

**Compound Semiconductor Week 2019
Award Ceremony**

May 20, 2019

Noh Theater

Nara Kasugano International Forum 葦 IRAKA



The 46th International Symposium on Compound Semiconductors
Nara, Japan, May 19th - May 23rd, 2019

ISCS Awards 2019

The Welker Award

Presented to
Prof. Hideo Ohno
Tohoku University

The Quantum Devices Award

Presented to
Prof. Gottfried Strasser
Technische Universität Wien

The Young Scientist Award

Presented to
Prof. Mark J. Holmes
The University of Tokyo

The Welker Award

Prof. Hideo Ohno

*For seminal contributions to the materials science,
physics of ferromagnetic III-V semiconductors and spintronics*



Prof. Hideo Ohno received his Ph.D. from the University of Tokyo in 1982. He studied as a visiting graduate student at Cornell University in 1979 and joined Hokkaido University from 1982. He was a visiting scientist at the IBM T. J. Watson Research Center from 1988 to 1990. He was appointed Professor at Tohoku University in 1994 and is President of Tohoku University since 2018. He received the IBM Japan Science Award, the IUPAP Magnetism Prize, the Japan Academy Prize, the Tohoku University Presidential Prize for Research Excellence, the 2005 Agilent Technologies Europhysics Prize, the IEEE Magnetics Society Distinguished Lecturer for 2009, the Thomson Reuters Citation Laureate, the JSAP Outstanding Achievement Award, the IEEE David Sarnoff Award, the JSAP Compound Semiconductor Electronics Achievement Award, the Leo Esaki Prize, the C&C Prize and the MEXT Commendation for Science and Technology. He has been an honorary professor of the Institute of Semiconductors, Chinese Academy of Sciences and a fellow of the Institute of Physics, the Japan Society of Applied Physics, the American Physical Society, and the Institute of Electrical and Electronics Engineers.

Prof. Ohno has made pioneering contributions to the establishment of the field of spintronics through his research on diluted magnetic III-V semiconductors. He successfully synthesized ferromagnetic III-V semiconductors and unveiled various novel spin-related physics, such as electric-field control of ferromagnetism, spin injection into nonmagnetic semiconductors, electric-field modulation of magnetization switching field, current-induced displacement of a single magnetic domain wall, electric-field control of magnetization direction, and so on. Such novel findings have offered new routes to manipulate single or collective ordering of electron spins in condensed matter systems. These pioneering achievements have opened a new horizon in electronics.

The Quantum Devices Award

Prof. Gottfried Strasser

For pioneering contributions to the realization of integrated laser-detector systems and advances in growth technologies for quantum cascade lasers



Prof. Gottfried Strasser received his Master and his Ph.D. degree in Physics from the University of Innsbruck in 1988 and 1991, respectively. From 1988 - 1992 he was research assistant at the Walter Schottky Institute (TU Munich), 1992 he became assistant professor and in 2001 associate professor at the TU Wien in Vienna, Austria. In 2007 G. Strasser became full professor (Empire Innovation Professor) at the State University of New York in Buffalo (Departments of Electrical Engineering and Physics) and in 2009 full professor at the TU Wien. He was visiting professor at the Ecole Normale Supérieure (Paris) in 2014. In 2007, he got a NYSTAR award (New York). He is president of the Austrian Physical Society.

Prof. Strasser made seminal contributions to quantum device growth and applications, such as high-performance quantum cascade lasers, high-sensitivity quantum cascade detectors, and monolithically integrated mid-infrared lab-on-a-chip based on bi-functional quantum cascade laser/detector systems. He is leading a research group consisting of electrical engineers and physicists, which covers the full range from the design and growth of low-dimensional semiconductors by molecular beam epitaxy to the demonstration of novel semiconductor devices for applications in micro- and optoelectronics.

The Young Scientist Award

Prof. Mark J. Holmes

*For contributions to elucidation of the optical properties of
III-nitride quantum dots for single photon emission*



Prof. Mark J. Holmes completed his undergraduate and postgraduate degrees in physics at the University of Oxford, and since obtaining his DPhil in 2011 has been based at The University of Tokyo, where he currently works as an associate professor at the Institute for Industrial Science. To date he has been awarded with the International Conference on Nitride Semiconductors Young Researcher Award (2011), International Workshop on Nitride Semiconductors Best presentation award (2012), The Japan Society of Applied Physics Outstanding Paper Award (2014), Japan Society of Applied Physics Young Scientist Presentation Award (2015), and The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology: The Young Scientists' Prize (2019) for his work.

Prof. Holmes has performed world-leading work on the optical spectroscopy of III-nitride quantum dots to elucidate the underlying physics that controls their emission properties, in particular, focusing on the isolation of individual transitions for single photon emission. In addition to work towards improving the emission purity, and the fundamental characterization of spectral diffusion processes and their time scales, his extensive studies into the III-nitrides led to the realization of single photon emission from GaN quantum dots at room temperature in 2014, and then at temperatures up to 350K in 2016.

Previous Recipients of the Welker Award

1976 Nick Holonyak, Jr	1978 Cyril Hilsum	1980 Hisayoshi Yanai
1981 Gerald L. Pearson	1982 Herbert Kroemer	1984 Izuo Hayashi
1985 Heinz Beneking	1986 A.Y. Cho	1987 I. Alferov
1988 Jerry M. Woodall	1989 Don W. Shaw	1990 Greg Stillman
1991 Lester F. Eastman	1992 Harry C. Gatos	1993 James Turner
1994 Federico Capasso	1995 Isamu Akasaki	1996 Ben G. Streetman
1997 M. George Craford	1998 Takashi Mimura	1999 Claude Weisbuch
2000 James S. Harris	2001 Karl Hess	2002 Hiroyuki Sakaki
2003 Klaus Ploog	2004 James J. Coleman	2005 Hans Melchior
2006 Marc Illegems	2007 Kenichi Iga	2008 Gunter Weimann
2009 Daniel Dapkus	2010 Pallab Bhattacharya	2011 Yasuhiko Arakawa
2012 Umesh K. Mishra	2013 Tom Foxon	2014 Gerald Bastard
2015 Dieter Bimberg	2016 Joe Charles Campbell	2017 Chennupati Jagadish
2018 Bernard Gil		

Previous Recipients of the Quantum Devices Award

2000 Emilio E. Mendez and Gerald Bastard	2001 Leo P. Kouwenhoven, Mark A. Reed and Seigo Tarucha
2002 Yasuhiko Arakawa	2003 Pallab Bhattacharya
2004 Jean-Pierre Leburton	2005 Pierre Petroff
2006 Carlo Sirtori	2007 Umesh K. Mishra and James S. Speck
2008 Jean-Michel Gerard	2009 Joe Charles Campbell
2010 Chennupati Jagadish	2011 Alan C. Seabaugh
2012 David Gershoni	2013 Yoshiro Hirayama
2014 Connie Chang-Hasnain	2015 Mauris Skolnick
2016 Kazuhiko Hirakawa	2017 Nicolas Grandjean
2018 Hiroshi Yamaguchi	

Previous Recipients of the Young Scientist Award

1986 Russell D. Dupuis	1987 Naoki Yokoyama	1988 W.T. Tsang
1989 Russ Fischer	1990 Yasuhiko Arakawa	1991 Sandip Tiwari
1992 Umesh K. Mishra	1993 Kai Chang	1994 Michael A. Haase
1995 John D. Ralston	1996 Nikolai Ledentsov	1997 Fred Kish
1998 Steven P. DenBaars	1999 Jerome Faist	2000 Kohki Mukai
2001 Masahiko Kondow	2002 Diana Huffaker	2003 Mike Larson
2004 Toshihide Kikkawa	2005 Nils Weimann	2006 Andrea Fiore
2007 Masataka Higashiwaki	2008 Jonathan J. Finley	2009 Seth R. Bank
2010 Tomás Palacios	2011 Yoshitaka Taniyasu	2012 Debdeep Jena
2013 Sanjay Krishna	2014 Huili (Grace) Xing	2015 Zetian Mi
2016 Srabanti Chowdhury	2017 Masahiro Nomura	2018 Shadi Dayeh

The Welker Award was initiated in 1976; the recipients will be selected by the International Symposium on Compound Semiconductors Award Committee for outstanding research in the area of III-V compound semiconductors. The Award is established by Siemens AG, Munich, in honor of the foremost pioneer, Heinrich Welker, in III-V compound semiconductor development. This award is currently sponsored by OSRAM GmbH.

The Quantum Devices Award was established in 2000 by Fujitsu Quantum Devices, Ltd; the recipients will be selected by the International Symposium on Compound Semiconductors Award Committee for pioneering contributions to the fields of compound semiconductor devices and quantum nanostructure devices, which have made a major scientific or technological impact in the past 20 years. The fields of the Award covers: invention of new device concepts and structures, device physics and modeling, device realization and characterization. This award is currently sponsored by the ISCS Japanese Committee.

The Young Scientist Award was initiated in 1986; the recipients will be selected by the International Symposium on Compound Semiconductors Award Committee for technical achievements in the field of compound semiconductors by a scientist under the age of forty. Nominees should be younger than 40 years of age on the first day of the symposium.



Est. 1989

The 31st International Conference on Indium Phosphide and
Related Materials
Nara, Japan
May 19th - May 23rd, 2019

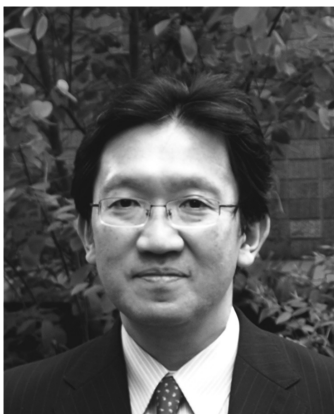
IPRM Award 2019

Presented to
Prof. Yoshiaki Nakano
The University of Tokyo

IPRM Award 2019

Prof. Yoshiaki Nakano

For his research on MOVPE of InP related materials using organic group-V precursors for integrated photonic devices, as well as his devoted contributions to IPRM



Dr. Yoshiaki NAKANO is professor with the Department of Electrical Engineering and Information Systems (EEIS), Graduate School of Engineering, the University of Tokyo. He is also with the Research Center for Advanced Science and Technology (RCAST), the University of Tokyo. He received the B. E., M. S., and Ph. D. degrees in electronic engineering, all from the University of Tokyo, Japan, in 1982, 1984, and 1987, respectively. He is the recipient of the 1987 Shinohara Memorial Prize from the IEICE, the 1991 Optics Paper Award from the JSAP, the 1997 Marubun Science Prize, the 2007 Ichimura Prize, the 2007 IEICE Electronics Society Award, and the 2007 Sakurai Medal from the OITDA. He was presented the Prime Minister Award in Collaborative Research between Academia and Industry in 2007.

Prof. Nakano has made seminal contributions to InGaAsP/InP metal-organic vapor phase epitaxy using organic group-V precursors, by clarifying both macro- and micro-scale growth mechanisms, by making reactor-scale growth simulation and selective area growth simulation possible, and then by applying that knowledge to successfully fabricate InP novel photonic integrated devices and circuits. Besides these scientific contributions, he has been an active participant/organizer of IPRM (and CSW) for many years. He has also contributed as an organizing or program committee member since 1998. Most notably, he served as the Program Chair of IPRM 2010, and as the General Chair of IPRM 2013. He now serves as a member of the International Steering Committee of IPRM.

The Michael Lunn Award was established in 1993 to commemorate a young research scientist at Wafer Technology Ltd. who became a victim of a car accident. Awardees were chosen by the organizing committee of IPRM on behalf of the III-Vs Review magazine. The award was given for the best paper presented at IPRM in the first three years following its introduction (1993-1995). The criteria were subsequently revised in 1996 to recognize individuals who have made "outstanding contributions to the InP community". In 2007, the award was renamed **the IPRM Award** and has since been sponsored by the IPRM international steering committee.

Previous Recipients of the Michael Lunn Award

1993 Mitsuo Yamamoto, Norio Yamamoto and Junichi Nakano
1994 Theodore Thrush
1995 Dubravko Babic
1996 Tony Jones
1997 Joe Lorenzo
1998 Holger Jurgensen and staff at AIXTRON
1999 Jerome Faist
2000 Shigehisa Arai
2001 Gregory H. Olsen
2002 Dwight Streit
2003 Hideki Hasegawa
2004 Drew Nelson
2005 Tomohiro Kawase and Masami Tatsumi
2006 George Antypas

Previous Recipients of the IPRM Award

2007 Osamu Wada
2008 Andre Scavennec
2009 Mark Rodwell
2010 Hajime Asahi
2011 F. J. Tegude
2012 Brad Boos
2013 Yuichi Matsushima
2014 Abderrahim Ramdane
2015 Larry Coldren
2016 Takatomo Enoki
2017 Sebastian Lourdudoss
2018 Meint K. Smit

ISCS 2019 Award Committee

Yasuhiko Arakawa (Chair), Gerald Bastard, Dieter Bimberg, Martin Strassburg,
Eric Tournie, Chennupati Jagadish, Pallab Bhattacharya, James Harris, Umesh Mishra,
Jim Coleman, Hiroshi Yamaguchi

IPRM 2019 Award Committee

Yasuyuki Miyamoto (Chair), Shigehisa Arai, Hajime Asahi, Sophie Bouchoule,
Norbert Grote, Yuichi Matsushima, Abderrahim Ramdane, Mark Rodwell,
Andre Scavenec, Osamu Wada
