# 2021 SID Honors and Awards



Presented May 2021

# Foreword

ne of the central goals of our Society is to inspire the scientific, literary, and educational advancements of information displays, and their allied arts and sciences. Through our Honors and Awards Program, we recognize and celebrate those individuals who have contributed such major advancements to the display industry. These contributions span specific technological and scientific advances, outstanding educational achievements, and notable service to 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. The Committee worked hard to maintain the highest standards in selecting the individuals being honored this year.

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 to yourselves, your organizations, 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 2021 Karl Ferdinand Braun Prize with the associated US \$2000 stipend provided by AU Optronics Corp.; 2021 David Sarnoff Industrial Achievement Prize with the associated US \$2000 stipend provided by BOE Technology Group Co., Ltd.; 2021 Jan Rajchman Prize with the associated US \$2000 stipend provided by Guangdong Juhua Printed Display Technology Co., Ltd.; 2021 Peter Brody Prize with the associated US \$2000 provided by Dr. Fang-Chen Luo; 2021 Slottow-Owaki Prize with the associated US \$2000 stipend provided by Fujitsu, Ltd., and Dr. Tsutae Shinoda; and the 2021 Otto Schade Prize with the associated US \$2000 stipend provided by Samsung.

#### **Honors and Awards Committee**

Toshiaki Arai Paul Drzaic, chair Ingrid Heynderickx

Mike Hack Yong-Seog Kim HS Kwok

Richard McCartney Haruhiko Okumura Marja Salmimaa Han-Ping (David) Shieh Jun Souk Robert Visser

Andrew Watson S.-T. Wu

# 2021 Honors and Awards

#### Karl Ferdinand Braun Prize

Sungchul Kim

## David Sarnoff Industrial Achievement Prize

Tomson Li Dongsheng

# Jan Rajchman Prize

Karl Leo

# Peter Brody Prize

Hiromi Minemawari

#### Slottow-Owaki Prize

Man Wong

#### Otto Schade Prize

Mark D. Fairchild

#### Lewis and Beatrice Winner Award

Larry F. Weber

#### Fellows of the SID

Kazumasa Nomoto Po-Tsun Liu Jang Hyuk Kwon Kenichiro Masaoka François Templier

# Special Recognition Awards

Mamoru Furuta Gosuke Ohashi Yukiharu Uraoka Xue Dong

# KARL FERDINAND BRAUN PRIZE

The Karl Ferdinand Braun award is awarded for outstanding technical achievement, which has also had substantial impact on the display industry. The Braun award is SID's most prestigious individual award, honoring those people who have pioneered the technologies underpinning commercial displays.



Sungchul Kim

For his technical contributions to the successful volume production of high-resolution AMOLED displays with LTPS-TFT backplane technology.

Sungchul Kim, head of Samsung Display's Mobile Display Business since 2017, is known for his pioneering and visionary work in AMOLED technology. After the possibility of applying OLEDs to displays was first announced in 1987, a number of major display companies immediately tried to mass produce AMOLEDs. However, due to a great deal of technological difficulties as well as inefficient investment, many of them withdrew from the AMOLED business. Despite such hardships, Kim continued to develop AMOLED technologies in materials, equipment, and processes, creating a whole new OLED ecosystem. Eventually, Kim's team at Samsung successfully mass-produced AMOLEDs in 2007.

Among his many other world's first successes are:

- Mass production of OCTA (on-cell-touch AMOLED, embedded touch) displays in 2010.
- Mass production of flexible AMOLEDs in 2013.
- Mass production of notch-type AMOLEDs in 2017.
- Mass production of HIAA (hole in active-area) AMOLEDs in 2018.
- Mass production of foldable AMOLEDs in 2019.

Throughout his career, Kim has brought displays from imagination into reality by pioneering new markets and providing leadership for next-generation technologies. He received his Ph.D. in physics from Kyung Hee University in Seoul, Korea.

# DAVID SARNOFF INDUSTRIAL ACHIEVEMENT PRIZE

The David Sarnoff Industrial Achievement Award is conferred for major impact on the business of the electronic display industry. The Sarnoff Award is not targeting technical achievement but honors those people whose achievements have shaped the current electronic display industry.



Tomson Li Dongsheng

For his outstanding leadership in the flat-panel display industry in China, and achievement in establishing TCL Corporation as a global technology company.

Born in July 1957, *Tomson Li Dongsheng* is the founder and Chairman of TCL. Li was listed among the "Top 25 Global Business Leaders" by *Time* magazine and CNN in 2004, and as one of the "50 Best CEOs in China" in the Chinese edition of *Forbes* magazine in 2013.

Li graduated from South China University of Technology with a major in radio technology. He participated in the founding of TCL upon his graduation in 1982. In 2019, TCL split into TCL Corporation ("TCL TECH") and TCL Industrial Holdings Co., Ltd. In 2020, TCL TECH. participated in the mixed ownership reform of Zhonghuan Group. So far, TCL has formed three business engines: intelligent terminal business group with TCL Electronics as the core, semiconductor display and materials business group with TCL CSOT as the core, and semiconductor and new energy materials business group with Zhonghuan Group as the core.

# JAN RAJCHMAN PRIZE

The Jan Rajchman Prize is awarded for outstanding scientific or technical contributions to electronic display technology. This award is open to academic achievement, in addition to notable technology developments that are recognized as groundbreaking in their field.



Karl Leo

For his seminal work on OLED displays, particularly the introduction of stable and controlled doping to organic semiconductors for highly efficient OLED displays.

Karl Leo obtained the Diplomphysiker degree from the University of Freiburg in 1985, working with Adolf Goetzberger at the Fraunhofer-Institut für Solare Energiesysteme. In 1988, he obtained his Ph.D. from the University of Stuttgart for a thesis based on work done at the Max-Planck-Institut für Festkörperforschung in Stuttgart under the supervision of Hans Queisser. From 1989 to 1991, he was a postdoc at AT&T Bell Laboratories in Holmdel, NJ. From 1991 to 1993, he was with the Rheinisch- Westfälische Technische Hochschule (RWTH) in Aachen, Germany. Since 1993, he has been a full professor of optoelectronics at the Technische Universität Dresden. His main interests are novel semiconductor systems such as semiconducting organic thin films; with special emphasis on understanding basic device principles and optical responses. His work has been recognized with a number of awards, including: Otto-Hahn-Medaille (1989), Bennigsen-Förder-Preis (1991), Leibniz-Award (2002), award of the Berlin-Brandenburg Academy (2002), Manfred-von-Ardenne-Preis (2006), Zukunftspreis of the German president (2011), Rudolf-Jäckel-Prize (2012), Dr. techn. h.c. of the University of Southern Denmark (2013), and the Technology Transfer Prize of the DPG (2016). He is a cofounder of several companies, including Novaled GmbH and Heliatek GmbH.

# PETER BRODY PRIZE

The Peter Brody Prize is awarded to young researchers and engineers (under age 40) who have made major technical or scientific contributions to electronic display technology.



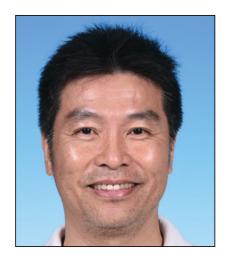
Hiromi Minemawari

For her contributions to innovative printing techniques for high-performance organic thin-film transistors for flexible and printed electronics.

Hiromi Minemawari is a senior researcher at the National Institute of Advanced Industrial Science and Technology (AIST) in Tsukuba, Japan. Her most significant achievement is the development of an innovative inkjet-printing technique that allows the manufacturing of single-crystal thin films of organic semiconductors and organic TFTs with high carrier mobility. Printed electronics technology, including print production techniques for electronic devices, is expected to realize light-weight, thin, and flexible electronic devices that can be manufactured while saving energy and resources. In addition to the above inkjet printing technique, Minemawari has contributed to the development of printable high-performance organic semiconductor materials. She is a committee member of the Active-Matrix Displays Workshop of IDW and AM-FPD'21. She earned her Ph.D. in science from Hokkaido University.

# SLOTTOW-OWAKI PRIZE

The Slottow-Owaki Prize is awarded for outstanding contributions to the education and training of students, and/or professionals, in the field of electronic displays.



Man Wong

For his continuing dedication to the education of graduate and undergraduate students in display electronics, many of whom went on to successful careers in academia, engineering, and entrepreneurship.

Man Wong was born in Beijing, China. From 1979 to 1984, he studied at the Massachusetts Institute of Technology in Cambridge, MA, where he obtained his B.S. and M.S. degrees in electrical engineering. From 1985 to 1988, he worked on tungstengate MOS technology at the Center for Integrated Systems at Stanford University in California, where he obtained his Ph.D., also in electrical engineering. From 1988 to 1992, Wong was with the Semiconductor Process and Design Center of Texas Instruments, where he worked on the modeling and development of integrated-circuit metallization systems and dry/vapor surface-conditioning processes. Since 1992, he has been with the Department of Electronic and Computer Engineering at The Hong Kong University of Science and Technology, Hong Kong. His research interests include micro-fabrication technology, device structure, and material; physics and technology of thin-film transistors; organic light-emitting diode display technology; modeling and implementation of integrated micro-systems; and thin-film solar cell device and process technology.

# OTTO SCHADE PRIZE

The Otto Schade Prize is awarded for outstanding scientific or technical achievement in the image quality of electronic displays. This award recognizes vision scientists, human factor engineers, and those engineers whose efforts have led to major improvements in the visual quality of electronic displays.



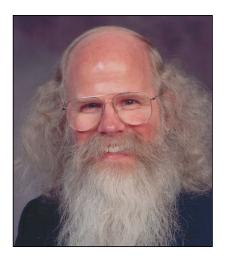
Mark D. Fairchild

For his many contributions to quantifying spatial display performance and analogous human visual performance metrics.

**Mark D. Fairchild** is professor and founding head of the Integrated Sciences Academy in RIT's College of Science and director of the Program of Color Science and Munsell Color Science Laboratory. He received his B.S. and M.S. degrees in imaging science from R.I.T. and his Ph.D. in Vision Science from the University of Rochester. He was presented with the 1995 Bartleson Award by the Colour Group (Great Britain) and the 2002 Macbeth Award by the Inter-Society Color Council for his research work in color appearance and other areas of color science. He is the author of more than 400 technical publications and the book Color Appearance Models, 3rd Ed., which serves as a reference to the fundamentals of color appearance and the formulation of specific models. He served as color imaging editor for the Society for Imaging Science and Technology's Journal of Imaging Science and Technology for three years and was named a Fellow of IS&T in 2003 for his contributions to digital color imaging. In 2007, Fairchild was presented with the Davies Medal by the Royal Photographic Society for his contributions to photography in the digital field of imaging science. He received the 2008 IS&T Raymond C. Bowman award for excellence in education and was named a Fellow of the Optical Society of America in 2012 for his contributions to research and education in color and imaging sciences.

# LEWIS AND BEATRICE WINNER AWARD

The Lewis and Beatrice Winner Award is conferred for exceptional and sustained service to SID.



Larry F. Weber

For his 40 years of outstanding service to the Society for Information Display and the global display community.

Larry F. Weber was fortunate to start his career in displays in 1969 as a young graduate student of the inventors of the plasma display panel at the University of Illinois. As a student he attended his first SID Symposium in 1971, became a SID member in 1972, and published his first SID Symposium paper in 1973. His professors taught him, by their example, the great value of active interactions with the SID community.

Weber is best known for his many contributions to display technology, pioneering the development and commercialization of plasma TVs. The following will focus on his voluntary service to SID and the display community.

As a young assistant professor, Weber was invited to join the SID Symposium Program Committee in 1980. He has continued to be an active program committee member for the past 40 years.

In 1983, as the chair of the SID Academic Committee, he initiated the SID Student Travel Grant Program and managed it for its first seven years. This program has continued over the years to provide travel money to students doing research on displays, allowing them to present their research results at Display Week.

Weber served 24 years on the SID Honors and Awards Committee, from 1996 until 2020. He championed the formation of new SID Awards: the Slottow-Owaki Prize, the Otto Schade Prize, and the David Sarnoff Prize for Industrial Achievement.

He is the architect of the method used to measure TV Set Energy Consumption of the IEC 62087 international standard and was the editor of the widely used 10-minute video that simulates the average pixel level of typical TV programming. Released in 2008, this standard has been universally adopted throughout the world, allowing TV sets to become much more energy efficient and thereby significantly reducing the world's energy usage.

As SID President, Weber adopted the practice of attending every SID-sponsored international conference during his two-year term of office. This included 16 different SID international conferences and helped SID's widely dispersed international members to better work as one unified organization.

In 2007 Weber championed the formation of the SID International Committee for Display Metrology (ICDM). This group of display metrologists had previously worked on an earlier display standard under VESA. Under the SID umbrella, the ICDM has grown to 170 members and has published the 547-page *Information Display Measurements Standard*, which is freely available to all members of the display community.

### **FELLOWS**

The membership grade of Fellow is awarded to an SID member who has made outstanding and widely recognized engineering or scientific contributions to the display field. The number of SID Fellow awards each year is limited by policy set by the SID Board of Directors.

#### Kazumasa Nomoto

For his many contributions to organic electronics, particularly the world's first demonstration of organic-TFT-driven foldable/rollable OLED displays and e-Papers, and his leadership in development of microOLED/microLED displays.



Kazumasa Nomoto received a Ph.D. in physics from Keio University, Japan, in 2000. In 1991, he joined Sony Corporation. His research activities have focused on quantum dots, semiconductor nonvolatile memory, low-temperature poly-Si TFTs, metal-oxide TFTs, organic TFTs, flexible e-Papers, flexible/rollable/foldable OLED displays, and printed electronics. From 1998 to 1999, he was a visiting scholar at Massachusetts Institute of Technology, Cambridge, MA. He has more than 100 publications and more than 90 issued patents in the field of

semiconductors and information displays. He is currently a chief principal researcher/distinguished engineer at Sony in Japan, where he is in charge of the technical management of display and sensor devices such as microdisplays, projectors, LED displays, flexible pressure sensors, and reflective displays. He is also a visiting professor for the Keio Program for Leading Graduate Schools at Keio University.

#### Po-Tsun Liu

For his outstanding contributions in developing innovative TFT technologies for high-performance, photo-sensing, and power-saving system-on-panel display applications.



**Po-Tsun Liu** is currently a distinguished professor who also serves as vice president for research & development and director of the Display Research Center at National Yang Ming Chiao Tung University (NYCU) in Taiwan. He has demonstrated technical leadership in the research and development of advanced display electronic devices and circuits, and stands out in the category of technical achievements, publications, and invention patents. He is internationally renowned for significant contributions to TFT and TFT-based functional devices/circuits for

active-matrix displays, including TFT-based photo-sensors, nonvolatile memory devices, and gate-driver-on-array technologies. He has published over 350 journal papers and conference proceedings, with more than 6,000 citations, and an h-index of 41, and has more than 135 worldwide granted patents, many of which have been licensed to panel makers in Taiwan, and have been used in actual product applications. Additionally, Prof. Liu has been active in serving on both the SID program committee and the Taipei Chapter as a chapter officer. He was named an IEEE Fellow in 2020.

#### Jang Hyuk Kwon

For his pioneering research on OLED displays, particularly top-emission OLED architecture and blue TADF materials.



Jang Hyuk Kwon received his Ph.D. (1993) in chemistry from the Korea Advanced Institute of Science and Technology. His first job was in display R&D at Samsung SDI. He was the original member of the OLED team at Samsung, and has been involved in many OLED and AMOLED projects. Notably, he was a leader in setting up OLED device and material technology for manufacturing at Samsung. Since 2009, Samsung has manufactured AMOLEDs for mobile applications. Kwon contributed pioneering work toward the current gener-

ation of stunning top-emission OLEDs for the Galaxy Samsung AMOLED display, and is one of the key people who believed that OLED technology could be used in the Galaxy Samsung display products. About 15 years ago, Kwon moved to Kyung Hee University, where he has also pioneered display technologies such as new TADF materials and smart windows for AR/VR applications. He has published about 150 SCI international journal papers and has more than 50 international patents.

#### Kenichiro Masaoka

For his significant contributions to the design of the Rec. 2020 ultrahigh definition (UHD) system colorimetry, the invention of 2D color gamut rings, and the development of camera/display modulation transfer function (MTF) measurement systems



Kenichiro Masaoka is a principal research engineer at NHK Science and Technology Research Laboratories, Tokyo, Japan. He received his Ph.D. in engineering from the Tokyo Institute of Technology in 2009. He worked with Professors Mark Fairchild and Roy Berns for a six-month residency as a visiting scientist at the Munsell Color Science Laboratory at the Rochester Institute of Technology (RIT) in 2012. His research interests include color science and digital imaging systems. In 2017, he received a Special Recognition Award from SID for his leading contribu-

tions to the research and development of a wide-color-gamut UHD-TV display system and gamut-area metrology. Since 2018, he has been the chair of the Subcommittee on Color Metrology in the International Committee for Display Metrology (ICDM), part of SID's Definitions and Standards Committee charged with setting standards for display metrology.

#### François Templier

For his many contributions to the science and technology of thin-film transistors, flexible displays, OLED microdisplays, and GaN microLED displays.



François Templier is a research director at CEA-LETI. He holds a master's degree in physics and a Ph.D. in microelectronics, both from the Polytechnic Institute of Grenoble, France. From 1993 to 1999, he was with Thomson LCD (now Thales Avionics LCD), where he developed new a-Si TFT processes for active-matrix liquid-crystal displays. Since 1999, he has been with CEA-LETI, Minatec Campus, in Grenoble, France, where his research activity is focused on advanced displays, more particularly emissive microdisplays, flexible displays, and

thin-film transistors. Between 2013 and 2017, he managed the development of GaN microLED displays. Since 2017, he has been the displays program manager for the optics and photonics department. Templier is a member of the Society for Information Display, and currently director of SID's French Chapter.

# SPECIAL RECOGNITION AWARDS

Special Recognition Awards are conferred to members of the technical, scientific and for distinguished and valued contributions to the field of electronic displays. Unlike other SID individual awards, SID membership is not a prerequisite for a Special Recognition Award.

#### Mamoru Furuta

For his many contributions to thin-film transistors, including mass production of LTPS-TFT LCDs, the world's first demonstration of an AM-LCD with an oxide (ZnO) TFT backplane, and a stacked image sensor for novel transparent electronics.



Mamoru Furuta is a professor and the director of the Center for Nanotechnology, Kochi University of Technology, Japan. He started low-temperature processed poly-Si thin-film transistor (LTPS TFT) research in 1988 at the Central Research Laboratory of Panasonic, Japan, for use in peripheral-driver-circuit-integrated liquid-crystal displays (LCDs). During his 16-year corporate career, he made many contributions to the display industry and community, such as the development of LTPS-TFT LCD technology and its mass production. He joined Kochi

University of Technology, Japan, in 2005 as an associate professor. He started metaloxide semiconductor TFT research for next-generation displays with Casio Computer Co., Ltd., Japan, which was supported by the Japan Science and Technology Agency. At Display Week 2006, he and Casio Computer Co., Ltd., Japan, jointly presented the world's first 1.46-in. active-matrix LCDs (AM-LCDs) driven by oxide semiconductor (ZnO) TFTs. He received a Distinguished Paper Award from the Society for Information Display in 2006. In 2010, he and the NHK Science and Technology Research Laboratory, Japan, jointly developed a novel 3D-type image sensor with transparent ZnO circuits for signal readout. He received a Niwa-Takayanagi Paper Award from the Institute of Image Information and Television Engineers, Japan, for his contribution to the novel image sensor. Since 2011, he has been a professor at the Research Institute and Department of Environmental Science and Engineering, Kochi University of Technology, Japan. During 15 years of academic research, he has produced pioneering work on information devices including a world's-first AM-LCD driven by an oxide-TFT backplane and a stacked image sensor with transparent oxide-TFT circuits.

#### Gosuke Ohashi

For his pioneering contributions to the research of quantifying and modeling human visual systems for image processing and wide-colorgamut displays in the fields of applied vision and human factors.



Gosuke Ohashi received his B.E., M.E., and Ph.D. degrees from Keio University in Yokohama, Japan, in 1992, 1994, and 1997, respectively. He has been an assistant professor since 1997 and is currently a professor in the Department of Electrical and Electronic Engineering at Shizuoka University. He was a visiting researcher at University of California Santa Barbara from 2003 to 2004. His research interests include image processing, computational vision, and visual perception. Ohashi has been engaged in the research of computational models inspired by the human

visual system and its applications to image analysis, processing, and displays for 30 years. He contributes to the research of quantifying and modeling human visual systems for image processing and wide-color-gamut displays in the fields of applied vision and human factors.

#### Yukiharu Uraoka

For his contribution to the establishment of reliability evaluation techniques, elucidation of deterioration phenomena, and a highly reliable process for polycrystalline and oxide thin-film transistors.



Yukiharu Uraoka was born in Tokushima, Japan, in 1961. He received his B.S., M.S., and Ph.D. degrees in electrical and electronics engineering from Toyohashi University of Technology, Aichi, Japan, in 1983, 1985, and 1994, respectively. In 1985, he joined Panasonic Company, Ltd., Osaka, Japan, where he has been engaged in the research of reliability in CMOS devices and low-temperature poly-Si display devices. Since 2009, he has been a professor at the Graduate School of Material Science, Nara Institute of Science and Technology, Nara, Japan. His

current research interest involves the fabrication of thin-film devices using Si film and metal-oxide film for flexible devices. He is also interested in memory or LSI for artificial intelligence (AI). He is a fellow of The Japan Society Applied Physics (JSAP).

#### Xue Dong

For his leadership in information displays, especially in the research and development of innovative technologies for TFT-LCD and AMOLED displays, including 82-in. 10K, 98-in. 8K, 27-in. 8K MNT 0.39-in. 5,600-ppi AR, and printed 8K AMOLED.



Xue Dong is senior vice president, Co-CTO of Group Company, and CTO of the Display Business Group at BOE. He oversees BOE's technology innovation strategy in the Display Business Group and leads long-term research and innovation programs while driving the company's display technical cooperation and capacity-building in China and across the world. Dong is an innovative leader and key contributor to defining and driving the overall company display technology roadmap to meet growing demands in the market. Besides his great achievements in

traditional LCD display fields, he has keen insights into innovative display products and technologies, especially in the near-to-eye, miniLED and microLED fields. He is also responsible for developing core technologies that enable new products and services. Under his leadership, multiple strategic projects such as 1,000+ ppi glass-based LCD and 5,600+ ppi silicon-based OLED were launched successfully, aiming at the ultra-high-resolution demand of products in near-to-eye displays. In addition, both 75-in. 8K miniLEDs and 65-in. miniLEDs based on glass have reached leading levels on an international basis. Dong received his master's degree in materials science from Tsinghua University.

# SID Honors and Awards

#### KARL FERDINAND BRAUN PRIZE

The Karl Ferdinand Braun award is awarded for outstanding technical achievement, which has also had substantial impact on the display industry. The Braun award is SID's most prestigious individual award, honoring those people who have pioneered the technologies underpinning commercial displays.

1987	T. Peter Brody	2000	Larry F. Weber
1988	Toshio Inoguchi	2003	Tsutae Shinoda
1989	Norman F. Fyler	2004	Shuji Nakamura
1989	Harold B. Law	2005	William P. Bleha
1989	Edward G. Ramberg	2006	Christopher N. King
1989	Alfred C. Schroeder	2008	Richard Williams
1990	Akio Ohkoshi	2010	Frederic Kahn
1991	Kentaro Kiyozumi	2011	Rudolf Eidenschink
1991	Tadashi Nakamura	2012	Jun Souk
1992	Martin Schadt	2013	Isamu Akasaki
1993	William E. Glenn	2014	Katsumi Kondo
1993	William E. Good	2015	Junji Kido
1993	Thomas T. True	2016	Ho Kyoon Chung
1995	Eiichi Yamazaki	2017	Hiroyuki Ohshima
1996	George W. Gray	2018	Hidefumi Yoshida
1997	Isamu Washizuka	2019	Amal Ghosh
1998	Cyril Hilsum	2020	Julie Brown
1999	Larry J. Hornbeck		

#### DAVID SARNOFF INDUSTRIAL ACHIEVEMENT PRIZE

The David Sarnoff Industrial Achievement Award is conferred for major impact on the business of the electronic display industry. The Sarnoff Award is not targeting technical achievement but honors those people whose achievements have shaped the current electronic display industry.

2018	Sang Wan Lee	2019	Dongsheng Wang
2020	Paul Peng		

# JAN RAJCHMAN PRIZE

The Jan Rajchman Prize is awarded for outstanding scientific or technical contributions to electronic display technology. This award is open to academic achievement, in addition to notable technology developments that are recognized as groundbreaking in their field.

1993	Terry J. Scheffer	2007	Shigeo Mikoshiba
1994	Peter G. LeComber	2008	Shin-Tson Wu
1995	Shunsuke Kobayashi	2009	Peter Raynes
1996	Robert Meyer	2010	Dwight Berreman
1996	Capp Spindt	2011	Hideo Hosono
1998	J. William Doane	2012	Tetsuo Tsutsui
2001	Ching W. Tang	2013	Marc Baldo
2001	Steve Van Slyke	2014	Dirk J. Broer
2003	Webster E. Howard	2015	Shohei Naemura
2004	Tatsuo Uchida	2016	Seung Hee Lee
2005	Donal Bradley	2017	Shui-Chih Alan Lien
2005	Jeremy H. Burroughes	2018	Pochi Yeh
2005	Richard Friend	2019	Hoi-Sing Kwok
2006	Stephen R. Forrest	2020	Paul Alivisatos and
2006	Mark E. Thompson		Moungi Bawendi

#### PETER BRODY PRIZE

The Peter Brody Prize is awarded to young researchers and engineers (under age 40) who have made major technical or scientific contributions to electronic display technology.

2017	Yi-Pai Huang	2019	Hsing-Hung Hsieh
2018	Seth Coe-Sullivan	2020	Zhaojun Liu

#### SLOTTOW-OWAKI PRIZE

The Slottow-Owaki Prize is awarded for outstanding contributions to the education and training of students, and/or professionals, in the field of electronic displays.

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	2020	Edward F. Kelley

#### **OTTO SCHADE PRIZE**

The Otto Schade Prize is awarded for outstanding scientific or technical achievement in the image quality of electronic displays. This award recognizes vision scientists, human factor engineers, and those engineers whose efforts have led to major improvements in the visual quality of electronic displays.

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	2020	Yoshifumi Shimodaira

#### LEWIS AND BEATRICE WINNER AWARD

The Lewis and Beatrice Winner Award is conferred for exceptional and sustained service to SID.

1983	Bernard J. Lechner	2002	Alan Sobel
1984	Lewis Winner	2003	Shunsuke Kobayashi
1985	Solomon Sherr	2004	Jay Morreale
1987	Harold R. Luxenberg	2006	Aris Silzars
1988	Irving Reingold	2007	Andras Lakatos
1989	Ifay F. Chang	2009	Peter Baron
1990	Koichi Miyaji	2010	Makoto Maeda
1991	John van Raalte	2012	Webster E. Howard
1992	Masakazu Fukushima	2013	Shigeo Mikoshiba
1993	Lawrence E. Tannas, Jr.	2014	Jennifer Bach
1994	Howard L. Funk	2015	Allan Kmetz
1995	Walter F. Goede	2016	Anthony C. Lowe
1996	Takehiro Kojima	2017	Kenneth I. Werner
1998	Chuji Suzuki	2020	Brian Berkeley
1999	Philip M. Heyman		

#### 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

#### 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

# 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 Sahni
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	1993	Masakazu Fukushima
	William E. Good		
1975 1975	H. Gene Slottow	1994 1994	Edward P. Raynes Tatsuo Uchida
	Sanai Mito		
1976		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 Fergason
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 Käläntär
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	Janglin 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	e	2017	Sin-Doo Lee
2006	Steven A. Van Slyke	2017	Sang-Hee Ko Park
2007	Ki-Woong Whang Michael Hack	2017	_
			Qun (Frank) Yan Steven Bathiche
2007	Myung Hwan Oh	2018	
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	2020	Takahiro Ishinabe
2009	Amal Ghosh	2020	Byoungho Lee
2009	Min Koo Han	2020	Franky So
2009	Sang Soo Kim	2020	Michael Weaver
2009	Jun Souk	2020	Robert J. Visser
2009	Sashiro Uemura		

# SPECIAL RECOGNITION AWARDS

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1972	Solomon Sherr	1993	Takashi Inukai
1974	William E. Good	1993	Hideomi Ohnishi
1974	Herbert C. Hendrickson	1993	Shosaku Tanaka
1974	Kenichi Owaki	1993	Tsutae Shinoda
1974	Ivan Sutherland	1994	Shigeo Aoki
1974	Andries van Dam	1994	Guy Hill
1975	Joseph E. Bryden	1994	Rikusei Kohara
1975	George H. Heilmeier	1994	Hiroshi Murakami
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1975	Otto H. Schade, Sr.	1994	Bunji Uchida
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1976	Joseph Markin	1995	Yasuhisa Oana
1976	Albert Rose	1995	Hiroyuki Ohshima
1976	Aron Vecht	1995	Takeo Sugiura
1977	Gerald Marie	1995	Satoshi Okazaki
1977	Solomon Sherr	1995	Larry F. Weber
1977	Beatrice & Lewis Winner	1995	Zu-Kai Wu
1978	Leo Beiser	1996	Thomas S. Buzak
1978	C. J. Gerritsma	1996	Michel Le Contellec
1978	Benjamin Kazan	1996	Makoto Maeda
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			Atsuo Fukuda
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1980		1997	Richard E. Holmes
1980	Philip M. Heyman	1997	Shuji Iwata
1981	William B. Pennebaker	1997	Hisao Nakanishi
1982	Larry F. Weber	1997	Bernhard Scheuble
1983	Toshio Inoguchi	1997	Shoji Shirai
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1983	Chuji Suzuki	1998	Katsumi Kondo
1983	Omesh Sahni	1998	Rudolph Kiefer
1984	Koichiro Kurahashi	1998	Keiji Nunomura
1986	Masakazu Fukushima	1998	Tokuhide Shimojo
1986	Eiichi Yamazaki	1998	Hiroshi Wada
1987	Dwight W. Berreman	1999	John C. C. Fan
1987	Eiji Kaneko	1999	Yasuyuki Gotoh
1987	Jurgen Nehring	1999	Kenji Okamoto
1987	E. Peter Raynes	1999	Kouji Suzuki
1987	Martin Schadt	1999	Yasumasa Takeuchi
1987	Terry J. Scheffer	1999	Malcolm Thompson
1988	Shinji Morozumi	2000	Joseph A. Castellano
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1989	Noel A. Clark	2000	Shohei Naemura
1989	Sven T. Lagerwall	2000	Tsunehiko Sugawara
1989	Robert B. Meyer	2000	Teruo Thoma
1990	Robert C. Durbeck	2000	Shin-Tson Wu
1990	Fang-Chen Luo	2001	Hiroyoshi Fukuro
1991	Hiroo Hori	2001	_
			Tadatsugu Hirose
1991	Shigeo Mikoshiba	2001	Yukinobu Iguchi
1992	Harold A. Ketchum	2001	Daphne Lamport
1992	Karel E. Kuijk	2001	Cheng-Yuan Lin
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1992	Kinzo Nonomura	2002	Tei Iki
1993	Birendra Bahadur	2002	Junji Kido

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 Mitzuhima
2004	Dan J. Schott	2012	Masayuki Sugawara
2004	Keiichi Betsui	2012	
			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 Käläntär	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
	Kimio Amemiya		Masaki Hasegawa
2008	v	2017	O
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 Kunimatsu
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	2020	Takuji Hatakeyama
2010	Michio Kitamura	2020	Yun-Li Li
2010	James Larimer	2020	David Slobodin
2010	Ryuichi Murai	-	
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