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The 10th International Workshop on Inorganic and Organic Electroluminescence (EL'00)
December 4-7, 2000
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Hamamatsu, Japan

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Japan Society for the Promotion of Science

In Co-operation with
Shizuoka University
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**Monday, December 4, 2000**

**Opening Session  11:00–11:10**

Welcoming Remarks  
H. Kobayashi, EL '00 Organizing Committee Chair  
*Tottori University, Japan*

**Plenary Lectures I, EL Displays  11:10–12:30**

**Session Chairs:**  
S. Tanaka, *Tottori University, Japan*  
J. Kido, *Yamagata University, Japan*

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X. Wu  
iFire Technology, Inc., Canada |
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T. Tohma  
*Tohoku Pioneer Corporation, Japan* |

**Tuesday, December 5, 2000**

**Plenary Lectures II, Applications  9:00–10:20**

**Session Chairs:**  
S. Tanaka, *Tottori University, Japan*  
J. Kido, *Yamagata University, Japan*

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R. J. Visser  
*Philips Res. Lab., Netherlands* |
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M. Katayama  
*Denso Corporation, Japan* |

**Monday, December 4, 2000**

**Organic Materials I  14:00–15:40**

**Session Chair:**  
S. Tokito, *Toyota Central Research & Development Labs., Inc., Japan*

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*University Kassel, Germany* |
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A. Kahn
Princeton University, USA

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Nagoya University, Japan

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L.-S. Hung and M. G. Mason*
City University of Hong Kong, China, *Eastman Kodak Company, USA

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Princeton University, USA

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Technische Universität Dresden, Germany

Poster Session 17:55–19:40

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Niigata University, Japan

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Tottori University, Japan, *Industrial Research Institute of Tottori Prefecture, Japan

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K. Arita, M. Kitagawa, H. Taneoka, Y. Horii, H. Kusano* and H. Kobayashi
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Kyushu University, Japan

Efficient Organic Light-Emitting Diodes Using 9,10-Diphenylanthracene
Inha University, Korea, Korea

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NEC Corp., Japan

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Tokyo University of Agriculture and Technology, Japan

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National Institute of Materials and Chemical Research, Japan

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Institute of Molecular Science, Japan, *Toyota Central Research and Development Laboratories Inc., Japan

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Hiroshima University, Japan
Electro-Optical Properties of Polymer EL Device Using Poly (N-Vinyl Carbazole)
Chung-Ang University, Korea, *Sungkyunkwan University, Korea, **Yeungnam University, Korea

Relationship between Luminescent Property and the Morphology of ITO Buffer Layer for Organic EL Devices on Si Substrate
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Shizuoka University, Japan

Blue-Emitting Organic EL Devices with \( \pi \)-Conjugating Oligomers
Y. Yamada and H. Yanagi
Kobe University, Japan

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Toyama University, Japan

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S. Shirai and J. Kido
Yamagata University, Japan

High-Efficiency Organic EL Devices Based on Ir Complex
A. Fukase and J. Kido
Yamagata University, Japan

Alkaline Metal Complexes as Cathode Interface Layer in Organic EL Devices
J. Endo, T. Matsumoto* and J. Kido
Yamagata University, Japan, *IMES

Synthesis for Blue-Emitting Arylamines and Their Application to Organic EL Device
J. Kido and T. Ito
Yamagata University, Japan

Optical Absorption and Emission of Alq3 Thin Films
G. Baldacchini, F. Bonfigli, S. Gagliardi, R. M. Monteleali and R. B. Pode*
ENEA Centro Ricerche Frascati, Italy, *Nagpur University, India

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W. Wang, S. F. Lim and S. J. Chua
National University of Singapore, Singapore

Excimer-type Photo- and Electro-Luminescence of Stilbene Derivative
C. Xu, M. Wang, J. Zhang, Q. Xue, Y. Zhong and Y. Cui
Southeast University, China
Tuesday, December 5, 2000

Plenary Lectures II, Applications 9:00–10:20

Organic Materials II 10:40–12:20

Session Chair: M. Thompson, Princeton University, USA

10:40 Tu-01 Invited
High Performance Flexible Polymer Light-Emitting Diode
Y. Yang
UCLA, USA

11:10 Tu-02 Invited
Industrial Production of Materials for Organic/Polymer ELDs
H. Spreitzer
COVION Organic Semiconductors GmbH, Germany

11:40 Tu-03
Advance in Light-Emitting Polymers
National University of Singapore, Singapore

12:00 Tu-04
Highly Emissive Soluble Fluorenyl-Substituted Poly(p-Phenylenevinylene)
S. H. Lee, B. -B. Jiang and T. Tsutsui*
CREST, JST, Japan, *Kyushu University, Japan

Wednesday, December 6, 2000

Novel Organic Devices 9:00–10:50

Session Chair: Y. Ohmori, Osaka University, Japan

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J. H. Schön, Ch. Klec, A. Dodabalapur, S. Frolov and B. Batlogg
Bell Laboratories, Lucent Technologies, USA

9:30 We-02 Invited
Electroluminescence-, Laser- and Two-Photon Devices with Conjugated Nanostructured Materials
G. Leising
University of Graz, Austria

10:00 We-03 Invited
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Y. Miyamae, T. Furukawa and M. Matsumura
Osaka University, Japan

10:30 We-04
Photocurrent Multiplication Phenomenon in Pigment-Dispersed Polymer Films and Its Application to a Light Transducer Combining with Organic EL
K. Nakayama, Y. Nishikawa, M. Hiramoto and M. Yokoyama
Osaka University, Japan
Organic Displays 11:10–12:55

Session Chair: Y. Yang, UCLA, USA

11:10 We-05 Invited
Active Matrix OLED Displays with Low-Temperature Poly-Si TFT
Sanyo Electric Co. Ltd, Japan, *Eastman Kodak Company, USA

11:40 We-06
High Efficiency TFT OLED Display with Iridium - Complex as Triplet Emissive Center
T. Nishi, M. Mizukami, J. Koyama, S. Yamazaki and T. Tsutsui*
Semiconductor Energy Laboratory Co., Ltd., Japan, *Kyushu University, Japan

12:00 We-07
Characterization of Light-Emitting Polymer Devices Prepared by Ink-Jet Printing
Seiko-Epson Corp., Japan, *Cambridge Display Technology Ltd., UK

12:20 We-08
A Reduced-Complexity Patternning Technique for Active-Matrix Polymer Light-Emitting Diodes by Micro-Dispensing Approach
H. Yang, F. -Y. Chuang and M. -J. Chang*
Electronics Research and Service Organization/Industrial Technology Institute, Taiwan, *Union Chemical Laboratories/Industrial Technology Research Institute, Taiwan

12:40 We-LN
Organic Light Emitting Devices on Polymer Film Substrate
A. Sugimoto, A. Yoshida, T. Miyadera and S. Miyaguchi
Pioneer Corporation, Japan

Modeling and Characterization of EL Devices 14:00–15:50

Session Chair: G. O. Mueller, LumiLeds Lighting, USA

14:00 We-09 Invited
Modeling Inorganic and Organic EL Devices
J. F. Wager, J. C. Hitt and J. P. Bender
Oregon State University, USA

14:30 We-10 Invited
Characterization and Modeling of Thin-Film Electroluminescent Devices
A. N. Krasnov and P. G. Hofstra
Luxell Technologies Inc., Canada

15:00 We-11 Invited
Ionization and Recombination in SrS:Ce and SrS:Cu Thin Film Electroluminescent Devices
K. Neyts
Ghent University, Belgium

15:30 We-12
Electron Delocalization Probability of Ce³⁺ Ions Located in Different Symmetry Sites in SrS:Ce³⁺ Electroluminescent Devices
Université P. et M. Curie, France, *Heinrich-Hertz-Institut, Germany, **Planar Systems Inc., Finland

Inorganic EL Phosphors I 16:10–17:50

Session Chair: T. Minami, Kanazawa Institute of Technology, Japan

16:10 We-13 Invited
Oxide Phosphors for Thin Film EL Devices
A. H. Kitai
McMaster University, Canada
16:40 We-14 Invited
Synthesis and Investigation of Oxide and Nitride Thin Film Phosphors for EL Devices
V. Bondar
Ivan Franko Lviv National University, Ukraine

17:10 We-15
Mn-Activated (Al₂O₃-Ga₂O₃) Multicomponent Oxide Phosphor TFEL Devices
T. Minami, T. Miyata, T. Shirai, S. Suzuki and T. Nakatani
Kanazawa Inst. of Tech., Japan

17:30 We-16
Electroluminescence of Small Particle Size ZnS Phosphors
D.A. Davies, J. Silver and A. Vecht
University of Greenwich, UK

Thursday, December 7, 2000

Inorganic EL Phosphors II 9:00–10:50

Session Chair: P. Benalloul, University P et M Curie, France

9:00 Th-01 Invited
Emission Color Tuning in Thin-Film EL Phosphors
D. A. Keszler, B. L. Clark and D. Li
Oregon State University, USA

9:30 Th-02
Effects of Co-Doping on Improved EL from ZnS Phosphors
Q. Zhai, J. Lewis, K. Waldrip, M. Davidson and P. H. Holloway
University of Florida, USA

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Mechanism of Blue-Shift of Mn²⁺ Luminescence in ZnMgS Studied Using Single Crystal Thin Films
K. Ichino, H. Misasa, M. Kitagawa, S. Tanaka and H. Kobayashi
Tottori University, Japan

10:10 Th-04
Characterization of Green Emitting Zn₁₋ₓMgₓS:Tb,F Phosphors for Multicolor Applications
A. Mikami, T. Ikeda, K. Yamamoto and S. Sasaki
Kanazawa Inst. of Tech., Japan

10:30 Th-05
Aging Studies of Alternating-Current Thin-Film Electroluminescent (ACTFEL) Devices
H. Inuzuka, M. Katayama, Y. Hattori and T. Yamauchi
Denso Corporation, Japan

Blue Inorganic EL Phosphors I 11:10–13:05

Session Chair: C.J. Summers, Georgia Institute of Technology, USA

11:10 Th-06 Invited
Recent Development of SrS Based EL Materials
W. Tong, Y. B. Xin, B. K. Wagner, W. Park and C. J. Summers
Georgia Inst. of Tech., USA

11:40 Th-07 Invited
Structural and Micro-Optical Characterization of Phosphor Films Based on SrS and CaS
D. Poelman, D. Wauters and R. L. Van Meirhaghe
Ghent University, Belgium
12:10 Th-08
Pulsing of H\textsubscript{2} during the ALE Growth of SrS:Cu
University of Helsinki, Finland, *Planar Systems, Finland, **University at Albany-SUNY, USA, ***Georgia Tech. Research Institute, USAX

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Dependence of Luminescent Properties of Blue-Emitting SrS:Cu,F TFEL Devices on the Concentrations of Cu and F
T. Nakajima, H. Kominami, Y. Nakanishi and Y. Hatanaka
Shizuoka University, Japan

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Luminescence Properties of SrS:Cu,Eu Two-Component Electroluminescent Phosphors
W. Park, T. C. Jones, C. J. Summers and S.-S. Sun*
Georgia Institute of Technology, USA, *Planar Systems, USA

Blue Inorganic EL Phosphors II 14:00–15:50 453
Session Chair: A. Mikami, Kanazawa Institute of Technology, Japan

14:00 Th-10 Invited
Advancements in Blue-Emitting SrS:Cu Phosphors and Recent Progress on Thin Film EL and Active Matrix EL Displays
E. Soininen, S. S. Sun* and R. Tuenge*
Planar Systems, Finland, *Planar Systems, USA

14:30 Th-11 Invited
CaS:Pb Blue Electroluminescent Phosphor Thin Films Formed by Controlled Chemical Deposition
S. J. Yun, Y. S. Kim and S.-H. K. Park
Electronics and Telecommunications Research Institute, Korea

15:00 Th-12 Invited
Blue-Emitting BaAl\textsubscript{2}S\textsubscript{4}:Eu\textsuperscript{2+} Thin Film EL Devices
N. Miura
Meiji University, Japan

15:30 Th-13
Investigation of Eu\textsuperscript{2+} Electroluminescence in Binary and Ternary Alkaline Earth Sulfide Phosphors
O. Dazovski, D. Cheong, X. Wu
iFire Technology, Inc., Canada

Closing Session 15:50–16:10