

2020  
SID  
Honors  
and  
Awards



Presented  
August 2020

# Foreword

One of the central goals of our Society is to provide an open forum designed to inspire the scientific, literary, and educational advancements of information displays and their allied arts and sciences. Each year we celebrate those individuals who have contributed such advancements to the display industry.

Through our Honors and Awards Program, it is fitting that SID, an international society, diverse and interdisciplinary in its membership, not only recognizes the highest achievements from basic research to entrepreneurial success, but also pays tribute to exemplary service to the Society and the industry.

Deciding the most deserving recipients for the various awards is no easy task. Each year, the Honors and Awards Committee accepts the challenge of selecting and recommending recipients to the Executive Board for their approval. This year's chosen committee worked hard to maintain the highest standards in selecting the individuals being honored. On behalf of the society, I extend my deepest gratitude to my colleagues on the committee for all the tremendous dedication they have shown throughout this selection process

Finally, sincere congratulations to all of this year's award recipients. Your efforts and innovation have brought recognition not only to yourselves but also to your employers and to the Society. It is an honor for us to present these awards to you.

Takatoshi Tsujimura  
SID President

**Acknowledgments:** The SID gratefully acknowledges sponsorship of the 2020 Karl Ferdinand Braun Prize with the associated US \$2000 stipend provided by AU Optronics Corp.; 2020 Jan Rajchman Prize with the associated US \$4000 stipend provided by Guangdong Juhua Printed Display Technology Co., Ltd.; 2020 David Sarnoff Industrial Achievement Prize with the associated US \$2000 stipend provided by BOE Technology Group Co., Ltd.; 2020 Otto Schade Prize with the associated US \$2000 stipend provided by Samsung; 2020 Slottow-Owaki Prize with the associated US \$2000 stipend provided by Fujitsu, Ltd., and Dr. Tsutae Shinoda; and the 2020 Peter Brody Prize with the associated US \$2000 provided by Dr. Fang-Chen Luo.

## Honors and Awards Committee

Paul Drzaic

Chris King

Jun Souk

Larry Weber

Min-Koo Han

Fan Luo

Ching Tang

Shin-Tson Wu, Chair

Ingrid Heynderickx

Haruhiko Okumura

Andrew Watson

# **2020 Honors and Awards**

## **Karl Ferdinand Braun Prize**

Julie Brown

## **Jan Rajchman Prize**

Armand Paul Alivisatos and Mounqi Bawendi

## **David Sarnoff Industrial Achievement Prize**

Paul Peng

## **Otto Schade Prize**

Yoshifumi Shimodaira

## **Slottow-Owaki Prize**

Edward F. Kelley

## **Peter Brody Prize**

Zhaojun Liu

## **Lewis and Beatrice Winner Award**

Brian Berkeley

## **Fellows of the SID**

Takahiro Ishinabe

ByoungHo Lee

Franky So

Michael Weaver

Robert J. Visser

## **Special Recognition Awards**

Takuji Hatakeyama

Yun-Li Li

David Slobodin

## KARL FERDINAND BRAUN PRIZE

The Karl Ferdinand Braun Prize is awarded for an outstanding technical achievement in, or contribution to, display technology. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.



*Julie Brown*

*For her contributions to the development and commercialization of phosphorescent OLED materials and display technology.*

**Julie Brown** is senior vice president and chief technical officer of Universal Display Corp. Prior to joining UDC in 1998, she was at Hughes Research Laboratories, where she directed the pilot line production of high-speed indium phosphide-based integrated circuits for insertion into advanced airborne radar and satellite communication systems. Brown received her B.S. from Cornell University (1983) and then was at Raytheon Company (1983–1984) and AT&T Bell Laboratories (1984–1986). She has a Ph.D. (1991) in electrical engineering/electrophysics at USC and is an elected IEEE Fellow, elected SID Fellow, and inductee into the New Jersey High Tech Hall of Fame.

## JAN RAJCHMAN PRIZE

The Jan Rajchman Prize is awarded for an outstanding scientific or technical achievement in, or contribution to, research on flat-panel displays. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000 per recipient.



*Armand Paul Alivisatos*



*Moungi Bawendi*

*For their fundamental contributions to synthesis, processing, and applications of quantum dots to wide color gamut displays.*

**Armand Paul Alivisatos** is the University of California Berkeley's Executive Vice Chancellor and Provost and Samsung Distinguished Professor of Nanoscience and Nanotechnology. He is also the director emeritus of Lawrence Berkeley National Laboratory, founding director of the Kavli Energy Nanoscience Institute (ENSI), and a founder of prominent nanotechnology companies Nanosys, Inc., and Quantum Dot Corp. Groundbreaking contributions to the fundamental physical chemistry of nanocrystals are the hallmarks of Dr. Alivisatos' scientific career. His research accomplishments include studies of the scaling laws governing the optical, electrical, structural, and thermodynamic properties of nanocrystals. He developed methods to synthesize size- and shape-controlled nanocrystals, and for preparing branched, hollow, nested, and segmented nanocrystals. In his research, he has demonstrated key applications of nanocrystals in biological imaging, renewable energy, and electronic displays, including the widely used quantum-dot television technology. He was critical in the establishment of the Molecular Foundry, a DOE Nanoscale Science Research Center; becoming the facility's founding director. He was an early and prominent advocate for the US National Nanotechnology Initiative and the US National BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative. He is the founding editor of *Nano Letters*, a leading scientific publication of the American Chemical Society. Alivisatos has previously been recognized for his

accomplishments with awards such as the Dan David Prize, the U.S. National Medal of Science, the Wolf Prize in Chemistry, the Wilhelm Exner Medal, and the Welch Award in Chemistry. He is a member of the US National Academy of Sciences, the American Academy of Arts and Sciences, the American Philosophical Society, and the US National Academy of Inventors. He received a bachelor's degree in chemistry in 1981 from the University of Chicago and a Ph.D. in chemistry from UC Berkeley in 1986.

***Moungi Bawendi*** is the Lester Wolfe Professor of Chemistry in the department of chemistry at MIT. He received his A.B. in 1982 from Harvard University and his Ph.D. in 1988 from The University of Chicago. This was followed by two years of post-doctoral research at Bell Laboratories, where he began his studies on nanomaterials. Dr. Bawendi joined the faculty at MIT in 1990, becoming associate professor in 1995 and professor in 1996. Bawendi has followed an interdisciplinary research program that aims at probing the science and developing the technology of chemically synthesized nanostructures, developing thin-film electro-optic materials for light emission and solar energy harvesting, and developing novel tools for in-vivo imaging. This work has included: (1) the development of methods for synthesizing, characterizing, and processing quantum dots, magnetic nanoparticles, and tubular J-aggregates as materials building blocks, (2) studying fundamental optical and magnetic properties of nanostructures using a variety of spectroscopic methods, including the development of photon correlation tools to study single nanoscopic emitters, (3) incorporating quantum dots, magnetic particles, and thin-film materials into optical and electronic device structures, and (4) developing optical tools and probes, including nanoparticles and other agents, for biomedical imaging.

# DAVID SARNOFF INDUSTRIAL ACHIEVEMENT PRIZE

The David Sarnoff Industrial Achievement Prize is designed to honor an individual who is broadly recognized across the display industry for having achieved exceptional leadership and long-lasting impact in the display industry. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.



*Paul Peng*

*For his leadership in developing and commercializing display technologies and promoting corporate social responsibility, industrial alliance, and green manufacturing.*

**Paul Peng** is currently chairman and CEO of AU Optronics (AUO). He holds an MBA from Heriot-Watt University, UK, and an honorary degree of Doctor of Business Administration from National Taipei University of Technology. He is also a certified sax street performer in Taiwan, and founder of the WOW SAX band, consisting of AUO executives who share his passion to serve society through music. As a seasoned display industry professional for three decades, Peng spent over one third of his career abroad, during which he led the building of AUO's first overseas manufacturing base in Suzhou, China. In 2015, Peng was appointed AUO's Chairman and CEO. By proactively promoting value transformation strategy; accelerating technological innovations, field applications, and smart manufacturing; and enhancing product value and differentiation, Peng has led AUO to emerge as the industry's value creator. Peng also orchestrated industry players to form the Taiwan Display Union Association (TDUA). As TDUA's founding chairman and incumbent chairman of the Taipei Computer Association (TCA), Peng has spared no effort to facilitate value-chain integration and fortify the industry's international foothold. In addition, Peng is devoted to CSR and has contributed significantly to achieve environmental sustainability, harmony between technology and history, and industry-academia collaboration for research and internship factory projects. Peng's extraordinary efforts have earned him the highest honor of the first annual "GCSA – Professional" from the Taiwan Institute for Sustainable Energy (TAISE).



## OTTO SCHADE PRIZE

The Otto Schade Prize is awarded for an outstanding scientific or technical achievement in, or contribution to, the advancement of functional performance and/or image quality of information displays. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.



***Yoshifumi Shimodaira***

*For his contributions to the research and development on the picture-quality improvement of display systems and the color-capturing characteristics of cameras.*

**Yoshifumi Shimodaira** was born in Nagano prefecture, Japan. He holds B. Eng. and M. Eng. degrees from Shizuoka University. He obtained his Ph.D. in engineering from Tokyo University in 1988, with a thesis entitled “Motion Perception and Evaluation Method of Impairment Factors of Picture Quality on Moving Pictures.” From 1997 to 2012, Dr. Shimodaira was a professor at Shizuoka University, and since 2012 has been a specially appointed professor there. During the first half of his research career, he pursued image-quality evaluation, especially in LC displays. Notably, he discovered that the mechanism of motion blur is caused by image motion focused on the retinas. In the latter half of his career, he has been engaged in research and development of colorimetric image capturing, which can calorimetrically capture colors of objects all over the vision gamut. This technology may be able to replace some sensory evaluation within the industry. Shimodaira served as program chair of IDW in 2002 and 2004, and as general chair of IDW in 2006. In 2003 and 2004, he served as chair of SID’s Japan Chapter. He received a Special Recognition Award from SID in 2003 and was named an SID Fellow in 2007. In 2009, he was elected Fellow by the Institute of Image Information and Television Engineers (ITE).



## SLOTTOW–OWAKI PRIZE

The Slottow–Owaki Prize is awarded for outstanding contributions to the education and training of students and professionals in the field of information display. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.



*Edward F. Kelley*

*For his contributions to the science of display metrology methods, promotion of these methods, and numerous educational offerings to the display industry.*

Graduating from University of Idaho in 1970 in physics, **Edward F. Kelley** entered graduate school at Montana State University, finishing in 1978 with a Ph.D. in experimental atomic physics. He started in a post-doctoral position at the National Institute of Standards and Technology (NIST) in high-voltage impulse measurements using the electro-optical Kerr effect. He continued at NIST as a staff member for approximately 12 years, investigating liquid-dielectric breakdown and high-voltage pulse-measurement techniques. After having gone to Idaho to get a taste of private consultation and university teaching, he returned to NIST in 1992 to work in the Flat Panel Display Laboratory of the Display Metrology Project to assist industry in developing measurement standards to quantify display quality. He has served as chair and main author of the Display Metrology Committee of VESA that produced the *Flat Panel Measurements Standard* (FPDM) and continues as editor and a main author of its extension, the *Information Display Measurements Standard*, under the International Committee for Display Metrology of the Society for Information Display, of which he is a Fellow. He retired from NIST in 2009 and continues working in the display industry as a consultant in display metrology. He also has configured a private laboratory to continue display-measurement research.

## PETER BRODY PRIZE

The Peter Brody Prize — introduced in 2016 — is awarded to honor outstanding contributions of young researchers (under age 40) who have made major-impact technical contributions to the developments of active-matrix addressed displays in one or more of the following areas:

- Thin-film transistor devices
- Active-matrix device manufacturing
- Active-matrix display-enabling components.
- Active-matrix addressing techniques
- Active-matrix display media

The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.



***Zhaojun Liu***

*For his contributions to the development of high-resolution active-matrix microLED displays.*

**George Zhaojun Liu** is a tenure-track assistant professor in the department of electronic and electrical engineering at Southern University of Science and Technology (SUSTech). He is also an adjunct assistant professor in the department of electronic and computer engineering at Hong Kong University of Science and Technology (HKUST). His research topics cover microLED displays, wide bandgap semiconductors, VR/AR, and micro/nano devices. He has more than 100 journal and conference publications and more than 100 grant/pending US/China patents. He is the chairman and CEO of Shenzhen SiTan Technology, Ltd. He serves as a committee member of the Emissive, MicroLED, and QD (EMQ) committee of SID. He also serves as a committee member of SID's Beijing Chapter and of the MicroLED committee of the 3rd Generation Semiconductor Alliance. He is the general secretary of Guangdong MicroLED Alliance (MiLEDA). He is also the independent director of Shenzhen Refond Optoelectronics, Ltd.

## 2020 LEWIS AND BEATRICE WINNER AWARD

The Lewis and Beatrice Winner Award is awarded for exceptional and sustained service to SID. The award is made by the Board of Directors acting on the recommendation of the Honors and Awards Committee.



***Brian Berkeley***

*For his sustained service in strengthening the relevance and financial performance of SID and the annual Display Week Symposium.*

**Brian Berkeley** grew up in Dallas, Texas, US. He received S.B. and M.S. degrees in electrical engineering from MIT and Carnegie-Mellon University, respectively. He had a 20-year career at Apple, Inc., starting as display engineer on the first Macintosh. He put color on the Macintosh, led all Apple display development, and led hardware development for the first iMac computer. In 2003, he took on a role as VP of engineering at Samsung Display in South Korea. In his eight years in Korea, he had major successes in LCD and OLED research and panel development. In early 2012, he moved back to Silicon Valley to start up Samsung Display's US laboratory, which he led for three years. Since 2015, he has been an industry consultant as principal for Highlight Display LLC. Berkeley has over 50 display industry publications. He has been an SID member for over 30 years and has served on the SID Program Committee for over 25 years. He served as the SID Symposium Technical Program Chair (2000) and General Chair (2002), and served on the SID Executive Board for 10 years (2006–2016), including two years as SID's President (2012–2014). He helped rebuild SID during a critical transition period. He was named an SID Fellow in 2012 and has received six Presidential Citations for his service to SID. He currently remains active with SID on its Program Committee, the Display Industry Awards Committee, and as an Executive Committee member of SID's International Committee for Display Metrology (ICDM).

## FELLOWS OF THE SID

The membership grade of Fellow is one of unusual professional distinction conferred by the Board of Directors, acting on the recommendation of the Honors and Awards Committee, upon an SID member of outstanding qualifications and experience as a scientist or engineer in the field of information display. The candidate shall have been a member of the Society for five years and made a widely recognized and significant contribution to the advancement of the field. The nomination must be supported and signed by at least five members in good standing.

### ***Takahiro Ishinabe***

*For his contributions to wide-view and low-power sunlight-readable LCDs, including highly functional optical films.*



***Takahiro Ishinabe*** is an associate professor of the department of electronic engineering at Tohoku University in Japan. He received his Ph.D. in electronic engineering from Tohoku University. He was a research fellow of the Japan Society for the Promotion of Science from 2000 to 2002, and an assistant professor from 2003 to 2012. Since 2013, he has been an associate professor in the department of electronic engineering at Tohoku University. He was also a visiting professor in the College of Optics and Photonics at the University of Central Florida (CREOL) from 2010 to 2011. Dr. Ishinabe's significant technological contributions encompass the invention and development of wide-view and low-power LCDs and the commercialization of various functional optical films. He invented the achromatic wide-viewing-angle polarizer using biaxial phase retarders for IPS-mode LCDs and developed the single-polarizer reflective full-color LCD with a front-scattering film. He has published more than 80 journal papers, 200 conference papers, 50 invited talks, and 4 book chapters, and holds more than 40 patents. He received the SID Special Recognition Award in 2011, the SID Distinguished Paper Award two times, the SID Best Poster Paper Award in 1998, and the IDW Outstanding Poster Paper Award 20 times. He was a seminar lecturer at SID's Display Week in 2013, seminar deputy chair in 2015, and seminar chair from 2016 to 2017. He currently serves as a Display Week program committee member.

## ***ByoungHo Lee***

*For his contributions to integral imaging, light-field displays, holography, AR displays, and diffractive optics for 3D display systems.*



***ByoungHo Lee*** was born in Seoul, South Korea, in 1964. Dr. Lee received his B.S. and M.S. degrees from Seoul National University in 1987 and 1989, respectively. He received his Ph.D. in EECS at University of California at Berkeley in 1993. He joined the School of Electrical and Computer Engineering, Seoul National University, in September 1994 as a faculty member. Lee is a Fellow of SPIE, OSA, and IEEE. He is a member of the Korean Academy of Science and Technology, and also a senior member of the National Academy of Engineering of Korea. He served as the president of the Optical Society of Korea in 2019 and now is serving as the president-elect of the Korean Information Display Society. He has received awards including the SID Special Recognition Award in 2015 and the Jinbojang National Science Badge of Korea in 2016. His research fields are 3D displays, AR/VR displays, and optical metasurface applications.

## ***Franky So***

*For his contributions to the science and technology of OLED displays.*



***Franky So*** received his Ph.D. in electrical engineering from the University of Southern California in 1991. He was the OLED research group manager at Motorola and his team demonstrated the first OLED QVGA video display in 1996. Dr. So joined OSRAM in 2001 and became the head of the OLED research group. He joined the University of Florida in 2005 and became the Rolf Hummel Professor of Electronic Materials. In 2015, he joined North Carolina State University, where he is the Walter and Ida Freeman Distinguished Professor of Materials Science and Engineering. So has over 120 issued patents and patent applications. He has published more than 180 peer-reviewed articles with a Google H-index of 71. He is the editor in chief of the journal *Materials Science and Engineering Reports* and serves as an associate editor for the *IEEE Journal of Photovoltaics*, *IEEE Journal of Display Technology*, *ACS Applied Electronic Materials*, and the *SPIE Journal of Photonic Technology and Organic Electronics*. So is a Distinguished Lecturer of the IEEE Photonics Society, a Fellow of the National Academy of Inventors, and a Fellow of IEEE, OSA, and SPIE. His current research is in the area of optoelectronic devices based on organic and hybrid materials including OLEDs, organic solar cells, and hybrid quantum-dot devices.

## **Michael Weaver**

*For his contributions to phosphorescent OLED technology and its successful transfer to commercial practice.*



**Mike Weaver** is the vice president of PHOLED R&D at Universal Display Corp. (UDC). He holds a BSc and Ph.D. in physics (1996) from Sheffield University, UK. From 1996–2000 he worked for Sharp in Oxford, UK, researching OLED displays before joining UDC in 2000. At UDC Dr. Weaver led his team in the development of OLED displays on flexible plastic substrates plus work on improving the lifetime and efficiency of phosphorescent OLEDs (PHOLEDs). In 2003, this work led to the commercialization of PHOLEDs in Pioneer’s passive-matrix displays. In 2006, AU Optronics launched the first commercial phosphorescent AMOLED display, utilizing technology developed by Weaver and his team. Subsequently working with Weaver’s team, Samsung, LG Display, BOE, and others have incorporated this technology into the majority of OLED displays. He has published four book chapters and more than 120 papers, and has 110 US patents in the field of OLEDs. He joined SID in 2000 before becoming a senior member in 2009 and was awarded the UK Chapter SID Ben Sturgeon Award in 2010. From 2012–2018 he was on the Display Week OLED subcommittee with the last three years as chair. Since 2018 he has served on the SID Board as the East Americas Regional Vice President.



## ***Robert J. Visser***

*For his contributions to the development and commercialization of OLED technology, and specifically to thin-film encapsulation solutions.*



***Robert Jan Visser*** is vice president of engineering in the CTO group of Applied Materials, Inc., where he creates new business opportunities in future displays, optics for AR/VR, advanced IC packaging, bio-engineering, and quantum-information technology. For more than 30 years, Dr. Visser has pioneered research and the commercialization of display technologies related to thin-film transistors, LCD materials, barrier films (including encapsulation materials), OLEDs, and flexible displays. At Applied, he contributed to the development of the OLED encapsulation process resulting in the CVD encapsulation equipment that has become a de facto industrial standard. Prior to Applied, he was CTO of Vitex Systems, where he guided the company's thin-film encapsulation/OLED displays program from conception through feasibility, including industrialization of their manufacturing equipment, and their transformation into a technology licensing company. Dr. Visser also spent 18 years in various roles at Philips Research, including CEO and CTO of the PolyLED business. He received a Special Recognition Award from SID in 2016 for his work on OLED and thin-film encapsulation. His array of interests include individual and team sports, theater and performance arts, travel and history, friends and family, and everything outdoors. He holds a master's degree in physical and theoretical chemistry, and a Ph.D. in physical and organic chemistry, both from Leiden University, The Netherlands.



## SPECIAL RECOGNITION AWARDS

Special recognition awards are given to the members of the technical and scientific community, not necessarily SID members, for distinguished and valued contributions to the information-display field. These awards may be made for contributions in one or more of the following categories::

- (a) Outstanding Technical Accomplishments
- (b) Outstanding Entrepreneurial Accomplishments
- (c) Outstanding Contributions to the Literature
- (d) Outstanding Service to the Society
- (e) Outstanding Achievements in Education

### ***Takuji Hatakeyama***

*For his contributions to narrowband deep-blue emitting materials for high-luminance and low-power OLED displays.*



***Takuji Hatakeyama*** was born in Himeji, Japan. He holds B.Sc. and M.Sc. degrees in chemistry from the University of Tokyo. He obtained his D.Sc. in chemistry from the University of Tokyo in 2005. After graduating, Dr. Hatakeyama worked as a postdoc researcher at the University of Chicago. In 2006, he became an assistant professor at Kyoto University. During his seven years at Kyoto University, he pursued efficient methodologies based on iron catalysts. In 2013, he became an associate professor at Kwansei Gakuin University and was promoted to full professor in 2018. Hatakeyama's interest then turned toward materials chemistry. He has made significant contributions to OLED materials, especially emitters and host materials. Hatakeyama received a 1st Research Incentive Award for New Chemical Technology (Japan) in 2012, The Chemical Society of Japan Award for Young Chemists (Japan) in 2013, International Display Workshops 2014 Best Paper Award (Japan), Young Scientist's Prize for the Commendation of Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (Japan) in 2015, Chemist Award BCA 2017, MSD Life Science Foundation (Japan), Thieme Chemistry Journal Award 2018 (Germany), Asian CORE Program/Advanced Research Network Lectureship Award 2018 (Singapore), SSOCJ Fujifilm Award of Functional Materials Chemistry 2018 (Japan), and the Ichimura Prize in Science for Distinguished Achievement (Japan) in 2019.

## ***Yun-Li Li***

*For his contributions to the development and commercialization of MicroLED displays.*



***Yun-Li Li*** is CEO and co-founder of PlayNitride, Inc., a company founded in 2014 that provides microLED solutions for next-generation displays. MicroLED technology can be applied for high-performance displays with very high resolution, high contrast ratio, high aperture ratio, fast response, and very low power consumption. Dr. Li received his Ph.D. from Rensselaer Polytechnic Institute (US) with Professor Fred Schubert in 2003. His Ph.D. work focused on gallium nitride (GaN) light-emitting devices and solid-state lighting applications.

## ***David Slobodin***

*For the creation of industry-leading large-screen pen and touch-enabled group collaboration devices.*



***David Slobodin*** has more than 30 years of experience developing leading-edge display technologies. He earned a B.S. in electrical engineering from MIT in 1981 and a Ph.D. in electrical engineering from Princeton University in 1987. As general manager of hardware at Microsoft until 2017, he led the engineering team that developed Microsoft Surface Hub, a large all-in-one multi-touch display that redefined the team collaboration device category. In 2009, he joined Perceptive Pixel as vice president of engineering and manufacturing, where he built and led the Oregon-based engineering and manufacturing team that developed and produced the world's largest (84-in.) projected-capacitive multitouch/multi-pen displays. In earlier roles at White Electronics Designs, InFocus, Silicon Light Machines, and Greyhawk Systems, he developed products including one of the first automated display optical-bonding processes, the world's thinnest DLP rear-projection display, early wireless projection, MEMS grating light-valve displays and laser-addressed projection LCDs. Dr. Slobodin also managed the US government-funded display research program at DARPA that promoted early development of technologies including AMLCD, DLP, polysilicon TFT, and OLED. He has 38 US patents and is currently the founder of IdeaFarm, a consulting firm that helps high-tech companies grow their businesses.

# SID Honors and Awards

## FRANCES RICE DARNE MEMORIAL AWARD

The Frances Rice Darne Memorial Award, discontinued in 1987, was awarded occasionally to a Society member for an outstanding technical achievement (other than teaching, publication or service) or contribution to the display field. The award was made by the SID Executive Board.

1971	Bernard J. Lechner	1979	Sam H. Kaplan
1973	H. Gene Slottow	1980	James C. Greeson, Jr.
1974	Norman H. Lehrer	1981	Jan A. Rajchman
1975	Harold B. Law	1984	George E. Holz
1976	Cecil E. Land	1984	James A. Ogle
1977	Vernon J. Fowler	1985	Peter Pleshko
1978	Irving Reingold	1986	James L. Fergason

## KARL FERDINAND BRAUN PRIZE

The Karl Ferdinand Braun Prize is awarded for an outstanding technical achievement in, or contribution to, display technology. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

1987	T. Peter Brody	1999	Larry J. Hornbeck
1988	Toshio Inoguchi	2000	Larry F. Weber
1989	Norman F. Fyler	2003	Tsutae Shinoda
1989	Harold B. Law	2004	Shuji Nakamura
1989	Edward G. Ramberg	2005	William P. Bleha
1989	Alfred C. Schroeder	2006	Christopher N. King
1990	Akio Ohkoshi	2008	Richard Williams
1991	Kentaro Kiyozumi	2010	Frederic Kahn
1991	Tadashi Nakamura	2011	Rudolf Eidenschink
1992	Martin Schadt	2012	Jun Souk
1993	William E. Glenn	2013	Isamu Akasaki
1993	William E. Good	2014	Katsumi Kondo
1993	Thomas T. True	2015	Junji Kido
1995	Eiichi Yamazaki	2016	Ho Kyoong Chung
1996	George W. Gray	2017	Hiroyuki Ohshima
1997	Isamu Washizuka	2018	Hidefumi Yoshida
1998	Cyril Hilsun	2019	Amal Ghosh

## JAN RAJCHMAN PRIZE

The Jan Rajchman Prize is awarded for an outstanding scientific or technical achievement in, or contribution to, research on flat panel displays. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

1993	Terry J. Scheffer	2006	Mark E. Thompson
1994	Peter G. LeComber	2007	Shigeo Mikoshiba
1995	Shunsuke Kobayashi	2008	Shin-Tson Wu
1996	Robert Meyer	2009	Peter Raynes
1996	Capp Spindt	2010	Dwight Berreman
1998	J. William Doane	2011	Hideo Hosono
2001	Ching W. Tang	2012	Tetsuo Tsutsui
2001	Steve Van Slyke	2013	Marc Baldo
2003	Webster E. Howard	2014	Dirk J. Broer
2004	Tatsuo Uchida	2015	Shohei Naemura
2005	Donal Bradley	2016	Seung Hee Lee
2005	Jeremy H. Burroughes	2017	Shui-Chih Alan Lien
2005	Richard Friend	2018	Pochi Yeh
2006	Stephen R. Forrest	2019	Hoi-Sing Kwok

## DAVID SARNOFF INDUSTRIAL ACHIEVEMENT PRIZE

The David Sarnoff Industrial Achievement Prize is designed to honor an individual who is broadly recognized across the display industry for having achieved exceptional leadership and long-lasting impact in the display industry. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

2018	Sang Wan Lee	2019	Dongsheng Wang
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## JOHANN GUTENBERG PRIZE

The Johann Gutenberg Prize is awarded for an outstanding TECHNICAL achievement in, or contribution to, printer technology. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

1987	Gary K. Starkweather	1998	C. Wayne Jaeger
1988	C. Hellmuth Hertz	1998	Donald Titterington
1989	Shigehisa Nakaya	1999	Dan A. Hays
1990	Albert S. Chow	2000	Seung Ho Baek
1990	Richard H. Darling	2000	Charles DeBoer
1991	Ichiro Endo	2001	Minoru Usui
1991	John L. Vaught	2002	Robert W. G. Hunt
1992	Richard A. Fotland	2004	Masaki Kutsukake
1993	Robert W. Gundlach	2005	Josef Schneider
1994	Akito Iwamoto	2006	Michio Shinozaki
1995	Hiroaki Kotera	2007	Jeffrey J. Folkins

## OTTO SCHADE PRIZE

The Otto Schade Prize is awarded for an outstanding scientific or technical achievement in, or contribution to, the advancement of functional performance and/or image quality of information displays. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

2006	Curtis R. Carson	2012	Adi Abileah
2006	Roger Cohen	2014	Candice Brown Elliott
2007	Andrew B. Watson	2015	Ingrid Heynderickx
2008	Louis D. Silverstein	2016	Nikhil Balram
2010	Eli Peli	2017	Martin S. Banks
2011	Scott Daly		

## SLOTTOW-OWAKI PRIZE

The Slottow–Owaki Prize is awarded for outstanding contributions to the education and training of students and professionals in the field of information display. The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

2007	J. William Doane	2014	Han-Ping Shieh
2008	Tatsuo Uchida	2015	Jin Jang
2009	Ernst Lueder	2016	Shunsuke Kobayashi
2010	Philip Bos	2017	Deng-Ke Yang
2011	Shin-Tson Wu	2018	Vladimir Chigrinov
2012	Lawrence E. Tannas, Jr.	2019	Chain-Shu Hsu
2013	Hoi-Sing Kwok		

## PETER BRODY PRIZE

The Peter Brody Prize is awarded to honor outstanding contributions of young researchers (under 40) who have made major-impact technical contributions to the developments of active matrix addressed displays in one or more of the following areas:

- Thin film transistor devices
- Active matrix addressing techniques
- Active matrix device manufacturing
- Active matrix display media
- Active matrix display enabling components.

The award is made by the Executive Board acting on the recommendation of the Honors and Awards Committee and carries a stipend of US \$2000.

2017	Yi-Pai Huang	2019	Hsing-Hung Hsieh
2018	Seth Coe-Sullivan		

## LEWIS AND BEATRICE WINNER AWARD

The Lewis and Beatrice Winner Award for Distinguished service is awarded to a Society member for exceptional and sustained service to SID. The award is made at most once a year by the Executive Board acting on recommendation of the Honors and Awards Committee.

1983	Bernard J. Lechner	1999	Philip M. Heyman
1984	Lewis Winner	2002	Alan Sobel
1985	Solomon Sherr	2003	Shunsuke Kobayashi
1987	Harold R. Luxenberg	2004	Jay Morreale
1988	Irving Reingold	2006	Aris Silzars
1989	Ifay F. Chang	2007	Andras Lakatos
1990	Koichi Miyaji	2009	Peter Baron
1991	John van Raalte	2010	Makoto Maeda
1992	Masakazu Fukushima	2012	Webster E. Howard
1993	Lawrence E. Tannas, Jr.	2013	Shigeo Mikoshiba
1994	Howard L. Funk	2014	Jennifer Bach
1995	Walter F. Goede	2015	Allan Kmetz
1996	Takehiro Kojima	2016	Anthony C. Lowe
1998	Chuji Suzuki	2017	Kenneth I. Werner

## FELLOWS OF THE SID

1963	Ruth M. Davis	1982	Peter D. T. Ngo
1963	James H. Howard	1983	Yoshifumi Amano
1964	Anthony Debons	1983	T. Peter Brody
1965	Rudolph L. Kuehn	1983	Webster E. Howard
1966	Edith Bardain	1983	Lawrence E. Tannas, Jr.
1966	William P. Bethke	1984	Thomas L. Credelle
1966	Carlo P. Crocetti	1984	Werner E. Haas
1966	Frances R. Darne	1984	P. Andrew Penz
1966	Harold R. Luxenberg	1985	C. J. Gerritsma
1966	Petro Vlahos	1985	Allan R. Kmetz
1967	William R. Aiken	1986	Tomio Wada
1967	Sid Deutsch	1986	Paul M. Alt
1967	George Dorion	1986	Roger L. Johnson
1967	Solomon Sherr	1987	Andras I. Lakatos
1968	Fordyce M. Brown	1987	Shunsuke Kobayashi
1968	Robert C. Carpenter	1987	Omesh Sahn
1968	Phillip P. Damon	1988	Dwight W. Berreman
1969	James H. Redman	1988	Akio Sasaki
1969	Carl Machover	1988	Heiju Uchiike
1969	Louis M. Seeberger	1989	Takehiro Kojima
1970	Leo Beiser	1989	Larry F. Weber
1970	Nobuo John Koda	1989	Zvi Yaniv
1970	Bernard J. Lechner	1990	Eiji Kaneko
1970	Harry H. Poole	1990	Christopher N. King
1971	Benjamin Kazan	1990	Harry L. Snyder
1971	Harold B. Law	1991	Masami Yoshiyama
1972	Pierce W. Siglin	1992	Walter F. Goede
1973	Irving Reingold	1992	Fang-Chen Luo
1974	Vernon J. Fowler	1992	Iwao Ohishi
1974	Charles P. Halsted	1992	Martin Schadt
1974	Edwin H. Hiborn	1993	Peter G.J. Barten
1974	George Holz	1993	Makoto Ikegaki
1974	Albert Loshin	1993	Chuji Suzuki
1975	Lucien M. Biberman	1994	Masakazu Fukushima
1975	William E. Good	1994	Edward P. Raynes
1975	H. Gene Slottow	1994	Tatsuo Uchida
1976	Sanai Mito	1995	Hsing-Yao Chen
1976	Dalton Pritchard	1995	Hiroo Hori
1976	Gerald K. Slocum	1995	Shigeo Mikoshiba
1977	Thomas C. Maloney	1996	Carlo Infante
1977	Koichi Miyaji	1996	Hideaki Kawakami
1977	William H. Ninke	1966	Alan G. Knapp
1977	John A. van Raalte	1996	Chizuka Tani
1978	Ifay F. Chang	1997	Günter Baur
1978	Gentaro Miyazaki	1997	James Ferguson
1978	Peter Pleshko	1997	Louis D. Silverstein
1979	Aron Vecht	1997	Eiichi Yamazaki
1980	Cecil E. Land	1998	Fumiaki Funada
1980	Masanobu Wada	1998	William Glenn
1981	Frederic J. Kahn	1998	Ernst Lüeder
1981	Elliott Schlam	1998	Shinji Morozumi
1981	Alan Sobel	1998	P. Neil Yocum
1982	Jay J. Brandinger	1999	Makoto Maeda
1982	John M. Constantine	1999	Shoichi Matsumoto

1999	Terry J. Scheffer	2009	John Zhong
1999	Tsutae Shinoda	2010	Wei Chen
2000	J. William Doane	2010	Edward F. Kelly
2000	Setsuo Kaneko	2010	Haruhiko Okumura
2000	Hiroyuki Ohshima	2010	Roger Stewart
2000	Seyno A. Sluyterman	2010	Andrew Watson
2001	Shoji Shirai	2011	Julie J. Brown
2001	Takeo Sugiura	2011	In-Jae Chung
2001	Shosaku Tanaka	2011	Yoichi Sato
2001	Shin-Tson Wu	2011	Sung Tae Shin
2001	Kei-Hsiung Yang	2011	Xiao Wei Sun
2002	Philip J. Bos	2012	Nikhil Balram
2002	Daniel den Engelsen	2012	Brian Berkeley
2002	Nobuki Ibaraki	2012	Ho Kyoon Chung
2002	Shohei Naemura	2012	Oh-Kyong Kwon
2002	Ching W. Tang	2012	Hiap L. Ong
2003	William P. Bleha	2013	Kalil Kälántär
2003	Shui-Chih Alan Lien	2013	Hiroyuki Mori
2003	Eli Peli	2013	Gopalan (Raj) Rajeswaran
2003	Gary K. Starkweather	2013	Takatoshi Tsujimura
2003	Edward H. Stupp	2013	Baoping Wang
2003	I-Wei Wu	2014	Chihaya Adachi
2004	Jean-Pierre Boeuf	2014	Victor Belyaev
2004	Arlie Richard Conner	2014	Jamglin Chen
2004	Katsumi Kondo	2014	Yong-Seog Kim
2004	Anthony C. Lowe	2014	Taichiro Kurita
2004	Masataka Matsuura	2015	Anne Chiang
2004	Kouji Suzuki	2015	Ryuichi Murai
2005	Adi Abileah	2015	Fuji Okumura
2005	Gregory P. Crawford	2015	John Wager
2005	Paul S. Drzaic	2015	Hidefumi Yoshida
2005	Hoi-Sing Kwok	2016	Achintya K. Bhowmik
2005	Hiroshi Murakami	2016	Hideo Hosono
2005	Han-Ping Shieh	2016	In Byeong Kang
2006	Chin Hsin (Fred) Chen	2016	Changhee Lee
2006	Willem den Boer	2016	Chung-Chih Wu
2006	Jin Jang	2017	Toshiaki Arai
2006	Tsunehiko Sugawara	2017	Hyun Jae Kim
2006	Steven A. Van Slyke	2017	Sin-Doo Lee
2006	Ki-Woong Whang	2017	Sang-Hee Ko Park
2007	Michael Hack	2017	Qun (Frank) Yan
2007	Myung Hwan Oh	2018	Steven Bathiche
2007	Kenji Okamoto	2018	Mary Lou Jepsen
2007	Kalluri Sarma	2018	Ioannis Kymissis
2007	Yoshifumi Shimodaira	2018	Seok-Lyul Lee
2007	Deng-Ke Yang	2018	Qiong-Hua Wang
2008	Vladimir Chigrinov	2019	Shihchang (James) Chang
2008	Ingrid Heynderickx	2019	Yi-Pai Huang
2008	Christo Hosokawa	2019	Poopathy Karthirgamanathan
2008	Junji Kido	2019	Sungchul Kim
2008	Seung Hee Lee	2019	Tomokazu Shiga
2008	Richard McCartney		
2009	Amal Ghosh		
2009	Min Koo Han		
2009	Sang Soo Kim		
2009	Jun Souk		
2009	Sashiro Uemura		



## SPECIAL RECOGNITION AWARDS

1972	Malcolm L. Ritchie	1993	Birendra Bahadur
1972	Solomon Sherr	1993	Jacques L. Deschamps
1974	William E. Good	1993	Takashi Inukai
1974	Herbert C. Hendrickson	1993	Hideomi Ohnishi
1974	Kenichi Owaki	1993	Shosaku Tanaka
1974	Ivan Sutherland	1993	Tsutae Shinoda
1974	Andries van Dam	1994	Shigeo Aoki
1975	Joseph E. Bryden	1994	Guy Hill
1975	George H. Heilmeier	1994	Rikusei Kohara
1975	Peter Seats	1994	Hiroshi Murakami
1975	Otto H. Schade, Sr.	1994	Hiroshi Suzuki
1975	Donald A. Shurtleff	1994	Bunji Uchida
1975	T. Peter Brody	1995	Masaya Hijikigawa
1976	Joseph Markin	1995	Tsunekiyo Iwakawa
1976	Albert Rose	1995	Yasuhisa Oana
1976	Aron Vecht	1995	Hiroyuki Ohshima
1977	Gerald Marie	1995	Takeo Sugiura
1977	Solomon Sherr	1995	Satoshi Okazaki
1977	Beatrice & Lewis Winner	1995	Larry F. Weber
1978	Leo Beiser	1995	Zu-Kai Wu
1978	C. J. Gerritsma	1996	Thomas S. Buzak
1978	Benjamin Kazan	1996	Michel Le Contellec
1979	Donald L. Bitzer	1996	Makoto Maeda
1979	Tony N. Criscimagna	1996	François Morin
1979	Tadashi Nakamura	1996	Shuji Nakamura
1979	Peter D. T. Ngo	1996	Richard Thoman
1980	Paul M. Alt	1997	Atsuo Fukuda
1980	Philip M. Heyman	1997	Richard E. Holmes
1981	William B. Pennebaker	1997	Shuji Iwata
1982	Larry F. Weber	1997	Hisao Nakanishi
1983	Toshio Inoguchi	1997	Bernhard Scheuble
1983	Henry Marcy	1997	Shoji Shirai
1983	Chuji Suzuki	1997	Georg Weber
1983	Omesh Sahni	1998	Katsumi Kondo
1984	Koichiro Kurahashi	1998	Rudolph Kiefer
1986	Masakazu Fukushima	1998	Keiji Nunomura
1986	Eiichi Yamazaki	1998	Tokuhide Shimojo
1987	Dwight W. Berreman	1998	Hiroshi Wada
1987	Eiji Kaneko	1999	John C. C. Fan
1987	Jurgen Nehring	1999	Yasuyuki Gotoh
1987	E. Peter Raynes	1999	Kenji Okamoto
1987	Martin Schadt	1999	Kouji Suzuki
1987	Terry J. Scheffer	1999	Yasumasa Takeuchi
1988	Shinji Morozumi	1999	Malcolm Thompson
1988	Tatsuo Uchida	2000	Joseph A. Castellano
1989	Noel A. Clark	2000	Nobuki Ibaraki
1989	Sven T. Lagerwall	2000	Shohei Naemura
1989	Robert B. Meyer	2000	Tsunehiko Sugawara
1990	Robert C. Durbeck	2000	Teruo Thoma
1990	Fang-Chen Luo	2000	Shin-Tson Wu
1991	Hiroo Hori	2001	Hiroyoshi Fukuro
1991	Shigeo Mikoshiba	2001	Tadatsugu Hirose
1992	Harold A. Ketchum	2001	Yukinobu Iguchi
1992	Karel E. Kuijk	2001	Daphne Lamport
1992	Masanori Watanabe	2001	Cheng-Yuan Lin
1992	Kinzo Nonomura	2001	Susumu Sakamoto

2002	Tei Iki	2010	James Larimer
2002	Junji Kido	2010	Ryuichi Murai
2002	Taiichiro Kurita	2010	Helge Seetzen
2002	Soichiro Okuda	2010	Tsutae Shinoda
2002	Yoichi Sato	2010	Greg Ward
2002	Yoshifumi Shimodaira	2010	Lorne Whitehead
2002	Sashiro Uemura	2011	Hyun Chul Choi
2003	Amalkumar P. Ghosh	2011	Tieer Gu
2003	Paul E. Gulick	2011	Takahiro Ishinabe
2003	Jin Jang	2011	Kyeong Hyeon Kim
2003	Noboru Miura	2011	Oh-Kyong Kwon
2003	Terence J. Nelson	2011	Ravilisetty Padmanabha Rao
2003	Michael D. Wand	2011	Jun Someya
2004	Hsuan Bin Chen	2012	Janglin Chen
2004	George W. Dick	2012	Hyang Yul Kim
2004	Toshihiro Komaki	2012	Seung-Hee Lee
2004	Robin Merrifield	2012	Seok-Lyul Lee
2004	Louis D. Silverstein	2012	Tapani Levola
2004	Haruhiko Okumura	2012	Shigeaki Mitsuhiro
2004	Dan J. Schott	2012	Masayuki Sugawara
2005	Keiichi Betsui	2013	Keiji Ishii
2005	Satish Kumar Kaura	2013	In-Byeong Kang
2005	Thierry Leroux	2013	Isao Kawahara
2005	Hiap L. Ong	2013	Ryuichi Murai
2005	Gerrit Oversluizen	2013	Qun (Frank) Yan
2005	Tomokazu Shiga	2013	Hidefumi Yoshida
2005	Deng-Ke Yang	2013	Takehiro Zukawa
2006	Hideki Asada	2014	Mark Bradley Spitzer
2006	Ho-Kyoon Chung	2014	Hyun Jae Kim
2006	Joseph M. Jacobson	2014	Zenichiro Hara
2006	Yoshikazu Kanazawa	2014	Changhee Lee
2006	Edward F. Kelley	2015	Toshio Kamiya
2006	Jun Souk	2015	Byeongkoo Kim
2006	Hirofumi Wakemoto	2015	Yasuhiro Koike
2007	In-Jae Chung	2015	ByoungHo Lee
2007	Alex Henzen	2015	Jun Ho Song
2007	Kalil Kälántár	2015	Ahihiro Tagaya
2007	Sang Soo Kim	2015	Shunpei Yamazaki
2007	Walter Riess	2016	Jongseo Lee
2007	Takatoshi Tsujimura	2016	Chang Ho Oh
2007	John A. Rupp	2016	Tetsuo Urabe
2007	Koichi Sakita	2016	Robert J. Visser
2007	Marko M. G. Slusarczuk	2016	Emi Yamamoto
2008	Kimio Amemiya	2017	Masaki Hasegawa
2008	Alan Jacobsen	2017	Jang Hyuk (Jeremy) Kwon
2008	Sungkyoo Lim	2017	Raymond Kwong
2008	Hiroyuki Mori	2017	Kenichiro Masaoka
2008	Kiyoshi Yoneda	2018	Jae-Hoon Kim
2009	Byung-Chul Ahn	2018	Hisahiro Sasabe
2009	Peter Bocko	2018	Yasushi Tomioka and
2009	Hideo Hosono		Noboru Kunitatsu
2009	Gary Jones	2018	Katsuhide Uchino
2009	Hirotsugu Kikuchi	2019	Chiwoo Kim
2009	Temkar Ruckmongathan	2019	Jinoh Kwag
2010	Kenji Awamoto	2019	Seung-Woo Lee
2010	Joyce Farrell	2019	Xiaogang Peng
2010	Hiroki Hamada	2019	Soo-Young Yoon
2010	Manabu Ishimoto		
2010	Michio Kitamura		