



SYMPOSIUM I

Optoelectronics III: Organic Electronics: From Light Emitting Diodes to Integrated Circuits

May 30 – June 2, 2000

Symposium Organizers:

Heinz von Seggern, Darmstadt University of Technology, Germany

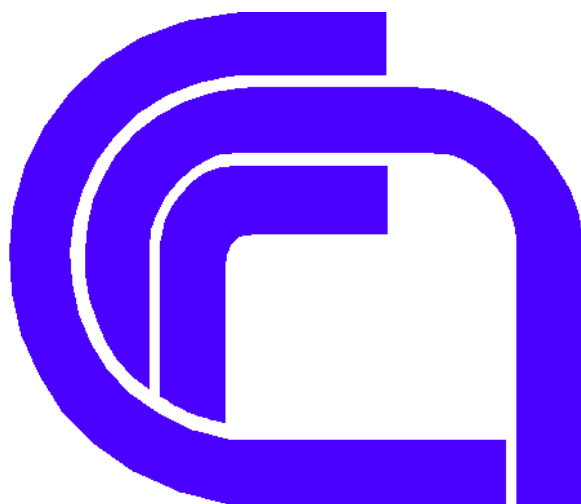
Carlo Taliani, CNR Bologna, Italy

Markus Schwoerer, Universität Bayreuth, Germany

Symposium Support:

Siemens AG, Germany

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Papers will be published in Synthetic Metals

SYMPOSIUM I

Tuesday May 30, 2000
Mardi 30 mai 2000

Morning
Matin

09:00 **OPENING**

Session I - Novel materials for Advanced Organic Devices

Chairperson : C. Taliani

- I-I.1** 09:10 **Invited** VERSATILE SYNTHESIS OF VARIOUS CONJUGATED AROMATIC HOMO-AND COPOLYMERS, R.E. Martin, F. Geneste, B.S. Chuah, Y. Ma, **A.B. Holmes**, F. Cacialli and R.H. Friend, Melville Laboratory for Polymer Synthesis, Pembroke Street, Cambridge CB2 3RA and Cavendish Laboratory, Madingley Road, Cambridge CB3 0HE, UK
- I-I.2** 09:40 LOW MOLECULAR WEIGHT AND POLYMERIC EUROPIUM(III)-COMPLEXES AS RED EMITTERS FOR ORGANIC LIGHT EMITTING DIODES, Y. Heischkel, M. Thelakkat, H.-W. Schmidt, Makromolekulare Chemie I and Bayreuther Institut für Makromolekülforschung (BIMF), University of Bayreuth, 95440 Bayreuth, Germany
- I-I.3** 10:00 NEW FLUORENE BASED TETRAMERS FOR ELECTROLUMINESCENCE APPLICATIONS, W. Porzio, C. Botta, S. Destri, Istituto di Chimica delle Macromolecole CNR, Milan, Italy and M. Pasini, Dipartimento di Fisica, Università di Parma, Italy
- I-I.4** 10:20 NEW N-TYPE RIGID ROD FULL AROMATIC POLY(1,3,4-OXADIAZOLES)S AND THEIR APPLICATION IN ORGANIC DEVICES, S. Janietz, S. Anlauf, A. Wedel, Fraunhofer-Institute of Applied Polymer Research, Kantstrasse 55, 14513 Teltow, Germany

10:40 **BREAK**

Session II - Physical Characterization of Organic Materials

Chairperson : W.R. Salaneck

- I-II.1** 11:10 **Invited** ELECTRONIC TRAPS IN ORGANIC SEMICONDUCTORS, **S. Karg**, IBM Zurich Research Laboratory, Säumerstr. 4, 8803 Rüschlikon, Switzerland and H. von Seggern, Darmstadt University of Technology, Petersenstr. 23, 64287 Darmstadt, Germany
- I-II.2** 11:40 **Invited** MOLECULAR EXCITONS AND ENERGY TRANSFER IN ORGANIC CONJUGATED MATERIALS, **M. Muccini**, F. Biscarini, and C. Taliani, Istituto di Spettroscopia Molecolare, C.N.R., via Gobetti 101, 40129 Bologna, Italy
- I-II.3** 12:10 IMPEDANCE SPECTROSCOPY ON ORGANIC LIGHT-EMITTING DIODES, S. Berleb, W. Bruetting, M. Schworer, Experimentalphysik II, Universität Bayreuth, 95440 Bayreuth, Germany
- I-II.4** 12:30 CHARGE INJECTION PROPERTIES IN ORGANIC LIGHT-EMITTING DEVICES AT VARIOUS IMPURITY LEVELS: FROM ULTRA HIGH VACUUM TO AIR, M. Kiy, I. Gamboni, I. Biaggio, P. Guenter, Nonlinear Optics Laboratory, Institute of Quantum Electronics, ETH Hoenggerberg, 8093 Zuerich, Switzerland
- I-II.5** 12:50 COMPARISON OF THE ELECTRONIC STRUCTURE OF SINGLE CRYSTALS AND CRYSTALLINE FILMS OF α -SEXITHIOPHENE, S. Möller, G. Weiser, Fachbereich Physik, Philipps-Universität Marburg, Renthof 5, 35032 Marburg, Germany
- 13:10 **LUNCH**

Tuesday May 30, 2000

Mardi 30 mai 2000

Afternoon

Après-midi

Session III - Interfaces and surfaces in organic semiconductors

Chairperson : W. Bruetting

- I-III.1** 14:00 **Invited** SURFACES AND INTERFACES IN POLYMER-BASED ELECTRO-OPTIC APPLICATIONS, **W.R. Salaneck**, Department of Physics, IFM, Linköping University, 581 83 Linköping, Sweden
- I-III.2** 14:30 **Invited** CHARGE-CARRIER INJECTION INTO POLYMORPHIC CuPc THIN FILMS: A SCANNING TUNNELING SPECTROSCOPY STUDY, L. Rossi, P. Müller, **S.F. Alvarado** and W. Rieß, IBM Research, Zurich Research Laboratory, Säumerstr. 4, 8803 Rüschlikon, Switzerland
- I-III.3** 15:00 POLYMERS FOR OPTO-ELECTRONIC APPLICATIONS: STRUCTURE AND MORPHOLOGY OF THIN FILMS AND THEIR INTERFACES, P.F. van Hutten, V.V. Krasnikov and G. Hadziioannou, Department of Polymer Chemistry, Materials Science Centre, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands
- I-III.4** 15:20 STABILITY/INSTABILITY OF CONDUCTIVITY AND WORK FUNCTION CHANGES OF ITO THIN FILMS, UV-IRRADIATED IN AIR OR VACUUM. MEASUREMENTS BY THE FOUR-PROBE METHOD AND BY KELVIN FORCE MICROSCOPY, J. Olivier, B. Servet, M. Vergnolle, M. Mosca and G. Garry, Thomson-CSF (LCR), 91404 Orsay, France
- 15:40 **BREAK**

Session IV - Organic Light Emitting Diodes

Chairperson : G. Horowitz

- I-IV.1** 16:10 **Invited** ROLE OF THE CHARGE CARRIER MOBILITY IN POLYMER LEDS, **P.W.M. Blom**, H.F.M. Schoo, M.C.J.M. Vissenberg, and J.N. Huiberts, Philips Research Laboratories, Professor Holstlaan 4, 5656 AA Eindhoven, The Netherlands, and H.C.F. Martens, Kamerlingh Onnes Laboratory, Leiden University, P.O. Box 9504, 2300 RA Leiden, The Netherlands
- I-IV.2** 16:40 **Invited** DEVICE PHYSICS OF ORGANIC LIGHT-EMITTING DIODES BASED ON MOLECULAR MATERIALS, **W. Bruetting**, S. Berleb, A. Mueckl, M. Schwoerer, University of Bayreuth, Experimental Physics II, 95440 Bayreuth, Germany
- I-IV.3** 17:10 **Invited** ADVANCES IN POLYMERS FOR PLEDs: FROM A POLYMERIZATION MECHANISM TO INDUSTRIAL MANUFACTURING, **H. Becker**, H. Spreitzer, W. Kreuder, E. Kluge, H. Vestweber, H. Schenk, K. Treacher, Covion Organic Semiconductors GmbH, Industrial Park Hoechst, G865, 65926 Frankfurt, Germany
- I-IV.4** 17:40 LIGHT-EMITTING ELECTROCHEMICAL CELLS BASED ON POLY(*P*-PHENYLENE VINYLENE) COPOLYMERS WITH ION TRANSPORTING SIDE GROUPS, **J. Morgado**, IST, Av. Rovisco Pais, 104F9-001 Lisboa, Portugal, R.H. Friend, F. Cacialli, Cavendish Laboratory, Madingley Road, Cambridge CB3 0HE, UK and B.S. Chuah, H. Rost, D.-H. Hwang, S.C. Moratti and A.B. Holmes, Melville Laboratory for Polymer Synthesis, Pembroke Street, Cambridge CB2 3RA, UK
- I-IV.5** 18:00 POLARIZED LIGHT EMITTING DIODES WITH IMPROVED PERFORMANCE, **T. Miteva**, A. Meisel, D. Sainova, H. Nothofer, U. Scherf, Max-Planck-Institute for Polymer Research, Ackermannweg 10, 55128 Mainz, Germany, H. Fujikawa, TOYOTA Central R&D Labs., Inc., Nagakute, Aichi, 480-1192, Japan, D. Neher, University of Potsdam, Institute of Physics, Am Neuen Palais 10, 14469 Potsdam, Germany and A. Yasuda, SONY International (Europe) GmbH, Materials Science Laboratories, Stuttgart Technology Centre, Stuttgarter Str. 106, 70736 Fellbach, Germany
- I-IV.6** 18:20 ELECTRICAL CHARACTERIZATION OF ALPHA-SEXITHIENYL, **P. Stallinga**, H.L. Gomes, Universidade do Algarve, UCEH, Campus de Gambelas, 8000 Faro, Portugal, M. Murgia, F. Biscarini, C. Taliani, CNR - Istituto di Spettroscopia Molecolare, Via Piero Gobetti 101, 40129 Bologna, Italy

Wednesday May 31, 2000

Mercredi 31 mai 2000

Afternoon

Après-midi

14:00 **POSTER SESSION**

- I/P1** SYNTHESIS AND CHARACTERIZATION OF NOVEL POLY(PERYLENEIMIDES) WITH HIGH SOLUBILITY IN ORGANIC SOLVENTS AS PHOTOCONDUCTIVE MATERIALS, G. Jungmann, H.-W. Schmidt, Lehrstuhl fuer Makromolekulare Chemie I and Bayreuther Institut fuer Makromolekulforschung (BIMF), Universität Bayreuth, 95440 Bayreuth, Germany
- I/P2** SYNTHESIS, CHARACTERIZATION AND ELECTROLUMINESCENT BEHAVIORS OF METAL COMPLEXES, Daoben Zhu, Yunqi Liu, Gui Yu, Xia Wu, Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100080, People's Republic of China
- I/P3** NEW SYNTHESIS OF A SOLUBLE HIGH MOLECULAR WEIGHT POLY(ARYLENE VINYLENE): POLY[2-METHOXY-5-(3,7-DIMETHYLOCTYLOXY)-P-PHENYLENEVINYLENE]. POLYMERISATION AND DEVICE PROPERTIES, L. Lutsen, P. Adriaensens, A.J. van Breemen, D. Vanderzande, J. Gelan, Laboratory of Organic and Polymer Chemistry, Limburg University, Institute for Material Research, Division Chemistry, University Campus, 3590 Diepenbeek, Belgium
- I/P4** STILBENOID PHOSPHORS WITH INCREASED ELECTRON AFFINITY: SULFONES AS ELECTRON ACCEPTING GROUPS, H. Detert, E. Sugiono, Institut für Organische Chemie, Johannes Gutenberg-Universität Mainz, Duesbergweg 10-14, 55099 Mainz, Germany
- I/P5** OLIGO(PHENYLENEVINYLENE)S WITH INCREASED ELECTRON AFFINITY: 1,3,4-OXADIAZOLES IN THE MAIN CHAIN, H. Detert, E. Sugiono, Institut für Organische Chemie, Johannes Gutenberg-Universität Mainz, Duesbergweg 10-14, 55099 Mainz, Germany
- I/P6** SYNTHESIS AND LUMINESCENCE PROPERTIES OF POLY(FLUORENE)-BASED ALTERNATING COPOLYMERS, A. Charas, N. Barbagallo, J. Morgado and L. Alcácer, Instituto Superior Técnico, Av. Rovisco Pais, 1049-001 Lisboa, Portugal
- I/P7** LITHIUM-QUINOLATES AS EMITTER MATERIALS IN ORGANIC LIGHT EMITTING DIODES AND THEIR COMPARISON WITH TRIS-(8-HYDROXY QUINOLINOLATO) ALUMINUM (III), Ch. Schmitz, H.-W. Schmidt, M. Thelakkat, Lehrstuhl für Makromolekulare Chemie I und Bayreuther Institut für Makromolekulforschung (BIMF), University of Bayreuth, Universitätsstrasse 30, 95440 Bayreuth, Germany
- I/P8** OPTIMIZATION OF MATERIALS AND DEVICE CONFIGURATION IN OLEDs USING COMBINATORIAL APPROACH, Ch. Schmitz, P. Pösch, Y. Heischkel, M. Thelakkat and H.-W. Schmitz, Makromolekulare Chemie I and Bayreuther Institut für Makromolekulforschung (BIMF), Universität Bayreuth, 95440 Bayreuth, Germany
- I/P9** EXCIMER-LIKE ELECTROLUMINESCENCE FROM THIN FILM OF SWITCHABLE SUPRAMOLECULAR ANTHRACENE BASED ROTAXANES, G. Giro, M. Cocchi, V. Fattori, FRAE -CNR, P. Gobetti 101, 40129-Bologna, Italy, G. Gadret, G. Ruani, M. Murgia, M. Cavallini, F. Biscarini, R. Zamboni, ISM-CNR, P. Gobetti 101, 40129 Bologna, Italy, T. Loontjens, J. Thies, DSM Research, P.O. Box 18, 6160 MD, Geleen, The Netherlands, D.A. Leigh, A.F. Morales, CSMC, Dep. of Chemistry, University of Warwick, Coventry CV4 7AL, UK
- I/P10** STUDY OF 4,4'-BIS(4-DIMETHYLAMINOSTYRYL) BENZENE BASED DIODES, J. Ip, T.P. Nguyen, P. Le Rendu, Laboratoire de Physique Cristalline, IMN, 2 rue de la Houssinière, 44322 Nantes Cedex 3, France, V.H. Tran, Laboratoire des Matériaux Organiques à Propriétés Spécifiques, CNRS, Vernaison, BP 24, 69390 Vernaison, France
- I/P11** AGING INDUCED TRAPS IN ORGANIC SEMICONDUCTORS, J. Steiger, S. Karg⁽¹⁾, H. von Seggern⁽²⁾, ⁽¹⁾IBM Zurich Research Laboratory, Säumerstr. 4, 8803 Rüschlikon, Switzerland, ⁽²⁾Darmstadt University of Technology, Petersenstr. 23, 64287 Darmstadt, Germany

- I/P12** ELECTRICAL PROPERTIES OF POLY(META/PARA PHENYLENE), S. Besbes⁽¹⁾, C. Dridi^(1,2), R. Ben Châabane⁽¹⁾, A. Bouazizi⁽¹⁾, H. Ben Ouada⁽¹⁾, H. Mâaref⁽¹⁾, J. Davenas⁽²⁾, ⁽¹⁾Laboratoire de Physique des Interfaces et des Semi-conducteurs, Département de Physique, Faculté des Sciences de Monastir, 5000 Monastir, Tunisia, ⁽²⁾Laboratoire des Matériaux Polymères et des Biomatériaux, Université Claude-Bernard Lyon 1, 69622 Villeurbanne Cedex, France
- I/P13** OPTICAL ABSORPTION IN AlQ, A. Aziz and K.L. Narasimhan, Tata Institute of Fundamental Research, Colaba, Bombay 400 005 India
- I/P14** SUBGAP ABSORPTION IN POLY (P-PHENYLENE VINYLENE) FILMS, M. Tzolov, W. Bruetting, and M. Schwoerer, Experimental Physics II, University of Bayreuth, 95440 Bayreuth, Germany, and V.P. Koch, Physics Department E16, Technical University Munich, 85747 Garching, Germany
- I/P15** PHOTOLUMINESCENCE OF DONOR-ACCEPTOR CARBAZOLE-BASED MOLECULES IN AMORPHOUS AND POWDER FORMS, M.C. Castex⁽¹⁾, C. Olivero⁽¹⁾, G. Pichler⁽²⁾, D. Adès⁽³⁾, V. Boucard⁽³⁾, E. Cloutet⁽³⁾, and A. Siove⁽³⁾, ⁽¹⁾Laboratoire de Physique des Lasers, CNRS, Université Paris-XIII, 93430 Villetaneuse, France, ⁽²⁾Institute of Physics, P.O.Box 304, HR-10000 Zagreb, Croatia, ⁽³⁾Laboratoire de Recherches sur les Macromolécules, CNRS, Université Paris XIII, 93430 Villetaneuse, France
- I/P16** IMPEDANCE AND PHOTOCONDUCTIVITY SPECTROSCOPY OF ORGANIC LIGHT-EMITTING DIODES, A.Tapponnier, R.Ono, M.Kiy, I.Gamboni, I. Biaggio, P. Guenter, Nonlinear Optics Laboratory, Institute of Quantum Electronics, ETH Hoenggerberg, 8093 Zuerich, Switzerland
- I/P17** TRAP STATE PROPERTIES OF ORGANIC THIN FILMS INVESTIGATED BY THE THERMALLY STIMULATED CURRENT TECHNIQUE, A. Werner, M. Pfeiffer, J. Blochwitz, T. Fritz, K. Leo, Institut fuer Angewandte Photophysik, TU Dresden, 01062 Dresden, Germany
- I/P18** PHOTOPHYSICAL PROPERTIES OF THIN FILMS AND SOLID PHASE OF SWITCHABLE SUPRAMOLECULAR ANTHRACENE BASED ROTAXANES, G. Giro, M. Cocchi, V. Fattori, FRAE -CNR, P. Gobetti 101, 40129 Bologna, Italy, G. Gadret, G. Ruani, M. Cavallini, F. Biscarini, R. Zamboni, ISM-CNR, P. Gobetti 101, 40129 Bologna, Italy, R.F. Mahrt, MPI fur Polym., Ackermannwe 10, 55021 Mainz, Germany, T. Loontjens, J. Thies, DSM Research, P.O. Box 18, 6160 MD, Geleen, NL, D.A. Leigh, A.F. Morales, CSMC, Dep. of Chemistry, University of Warwick, Coventry CV4 7AL, UK
- I/P19** CHEMICAL ISSUES AT THE ELECTRODE INTERFACE OF ORGANIC DEVICES, F. Nuesch, M. Carrara, D.B. Romero, B. Masenelli, L. Zuppiroli, Laboratoire de Physique des Solides Semicristallins, Département de Physique, EPFL, 1015 Lausanne, Switzerland
- I/P20** SILVER - AN IDEAL OHMIC CONTACT MATERIAL FOR CONDUCTING POLYPYRROLE FILMS, R.P. Mikalo, G. Appel, P. Hoffmann, D. Schmeißer, Brandenburgische Technische Universitaet Cottbus, Department of Applied Physics – Sensoric, Erich-Weinert-Str. 1, 03046 Cottbus, Germany
- I/P21** OLED BASED ON NEW OXADIAZOLE DERIVATIVES, B. Schulz, S. Schrader, L. Brehmer, Y. Kaminorz, University of Potsdam, Institute of Physics, Am Neuen Palais 10, 14469 Potsdam, Germany
- I/P22** ORGANIC TUNABLE ELECTROLUMINESCENT DIODES FROM POLYFLUORENE DERIVATIVES, I. Lèvesque, A. Donat-Bouillud, Ye Tao and M. D'Iorio, Institute for Microstructural Sciences, National Research Council of Canada, S. Beauprè, P. Blondin, M. Ranger, J. Bouchard, and M. Leclerc, Département de Chimie, Centre de Recherche en Sciences et Ingénierie des Macromolécules, Université Laval, France
- I/P23** CHANGES ON THE PHOTO AND ELECTROLUMINESCENT PROPERTIES OF POLY(P-PHENYLENE VINYLENE) UPON ADDITION OF INDIUM CHLORIDE, J. Morgado, IST, Av. Rovisco Pais, 1049-001 Lisboa, Portugal, D.S. Thomas, R. H. Friend, and F. Cacialli, Cavendish Laboratory, Madingley Road, Cambridge CB3 0HE, UK

- I/P24** ORGANIC LIGHT-EMITTING DEVICES OF VINILIC DERIVATIVES OF TIOPHENES, F. Brovelli⁽¹⁾, F.R. Diaz⁽¹⁾, M.A. Del Valle⁽¹⁾, J.C. Bernède⁽²⁾, P. Molinie⁽³⁾, ⁽¹⁾Facultad de Quimica, Pontificia Universidad Catolica de Chile, Vicuna Mackenna 4860, correo 22, Santiago, Chile, ⁽²⁾EPSE-Faculté des Sciences et des Tehcniques de Nantes, 2 rue de la Houssinière, BP 92208, 44322 Nantes Cedex 3, France, ⁽³⁾Institut des Matériaux, 2 rue de la Houssinière, BP 92208, 44322 Nantes Cedex 3, France
- I/P25** ORGANIC LIGHT EMITTING DIODES BASED ON EVAPORATED CARBAZOLE THIN FILMS, K. D'Almeida, J.C. Bernède, S. Marsillac, Université de Nantes, LPSE FSTN, BP 92208, 44322, France Nantes cedex 3 and A. Godoy, F.R. Diaz, Faculty of Chemistry, PUCC, P.O. Box 306, Santiago 22, Chile
- I/P26** LAYER-BY-LAYER ASSEMBLED MATERIALS FOR LEDs, Jiacong Shen, Xi Zhang, Key Lab for Supramolecular Structure and Spectroscopy, Department of Chemistry, Jilin University, Changchun 130023, P.R. China
- I/P27** SOLUBLE AND COLOR-TUNABLE POLY(P-PHENYLENEVINYLENE-POLYOLEFINE COPOLYMER, Jiacong Shen, Ruifeng Zhang, Key Lab. of Supramolecular Structure and Spectroscopy, Jilin University, Changchun 130023, P.R. China
- I/P28** ORGANIC ELECTROLUMINESCENT DEVICES BASED ON PYRIDINE-PHENOL BORON COMPLEXES, Jiacong Shen, Yanqin Li, and Yue Wang, Key Laboratory for Supramolecular Structure and Spectroscopy, Jilin university, Changchun 130023, P. R. China
- I/P29** POLY(N-VINYLCARBAZOLE) (PVK) DEPOSITED BY EVAPORATION FOR LIGHT EMITTING DIODES THIN FILMS STRUCTURES, S. Ouro Djobo, J.C. Bernède, S. Marsillac, Université de Nantes, LPSE FSTN, BP 92208, 44322 Nantes cedex 3, France
- I/P30** ELECTRICAL CHARACTERIZATION OF ORGANIC SEMICONDUCTORS BY TRANSIENT CURRENT METHODS, E. Pinotti, A. Sassella, A. Borghesi and R. Tubino, INFN and University of Milano Bicocca, Department of Materials Science, via Cozzi 53, 20126 Milano, Italy
- I/P31** CHARGE FLOW IN POLYMER FILMS ON PEPC BASE DOPED BY POLYMETHINE DYES, M. Kuzma, Institute of Physics, Higher Pedagogical School, Rejtana 16a, 35-309 Rzeszow, Poland, P.S. Smertenko, L.I. Fenenko, S.V. Svechnikov, Institute of Semiconductor Physics NASU, 45 prospekt Nauki, 03028 Kyiv, Ukraine, A.A. Ichtchenko, Institute of Organic Chemistry, 5 Murmanskaya str., 03094 Kyiv, Ukraine, A.N. Davidenko, Kyiv Taras Shevchenko University, 64 Volodimirskaja str., 01017 Kyiv-17, Ukraine
- I/P32** PECULIARITIES OF TRANSPORT MECHANISM OF STRETCHED POLYANILINE IN TEMPERATURE RANGE FROM 100 K TO 350 K, M. Kuzma, Institute of Physics, Higher Pedagogical School, Rejtana 16a, 35-309 Rzeszow, Poland, L.I. Fenenko, L.P. Pochekeylova, P.S. Smertenko, S.V. Svechnikov, G.A. Sukach, Institute of Semiconductor Physics NASU, 45 prospekt Nauki, 03028 Kyiv, Ukraine
- I/P33** EFFICIENT MULTILAYER ORGANIC LIGHT EMITTING DIODES, Liu Zugang, J. Soares, E. Pereira, Departamento de Fisica, Universidade de Aveiro, 3810 Aveiro, Portugal
- I/P34** DELAYED FLUORESCENCE AND PHOTOCONDUCTIVITY IN OLIGO (PHENYLENEVINYLENE) THIN FILMS - THE ROLE OF DISORDER, L. Lüer, H.-J. Egelhaaf, D. Oelkrug, Inst. for Physical Chemistry, University of Tübingen, 72076 Tübingen, Germany
- I/P35** THE INFLUENCE OF DEEP TRAPS ON THE TRANSIENT I-V CHARACTERISTICS OF OLEDs, S. Scheinert, Solid State Electronics, TU Ilmenau, 98684 Ilmenau, Germany, G. Paasch, Institute for Solid State and Materials Research Dresden, 01171 Dresden, Germany, P.H. Nguyen, S. Berleb, W. Brütting, Experimental Physics II, University of Bayreuth, 95440 Bayreuth, Germany
- I/P36** TEMPERATURE AND FIELD DEPENDENCE OF ELECTROLUMINESCENCE IN ORGANIC LIGHT EMITTING DIODE, Shyamal Kumar Saha, Yan Kuin Su, Department of Electrical Engineering, National Cheng Kung University, Tainan, Taiwan 70101, R.O.C., Fuh Shyang Juang, Department of Electro-Optics Engineering, National Huwei Institute of Technology, Huwei, Yunlin 63208, Taiwan, R.O.C.

- I/P37** TRANSPORT IN SEMICONDUCTOR/AIQ/METAL STRUCTURES, A. Aziz and K.L. Narasimhan, Tata Institute of Fundamental Research, Colaba, Bombay 400 005, India
- I/P38** POLARIZABILITY EFFECTS AND ENERGY TRANSFER IN QUINQUETHIOPHENE DOPED BITHIOPHENE AND OPV FILMS, H.-J. Egelhaaf, J. Gierschner, D. Oelkrug, Inst. for Physical Chem., Univ. of Tübingen, 72076 Tübingen, Germany
- I/P39** MOLECULAR CONTROL OVER Au/GaAs DIODES, A. Vilan, Y. Selzer, A. Shanzer and D. Cahen, Weizmann Institute of Science, 76100 Rehovoth, Israel
- I/P40** INTEGRATION OF POLYMER-BASED LIGHT EMITTING DIODES WITH Si WAFERS AND Si TECHNOLOGY, H. Nassar and D. Davidov, Racah Institute of Physics, Hebrew University of Jerusalem, Jerusalem, Israel, R. Lalazar and D. Haronian, Faculty of Engineering, Tel-Aviv University, Ramat-Aviv, Israel, S. Pfeiffer and H.H. Hoerholdc, Friedrich-Schiller-Universitat, Institut für Organische Chemie, 07743 Jena, Germany
- I/P41** MOLECULAR MATERIALS FOR ELECTRONICS AND OPTOELECTRONICS BY SUPERSONIC MOLECULAR BEAM GROWTH (SUMBE), T. Toccoli, F. Biasioli, P. Moreschini and S. Iannotta, CeFSA-Centro CNR-ITC per la Fisica degli Aggregati, Via Sommarive 18, 38050 Povo di Trento, Italy
- I/P42** PHOTOINDUCED ELECTRON TRANSFER TO COVALENTLY ATTACHED FULLERENES, A. Köhler⁽¹⁾, C. Silva⁽¹⁾, A. Kraus⁽²⁾, K. Müllen⁽²⁾, R.H. Friend⁽¹⁾, ⁽¹⁾Cavendish Laboratory, Madingley Road, Cambridge CB3 0HE, UK, ⁽²⁾MPI für Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany

Thursday June 1, 2000

Jeudi 1^{er} juin 2000

Morning

Matin

Session V - Simulation of Charge Transport and Luminescence

Chairperson : M. Muccini

- I-V.1** 08:30 **Invited** TRANSIENT ELECTROLUMINESCENCE FROM ORGANIC LEDs, V.R. Nikitenko, K. Book and **H. Bässler**
- I-V.2** 09:00 NUMERICAL MODEL FOR INJECTION AND TRANSPORT IN MULTILAYER OLEDs, **B. Masenelli**, Ecole Polytechnique Federale de Lausanne, Switzerland, E. Tutis, Ecole Polytechnique Federale de Lausanne, Switzerland, M.N. Bussac, Ecole Polytechnique, Palaiseau, France, L. Zuppiroli, Ecole Polytechnique Federale de Lausanne, Switzerland
- I-V.3** 09:20 SIMULATION AND MODELLING OF C-V CURVES OF OLEDs WITH TRAP STATES FOR THE HOLES, **G. Paasch**, Institute for Solid State and Materials Research Dresden, 01171 Dresden, Germany, S. Scheinert, Solid State Electronics, TU Ilmenau, 98684 Ilmenau, Germany
- I-V.4** 09:40 MESOSCOPIC STUDY OF BIPOLAR CHARGE TRANSPORT IN POLYMER-BASED DEVICES, **M.M.D. Ramos**, Departamento de Fisica, Universidade do Minho, Largo do Paco, 4700-320 Braga, Portugal and A.M. Stoneham, Department of Physics and Astronomy, University College London, Gower Street, London WC1E 6BT, UK
- I-V.05** 10:00 ANALYSIS AND SIMULATION OF THE I-V CHARACTERISTICS OF PPV-OLIGOMER BASED SCHOTTKY DIODES, **A. Tom**, W. Geens, J. Poortmans, J. Nijs, R. Mertens, IMEC vzw, Kapeldreef 75, 3001 Leuven, Belgium
- 10:20 **BREAK**

Session VI - Charge Transport and Structural Order

Chairperson : M. Schwoerer

- I-VI.1** 10:50 **Invited** MOLECULAR PACKING, STRUCTURAL ORDER AND CARRIER MOBILITY IN ORGANIC SEMICONDUCTORS, **F. Garnier**, Laboratoire des Matériaux Moléculaires, CNRS, Thiais France
- I-VI.2** 11:20 **Invited** HIGH MOBILITIES IN ORGANIC SEMICONDUCTORS : BASIC SCIENCE AND TECHNOLOGY, **J.H. Schoen**, Bell Laboratories, Lucent Technologies, Murray Hill, NJ 09774-0636, USA
- I-VI.3** 11:50 SPACE-CHARGE AND INJECTION LIMITED CONDUCTION IN FLUORENE BASED POLYMER DIODES USING INDIUM TIN OXIDE AS A HOLE INJECTING CONTACT, **A.J. Campbell** and D.D.C. Bradley, Department of Physics and Astronomy, University of Sheffield, Hicks Building, Hounsfield Road, Sheffield S3 7RH, UK, H. Antoniadis, Agilent Technologies, Communications and Optics Research Lab, Palo Alto, Ca 94304, USA and M. Inbasekaran, W.W. Wu and E.P. Woo, Central & New Business R&D, The Dow Chemical Company, Midland MI 48674, USA
- I-VI.4** 12:10 THE EFFECT OF VARIABLE CHAIN LENGTH ON THE ELECTRONIC PROPERTIES OF ELECTROLUMINESCENT POLYMERS, **A.M. Almeida** and M.M.D. Ramos, Departamento de Fisica, Universidade do Minho, Largo do Paco, 4700-320 Braga, Portugal
- 12:30 **LUNCH**

Thursday June 1, 2000

Jeudi 1^{er} juin 2000

Afternoon

Après-midi

Session VII - Organic Transistors

Chairperson : Z. Bao

- I-VII.1** 14:00 **Invited** SELF-ORGANISED, CONJUGATED POLYMER FIELD-EFFECT TRANSISTORS, **H. Sirringhaus**, Cavendish Laboratory, University of Cambridge, Cambridge CB3 0HE, UK
- I-VII.2** 14:30 **Invited** GRAIN SIZE DEPENDENT MOBILITY IN POLYCRYSTALLINE ORGANIC FIELD-EFFECT TRANSISTORS, **G. Horowitz** and M. E. Hajlaoui, Laboratoire des Matériaux Moléculaires, CNRS, 2 Rue Henry-Dunant, 94320 Thiais, France
- I-VII.3** 15:00 FIELD EFFECT MOBILITIES IN SPIN-CAST AND VACUUM-DEPOSITED PPV-TYPE PENTAMERS, **W. Geens**, J. Poortmans, IMEC vzw, Kapeldreef 75, 3001 Leuven, Belgium, **D. Tsamouras**, **G. Hadziioannou**, Department of Polymer Chemistry and Materials Science Centre, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands
- I-VII.4** 15:20 AMBIPOLAR ORGANIC DEVICES FOR COMPLEMENTARY LOIC, **J.H. Schoen**, Ch. Kloc, B. Batlog, Bell Laboratories, Lucent Technologies, Murray Hill NJ 09774-0636, USA
- 15:40 **BREAK**

Session VIII - Stimulated Emission and Novel Devices

Chairperson : H. Baessler

- I-VIII.1** 16:10 **Invited** OPTICAL GAIN IN CONJUGATED POLYMERS, **D.D. Bradley**
- I-VIII.2** 16:40 OLIGO(PHENYLENEETHYNYLENE) FOR ELECTROLUMINESCENCE AND STIMULATED EMISSION, **J. Le Moigne**, **T. Maillou**, Institut de Physique et Chimie des Matériaux de Strasbourg, 23 rue du Loess BP 20 CR, 67037 Strasbourg Cedex, and **B. Geffroy**, **A. Rosilio**, **A. Lorin**, **V. Dumarcher**, **L. Rocha**, **C. Denis**, **C. Fiorini**, **J.-M. Nunzi**, LETI (CEA Technologie Avancées), DEIN/SPE, Groupe des Composants Organiques, CEA Saclay, 91191 Gif-sur Yvette Cedex, France
- I-VIII.3** 17:00 AN ATTEMPT TOWARDS AN ALL POLYMER CHEMICAL SENSITIVE FIELD EFFECT TRANSISTOR, **D. Schmeißer**, **A. Oprea***, **K. Henkel**, **I. Paloumpa**, **P. Hofmann**, **R. Mikalo**, **P. Kamieth**, **K. Schumann**, **A. Yifantis**, **J. Waladan**, Technische Universitaet Cottbus, Angewandte Physik-Sensorik, 03013 Cottbus, P.O.Box 101344, Germany, *Visiting scientist from National Institute for Materials Physics, Bucharest-Magurele, P.O.Box MG-7, Romania
- I-VIII.4** 17:20 HIGHLY EFFICIENT CONJUGATED POLYMER / FULLERENE PLASTIC SOLAR CELLS, **C.J. Brabec**⁽¹⁾, **S.E. Shaheen**⁽¹⁾, **T. Fromherz**⁽²⁾, **F. Padinger**⁽²⁾, **J.C. Hummelen**⁽³⁾, **N.S. Sariciftci**⁽³⁾, ⁽¹⁾Physical Chemistry, Johannes Kepler University Linz, Austria, ⁽²⁾Quantum Solar Energy Linz, Austria, ⁽³⁾Sratingh Institute and Materials Science Center, University of Groningen, Groningen, The Netherlands
- I-VIII.5** 17:40 MOLECULAR ANALOGUE MEMORY CELL BASED ON ELECTRICAL SWITCHING AND MEMORY IN MOLECULAR THIN FILMS, **J.H. Krieger**, **S.V. Trubin**, **S.B. Vaschenko**, **N.F. Udanov**, Institute of Inorganic Chemistry, Lavrentiev ave. 3, 630090 Novosibirsk, Russia

Friday June 2, 2000
Vendredi 2 juin 2000

Morning
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Session IX - Special Session on Competing Display Technologies
Chairperson : H. von Seggern

- I-IX.1** 08:30 **Invited** QVGA FULL COLOR DISPLAY OF ORGANIC LIGHT EMITTING DIODES, **Takeo Wakimoto**, Satoshi Miyaguchi, Laboratory 1, Display Systems Department, Corporate R & D Laboratories, Pioneer Corporation, 1-1 Fujimi 6 Chome, 350-2288 / Tsurugashima-shi, Saitama, Japan
- I-IX.2** 9:00 **Invited** INNOVATIONS IN LCD TECHNOLOGY, **C. Tombling**, Sharp Laboratories of Europe Ltd., Edmund Halley Road, Oxford Science Park, Oxford, OX4 4GB, UK
- I-IX.3** 09:30 **Invited** CHALLENGES IN THE DESIGN OF A RGB LED DISPLAY FOR INDOOR APPLICATIONS, **F. Nguyen**, Osram Opto Semiconductors, c/o Infineon Technologies Corp., 19000 Homestead Road, Cupertino, CA 95014, USA
- 10:00 **BREAK**

Session X - Organic Electronics Technologies
Chairperson : F. Garnier

- I-X.1** 10:30 **Invited** MATERIALS AND PROCESSING OF PLASTIC TRANSISTORS AND CIRCUITS, **Zhenan Bao**, J.A. Rogers, A. Dodabalapour, A.J. Lovinger, L.X. Chen, Y.Y. Lin, B. Crone, H.E. Katz, V. Reddy Raju Bell Laboratories, Lucent Technologies, 600 Mountain Avenue, Murray Hill NJ 07974, USA
- I-X.2** 11:00 CONTROLLED DOPING OF MOLECULAR ORGANIC LAYERS: PHYSICS AND DEVICE PROSPECTS, M. Pfeiffer, J. Blochwitz, A. Nollau, B. Ploennigs, A. Beyer, T. Fritz and **K. Leo**, Institut fuer Angewandte Photophysik, TU Dresden, 01062 Dresden, Germany
- I-X.3** 11:20 OMBD GROWTH AND NANOPATTERNING: TOWARDS DEVICE-RELEVANT NANOSTRUCTURES OF CONJUGATED OLIGOMERS, **F. Biscarini**, M. Cavallini, M. Murgia, G.P. Ruani, M. Muccini, R. Zamboni, C. Taliani, CNR-Istituto di Spettroscopia Molecolare, Via P. Gobetti 101, 40129 Bologna, Italy, T. Hoffmann*, R. Slaby, J Seekamp and C.M. Sotomayor Torres, Institute of Materials Science, University of Wuppertal, 42097 Wuppertal, Germany, M. Calleja, R. García, CSIC-Instituto de Microelectronica, Av. I. Newton 8, 28760 Tres Cantos, Madrid, Spain, *Present address: Instituto de Estructura de la Materia, Serrano 113b, 28006 Madrid, Spain
- I-X.4** 11:40 MORPHOLOGY, STRUCTURE AND OPTICAL PROPERTIES OF HIGH QUALITY OLIGOTHIOPHENE FILMS GROWN BY SUPERSONIC SEED BEAMS, T. Toccolli⁽¹⁾, F. Biasioli⁽¹⁾, A. Boschetti⁽¹⁾, P. Milani⁽²⁾, P. Moreschini⁽¹⁾, A. Podesta⁽²⁾, P. Scardi⁽³⁾ and **S. Iannotta**⁽¹⁾, ⁽¹⁾CeFSA Centro CNR per la Fisica Stati Aggregati, 38050 Povo di Trento, Italy, ⁽²⁾Dipartimento di Fisica, Università degli Studi di Milano, Italy, ⁽³⁾Dipartimento di Ingegneria dei Materiali, Università di Trento, Italy
- I-X.5** 12:00 AN INTEGRATED SHADOW-MASK BASED ON A STACK OF INORGANIC INSULATORS FOR HIGH-RESOLUTION OLEDs USING EVAPORATED OR SPUN-ON MATERIALS, **Ch. Py**, M. D'Iorio, Ye Tao, I. Levesque, D. Roth and J. Stapledon, Institute for Microstructural Sciences, National Research Council of Canada, Montreal Road, Ottawa Ontario K1A0R6, Canada

END OF SYMPOSIUM I