, Algorithms, and Applications Conference and has served as a conference chair since its inception in 2005.



## Service Award

*in recognition of service to a Chapter or to the Society to*

### **BRIAN DERBY**

*for serving as the General Chair for the 2016 Printing for Fabrication Conference.*

Brian Derby is professor of materials science in the School of Materials, University of Manchester, UK and director of the Manchester Centre for Digital Fabrication [www.eps.manchester.ac.uk/our-research/research-facilities/digital-fabrication/](http://www.eps.manchester.ac.uk/our-research/research-facilities/digital-fabrication/). His research has focussed on modelling and characterising the materials science of manufacturing processes and studying the formation and characterising the structures of interfaces in materials. He is a pioneer in the application of inkjet printing as a manufacturing process. In 2007 he was awarded the Edward de Bono medal as part of the Saatchi and Saatchi Awards for World Changing Ideas in recognition of his development of inkjet printing for applications in biology and medicine. He has received research

funding from the EPSRC (UK), BBSRC (UK), The European Commission, Office for Naval Research (USA), Army Office of Research (USA) and directly from industry (including Rolls Royce, BAE Systems, Merck and Xaar). He is a Fellow of the Institution of Materials, Mining and Minerals and an Academician of the World Academy of Ceramics. He is editor of the Springer Engineering Series *Engineering Materials and Processes*, associate editor of the *Journal of the American Ceramic Society*, associate editor of the *Journal of Materials Science and Engineering C Biomimetic and Supramolecular Systems*, and he is on the editorial board of the IoP journal *Biofabrication*.



## **Service Award**

*in recognition of service to a Chapter or to the Society to*

### **MASAHIKO FUJII**

*for serving as Publications Chair (2014) and General Chair (2015) for the NIP Digital Printing/Digital Fabrication Conference.*

Masahiko Fujii joined Fuji Xerox Co., Ltd. in 1985, where he has worked on printhead, ink, system, and applications of ink jet. He also has researched 3D printing and 3D data handling technologies, and announced new 3D data format FAV in 2016.

Mr. Fujii is an executive board member and chair of ink jet technical committee in ISJ. He served as the publication chair of Digital Fabrication /NIP in 2013 and 2014 and general chair of NIP in 2015. He is IS&T Tokyo chapter director.



## **Service Award**

*in recognition of service to a Chapter or to the Society to*

### **NICOLAS HOLLIMAN**

*for serving as an Electronic Imaging Symposium's Stereoscopic Displays and Applications Conference Chair since 2008.*

Nick Holliman is professor of visualization at Newcastle University, UK. He researches the science and engineering of interactive media including the fundamental challenges of stereoscopic 3D visualization. This includes working with psychologists to understand how the human visual system processes binocular information, developing novel computational algorithms for the control of binocular image disparity and demonstrating

how these algorithms work in practice in software tools and award winning 3D visualizations. Professor Holliman has worked in both industrial and academic environments and is experienced in delivering commercial impact from research outputs. He is currently researching the benefits of using cloud-based 3D visualization for urban data, his group's latest visualizations can be found at: [portfolio.di-projects.net/](http://portfolio.di-projects.net/)



## **Service Award**

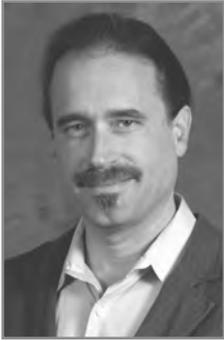
*in recognition of service to a Chapter or to the Society to*

### **KARI SMITH**

*for serving as the General Chair for Archiving 2016.*

Kari Smith is the digital archivist for the MIT Institute Archives and Special Collections where she acquires and manages born-digital content and digitized archives. She has been working with digital records and archives since 1994 and is passionate about helping people manage, protect, and use information now and into the future. In fact, she has a blog—Engineering the Future of the Past, Digital Archives at MIT—in which she discusses establishing and managing digital archives at MIT.

After earning a BA in international relations from George Mason University, Mrs. Smith received her MS in information from the University of Michigan School of Information. She has held a number of positions within the archiving field. Her research interests include intellectual and long-term access to cultural material especially through interoperable metadata of digital objects. Recently she has been looking at embedding metadata in digital assets for document security.



### **Edwin H. Land Medal**

*awarded by IS&T and OSA to recognize pioneering work empowered by scientific research to create inventions, technologies, and products, and to reflect Land's scientific intensity and curiosity in optics and imaging as inventor, scientist, entrepreneur, and teacher to*

### **ALAN BOVIK**

*for substantially shaping the direction and advancement of modern perceptual image quality computation, and for energetically engaging industry to transform his ideas into global practice.*

Al Bovik holds the Cockrell Family Regents Endowed Chair at The University of Texas at Austin, where he is director of the Laboratory for Image and Video Engineering (LIVE) in the department of electrical and computer engineering and the Institute for Neurosciences. His more than 800 papers and books on video processing and computational perception, including the *Handbook of Image and*

*Video Processing and Modern Image Quality Assessment*, have been cited more than 60,000 times. Among many other awards and prizes, he is the recipient of the 2017 Edwin Land Medal, a 2015 Primetime Emmy Award for Outstanding Achievement in Engineering Development, the 2013 IS&T Honorary Member Award, and the 2013 IEEE Signal Processing Society 'Society Award.'



### **Raymond C. Bowman Award**

*recognizes an individual who has been instrumental in fostering, encouraging, and helping individuals of any age pursue a career in a technical/scientific area of imaging science, including the pursuit of an appropriate education.*

### **JON Y. HARDEBERG**

*for contributions in facilitating training networks and the education of a new generation of color imaging scientists and engineers throughout Europe.*

Jon Y. Hardeberg received his sivilingeniør (MSc) in signal processing from the Norwegian Institute of Technology in Trondheim, Norway (1995) and his PhD from Ecole Nationale Supérieure des Télécommunications in Paris, France (1999). After a short but extremely valuable industry career near Seattle, Washington, where he designed, implemented, and evaluated color imaging system solutions for multifunction peripherals and other imaging devices and systems, he returned to academia and Norway in 2001. He is currently professor of color imaging at the department of computer science at NTNU - The Norwegian

University of Science and Technology. He is a member of the Norwegian Colour and Visual Computing Laboratory ([www.colourlab.no](http://www.colourlab.no)), where he teaches, supervises MSc and PhD students, manages international study programs and research projects, and researches in the field of color imaging. His current research interests include multispectral color imaging, print and image quality, colorimetric device characterization, appearance, medical imaging, and cultural heritage imaging, and he has co-authored more than 200 publications within the field.

## Charles E. Ives/Journal Award

in recognition of the best engineering paper published in the *Journal of Imaging Science and Technology* the preceding year to

## CHIHUA MA, ANGUS G. FORBES, DANIEL A. LLANO, TANYA BERGER-WOLF, AND ROBERT V. KENYON

for “SwordPlots: Exploring Neuron Behavior within Dynamic Communities of Brain Networks”, *Journal of Imaging Science and Technology* 60 #1, 010405-1–010405-13 (2016).

**Chihua Ma** is a PhD candidate in computer science at University of Illinois at Chicago, under the advisement of Dr. Robert Kenyon and Dr. Liz Marai. Her research interests include data



visualization, visual analytics, and human computer interaction. In particular, she is interested in visualizing dynamic biological systems with spatial and nonspatial features at multi-scale. She has been recipient for several honors including IEEE VIS Doctoral Colloquium Selection (2016), Honorable Mention of IEEE VGTC Visualization Pioneers Group (VPG) Data Visualization Contest (2016), UIC Student Presenter Award (2016), and UIC Graduate Student Council Travel Award (2016). More information about Ms. Ma’s research and artwork can be found at her website ([sites.google.com/site/chihuama6/](http://sites.google.com/site/chihuama6/)).



**Angus Forbes** is an assistant professor in the department of computer science at University of Illinois at Chicago, where he directs the Creative Coding Research Group within the Electronic

Visualization Laboratory.



**Daniel Llano** completed MD and PhD training at the University of Illinois at Urbana and went on to complete neurology residency training at the Massachusetts

General Hospital Brigham and Women’s Hospital combined program. After completing post-doctoral training at the

University of Chicago, in 2010, he joined the University of Illinois in Urbana, where he is a Helen Corley Petit Scholar and assistant professor in the department of molecular and integrative physiology and neuroscience.

**Tanya Berger-Wolf**

is a professor of computer science at the University of Illinois at Chicago, where she heads the Computational Population Biology Lab. As a computational ecologist, her research is at the unique intersection of computer science, wildlife biology, and social sciences. She creates computational solutions to address questions such as how environmental factors affect the behaviors of social animals (humans included). Berger-Wolf is also a co-founder of the conservation software non-profit Wildbook, which recently enabled the first-of-its-kind complete species census of the endangered Grevy's zebra, using photographs taken by ordinary citizens in Kenya.



Berger-Wolf holds a PhD in computer science from the University of Illinois at Urbana-Champaign. She has received numerous awards for her research and mentoring, including the US National Science Foundation CAREER Award, Association for Women in Science Chicago Innovator

Award, and the UIC Mentor of the Year Award.



**Robert Kenyon**

is currently a professor in the department of computer science at the University of Illinois at Chicago [UIC]. He is also an adjunct professor in departments of

bioengineering at UIC, and physical medicine and rehabilitation at Northwestern University associated with the Rehabilitation Institute of Chicago. He received his BS in electrical engineering from the University of Rhode Island, a MS in bioengineering from UIC, and a PhD in physiological optics from the University of California, Berkeley. Dr. Kenyon was a faculty member of the department of aeronautics and astronautics at the Massachusetts Institute of Technology, Cambridge before joining UIC. His research has spanned the areas of flight simulation, virtual environments, computer graphics, sensory-motor adaptation/integration to wearable technology, effects of micro-gravity on vestibular development, visuo-motor control in posture, and rehabilitation of sensory/motor systems following stroke and traumatic brain injury.

## Itek Award

*in recognition of the best student publication in an IS&T journal the preceding year to*

### **PRAKHAR AMBA, JÉRÔME DIAS, AND DAVID ALLEYSSON**

*for “Random Color Filter Arrays are Better than Regular Ones”, Journal of Imaging Science and Technology 60 #5, 050406-1–050406-6 (2016).*

**Prakhar Amba** received his BTech from D A - I I C T , Gandhinagar, India (2007) and his Msc from ISEP, Paris, France (2009). He is currently pursuing his PhD



from Université Grenoble Alpes, Grenoble, France. His research interests include color vision, hyperspectral imaging and image processing. He is interested in understanding the human visual perception and its potential in improving our digital imaging systems.

Company, Toulouse, France. His work has focused on multi-camera calibration, machine learning, and image classification in the field of depth estimation and defect detection.



**David Alleysson** received his BTech from Ecole d'Ingénieurs de Genève (1993) and his Msc from ENSIMAG, Grenoble France (1995). He received his PhD from the

Université Joseph Fourier in Cognitive Science (1999). He is currently research associate at CNRS. His current research interests are the neurobiological foundations of color vision through geometrical models and its application to image processing and image representation.



**Jérôme Dias** received his Msc from INSA, Lyon France (2009) and his PhD from Grenoble University, France (2013). He is currently R&D engineer at ORME



### **Raymond Davis Scholarship**

*granted to an imaging science or engineering student for use in continuing graduate or undergraduate studies to*

### **TRACY S. EDWARDS**

Tracy Edwards is a sophomore physics major with 3.44 GPA at Hampton University. Her educational goal is to earn a doctorate in medical physics with a focus on technological instruments used in the diagnostics of cancer patients upon undergraduate graduation in 2019. Ms. Edwards interest in this career field began in her junior of high school with an optical radiology summer internship at Washington University School of Medicine in St. Louis, MO and contained with her participation in the National Science

Foundation Research for Undergraduate Experience program at Vanderbilt University the summer between freshman and sophomore year in college. Currently, she volunteer at the Hampton University Cancer Research Center reaching variants found in breast cancer patients and how they differ among ethnicities using bioinformatics. She will be returning to Vanderbilt University working in the biophotonics laboratory this upcoming summer.



### **Raymond Davis Scholarship**

*granted to an imaging science or engineering student for use in continuing graduate or undergraduate studies to*

### **ANIBAL E. MORALES**

Anibal Morales is an undergraduate student at Florida International University in Miami, Florida. He is pursuing a double degree in biomedical and electrical engineering. Mr. Morales is currently a scholar for the National Institute of General Medical Sciences – Research Initiative of Scientific Enhancement (NIGMS-RISE), investigating the relationship between the brain and Post-Traumatic Stress Disorder (PTSD). He also was recently chosen as a scholar for the Ronald E. McNair Post-Baccalaureate Achievement for the summer 2017, where he will participate at

the National Science Foundation Research Experiences for Undergraduates (REU) in Integrated Nanomanufacturing at Boston University Photonics Center. Mr. Morales likes to volunteer at his university's greenhouse, since he shares a passion against climate change. During his undergraduate studies, Mr. Morales has been able to attend the Nobel Lectures at Stockholm University, volunteer in Puerto Rico on environmental issues, and attend study abroad programs about engineering in China and Iceland.



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