



E-MRS Spring Meeting 2001
June 5 - 8, 2001

SYMPOSIUM J

Materials in Microtechnologies and Microsystems

Symposium Organizers:

D. Barbier, LPM, INSA Lyon, France

B. Michel, Fraunhofer Institute, Berlin, Germany

J.R. Morante, EME, University of Barcelona, Spain

Papers will be published in Sensors and Actuators A

E-MRS 2001 SPRING MEETING

SYMPOSIUM J

Tuesday, June 5, 2001
Mardi 5 juin 2001

Morning
Matin

Session I: Micromaterials, Microtechnologies and Micro-Characterizations I (M3-I)

- J-I.1** 8:30 Invited POLYSILICON A VERSITILE MATERIAL FOR MICROSYSTEMS, **P.J. French**, EI/ITS, DIMES, Delft University of Technology, Mekelweg 4, 2628 CD Delft, The Netherlands
- J-I.2** 9:00 Invited PREDICTIVE MODELING OF THE MECHANICAL BEHAVIOR OF MATERIALS IN MICROELECTRONICS AND PHOTONICS SYSTEMS, **E. Suhir**, Bell Laboratories, Lucent Technologies Inc., Physical Sciences and Engineering Research Division, 600 Mountain Ave., Room 1D-443, Murray Hill NJ 07974, USA
- J-I.3** 9:30 IMPROVED FRACTURE MECHANICAL INTEGRAL CONCEPT J AND ITS APPLICATION IN MICROELECTRONIC PACKAGING TECHNIQUE, **H.B. Ghavifekr**, B. Michel, Fraunhofer Institute for Reliability and Microintegration, Gustav-Meyer-Allee 25, 13355 Berlin, Germany
- J-I.4** 9:45 MICROSTRUCTURAL CHARACTERIZATION OF POLYSILICON THIN FILMS AS SUBSTRUCTURAL MATERIALS FOR MICROELECTROMECHANICAL SYSTEMS (MEMS), **G. Dirras***, K.J. Hemker and W.N. Sharpe, Jr Mechanical Engineering, The Johns Hopkins University, 3400 N. Charles Street, Baltimore MD 21218, USA *Visiting from LPMTM-CNRS, Institut Galilée, Université Paris 13, 99 av. J.B. Clément 93430 Villetaneuse, France
- J-I.5** 10:00 INTERFACE TUGHNESS EVALUATION FOR FLIP CHIP AND CSP ASSEMBLIES BASED ON FRACTURE MECHANICS APPROACHES, **J. Auersperg**, H. Badrighavifekr, A. Schubert, B. Michel, Fraunhofer Institute IZM Berlin, Gustav-Meyer-Allee 25, 13355 Berlin, Germany and E. Kieselstein, CWM GmbH, Otto-Schmerbach-Str. 19, 09177 Chemnitz, Germany
- 10:15 **BREAK**

- J-I.6** 11:00 Invited MODERN OPTICAL MEASUREMENT STATION FOR MICROMATERIALS AND MICROELECTRONICS STUDIES, **M. Kujawinska**, Institute of Micromechanics and Photonics, Warsaw University of Technology, 8 Chodkiewicza st., 02-525 Warsaw, Poland
- J-I.7** 11:15 FABRICATION OF UV-TRANSPARENT THIN $\text{Si}_x\text{O}_y\text{N}_z$ MEMBRANES WITH A LOW FREQUENCY PECVD REACTOR, K. Danaie(a), A. Bosseboeuf(a), C. Gousset(a), G. Julié(a), C. Clerc(b), (a)Institut d'Electronique Fondamentale (IEF), UMR CNRS 8622, Université Paris XI, Bât.220, 91405 Orsay Cedex, France, (b)Centre de Spectrométrie Nucléaire et de Spectrométrie de masse (CSNSM), Université Paris XI, Bât.108, 91405 Orsay Cedex, France
- J-I.8** 11:30 ELECTROCHEMICAL DEPOSITION OF METAL LAYERS AND STRUCTURES FOR Si-BASED MICROSYSTEMS, S. Martinez(a), N. Yaakoubi(a,c), A. Pérez-Rodríguez(a), C. Serre(a), P. Gorostiza(b), J. R. Morante(a), J. Esteve(c), (a)Lab. Ingeniería i Materials Electronics (EME), Departament d'Electronica, Unitat Associada CNM-CSIC, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona, Spain, (b)Departament de Química Física, Universitat de Barcelona, Spain, (c)Centre Nacional de Microelectronica CNM-CSIC, Campus UAB, 08193 Bellaterra, Spain
- J-I.9** 11:45 ON THE PROPERTIES AND FUNCTIONALITY OF ULTRA-THIN DIAMOND RELATED PROTECTIVE COATINGS USED IN OPTICAL SYSTEMS, M. Gioti, S. Logothetidis, C. Charitidis, Y. Panayiotatos, Aristotle University of Thessaloniki, Department of Physics, 54006 Thessaloniki, Greece and I. Varsano, UNION-OPTIC Thessaloniki Industrial Area, Sector 19, Bldg 16, Sindos 57022 Thessaloniki, Greece
- 12:00 **LUNCH**

Tuesday, June 5, 2001
Mardi 5 juin 2001

Afternoon
Après-midi

**Session II: Micromaterials, Microtechnologies and Micro-Characterizations II
(M3-II)**

- J-II.1** 14:00 Invited CHARACTERIZATION OF MECHANICAL AND THERMAL PROPERTIES OF THIN Cu-FOILS AND WIRES, **B. Weiss**, V. Groeger, G. Kathibi, A. Kotas, Institute of Materialphysics, University of Vienna, Austria, P. Zimprich, Institute of Physical Chemistry - Material Science, University of Vienna, Austria, B. Zagar, Institute of Electr. Measurement and Measurement Signal Processing, Technical University of Graz, Austria
- J-II.2** 14:30 Invited MICRO- AND NANOMATERIALS CHARACTERIZATION BY IMAGE CORRELATION METHODS, **D. Vogel**, A. Gollhardt, B. Michel, Fraunhofer Institut Zuverlässigkeit und Mikrointegration, Gustav-Meyer-Allee 25, 13355 Berlin, Germany
- J-II.3** 15:00 ZINC SULFIDE COLUMNS BY CHEMICAL CONVERSION OF ZINC OXIDE, L. Dloczik, R. Engelhardt, K. Ernst, M. C. Lux-Steiner and R. Könenkamp, Hahn-Meitner-Institut Berlin, Glienicke Str. 100, 14109 Berlin, Germany
- J-II.4** 15:15 SILVER METALLIZATION LINES FOR ULTRA LARGE SCALE INTEGRATION, M. Hauder, J. Gstöttner, W. Hansch, D. Schmitt-Landsiedel, Institute for Technical Electronics, Technical University Munich, Munich, Germany
- J-II.5** 15:30 POLY(PYRROLE) FILMS BY UV-PHOTO PROCESSING, Q. Fang, D.G. Chetwynd and J.W. Gardner, The Centre for Nanotechnology & Microengineering, School of Engineering, University of Warwick, Coventry CV4 7AL, UK
- J-II.6** 15:45 MICROMACHINING OF A SILICON MULTICHANNEL MICROPROBE FOR NEURAL ELECTRICAL ACTIVITY RECORDING, C. Moldovan, R. Iosub, V. Ilian, M. Modreanu, C. Voitincu, I. Dinoiu, National Institute for R&D in Microtechnologies, PO Box 38-160, Bucharest, Romania
- 16:00 **BREAK**

- J-II.7** 16:30 Invited FRACTURE MECHANICA OF BONDING INTERFACE - A COHESIVE ZOME MODEL, **K. Kishimoto**, Department of Mechanical and Intelligent Systems Engineering, Tokyo Institute of Technology, 2-12-1 O-okayama, Meguro-ku, Tokyo, 152-8552, Japan, M. Omiya, Department of Mechanical and Intelligent Systems Engineering, Tokyo Institute of Technology, 2-12-1 O-okayama, Meguro-ku, Tokyo, 152-8552, Japan, W. Yang, Department of Engineering Mechanics, Tsinghua University, Beijing 100084, P.R. China
- J-II.8** 17:00 LOW-DAMAGE DRY ETCHING TECHNIQUES FOR OPTOELECTRONIC SENSORS AND NANODEVICE APPLICATIONS, P.L. Pernas, E. Ruiz, B.J. Garcia and J.L. Castaço, Laboratorio de Microelectronica, Departamento de Fisica Aplicada, CXII, Universidad Autonoma de Madrid, 28049 Madrid, Spain, J. Garrido, E.T.S. de Informatica, Universidad Autonoma de Madrid, 28049 Madrid, Spain
- J-II.9** 17:15 COPPER MICROMOULDING PROCESS FOR MICROINDUCTORS REALIZATION, A.L. Coutrot, E. Dufour-Gergam, J.M. Quemper, E. Martincic, J.-P. Gilles, J.-P. Grandchamp, Institut d'Electronique Fondamentale(IEF), Bât. 220, Univ. Paris Sud, 91405 Orsay Cedex, France, M. Matlosz, A. Sanchez, Laboratoire des Sciences du Génie Chimique (LSGC), 1 rue Grandville, 54001 Nancy Cedex, France, L. Darasse, J.-C.Ginefri, Unité de Recherche en Résonance Magnétique Nucléaire(U2R2M), Bât. 220, Univ. Paris Sud, 91405 Orsay Cedex, France
- J-II.10** 17:30 CREEP BEHAVIOUR OF LEADFREE SOLDER MATERIALS AT HIGH HOMOLOGOUS TEMPERATURES WITH REGARD TO SMALL SOLDER VOLUMES, J. Villain(a), O.S. Brueller(b), T. Qasim(a), (a)University of Applied Sciences Augsburg, Augsburg, Germany, (b)Technical University of Munich, Garching, Germany
- J-II.11** 17:45 ION ETCHING OF PZT FILMS: CORRELATION BETWEEN THE ETCH PARAMETERS AND THE ELECTRICAL PROPERTIES.EVOLUTION, C. Sover, E. Cattan, D. Rèmesiens, LAMAC, Département MIMM, Université de Valenciennes, Z.I. du champ de l'Abbesse, 59600 Maubeuge, France
- J-II.12** 18:00 MEMS BASED SOLID PROPELLANT MICROTHRUSTER ARRAY, C. Rossi(a), S. Orioux(a,b), T. Do Conto(a), B. Larangot(a), (a)LAAS-CNRS, 7 av. du Colonel Roche, 31077 Toulouse Cedex, France, (b)CNES, Dpt Propulsion, Pyrotechnie et Propreté, 18 av. E. Belin, 31401 Toulouse Cedex, France

Wednesday, June 6, 2001
Mercredi 6 juin 2001

Afternoon
Après-midi

**Session III: Micromaterials, Microtechnologies and Micro-Characterizations III
(M3-III)**

- J-III.1** 14:15 Invited MECHANICAL RESPONSE AND DAMAGE OF PIEZOELECTRIC MATERIALS AND SHAPE MEMORY ALLOY, **Yu Shouwen**, Department of Engineering Mechanics, Tsinghua University, Beijing 100084, China
- J-III.2** 14:45 Invited THERMAL ISOLATION WITH POROUS SILICON FOR MICROSYSTEMS, **V. Lysenko**, S. Perichon, B. Remaki, D. Barbier, Laboratoire de Physique de la Matière, CNRS-IUMR5511, INSA de Lyon, 20 av. Albert Einstein, Bât. 502, 69621 Villeurbanne Cedex, France
- J-III.3** 15:15 PULVERISATION METHOD FOR THIN ACTIVE LAYER COATING ON MICROSYSTEMS, I. Jiménez, **A. Cirera**, A. Cornet, J.R. Morante, Electronics Materials & Engineering Electronics Department, University of Barcelona, Martí i Franquès 1, 08028 Barcelona, Spain
- J-III.4** 15:30 CHARACTERISATION OF CONSTITUTIVE BEHAVIOUR OF SnAg, SnAgCu AND SnPb SOLDER IN FLIP CHIP JOINTS, **S. Wiese**, F. Feustel, E. Meusel, Technische Universität Dresden, Institut für Halbleiter- und Mikrosystemtechnik, 01062 Dresden, Germany
- J-III.5** 15:45 STRUCTURAL CHARACTERISATION OF NiTi THIN FILM SHAPE MEMORY ALLOYS, **F.M. Braz Fernandes**, R. Martins, M.T. Nogueira, CENIMAT - Centro de Investigato de Materiais, Campus da FCT/UNL, 2825-114 Monte de Caparica, Portugal
- 16:00 **BREAK**
- 16:30 **POSTER SESSION**
- J/P01** TIME EFFECT ON THE FERROELECTRIC PROPERTIES OF SrBi2Ta2O9 THIN FILMS IN FORMING GAS PROCESSING, Tao Yu, Dong-Sheng Wang, Di Wu, Ai-Dong Li, An Hu, **Zhi-Guo Liu** and Nai-Ben Ming, National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, P.R.China
- J/P02** MECHANICAL CHARACTERIZATION AND RELIABILITY STUDY OF BISTABLE SiO2/Si MEMBRANES FOR MICROFLUIDIC APPLICATIONS, **C. Malhaire**, A. Didiergeorges, M. Bouchardy and D. Barbier, LPM, INSA de Lyon, UMR 5511, 20 av. Einstein, bât. 502, 69621 Villeurbanne, France
- J/P03** ON THE USE OF OPTICAL CORRELATION FOR THE CHARACTERIZATION OF MEMS, **M. Wautelet**, University of Mons-Hainaut, Materia Nova, 7000 Mons, Belgium
- J/P04** PHOTOLUMINESCENCE OF EU-DOPED TITANIA XEROGEL SPIN-ON DEPOSITED ON POROUS ANODIC ALUMINA, I.S. Molchan, **N.V. Gaponenko**, Belarusian State University of Informatics and Radioelectronics, P. Brovka Str. 6, Minsk, Belarus, G.E. Thompson, P. Skeldon, A. Pakes, Corrosion and Protection Centre, University of Manchester Institute of Science and Technology, Manchester M60 1QD, UK, J. Misiewicz, L. Bryja, R. Kudrawiec, Institute of Physics, Wrocław University of Technology, Wybreze Wyspianskiego 27, 50-370 Warsaw, Poland
- J/P05** RHENIUM DEPOSITION ON A SILICON SURFACE AT THE ROOM TEMPERATURE, V.A. Petrovich, S.A. Volchek, **M.L. Haurylau**, Belarussian State University of Informatics and Radioelectronics, P.Brovka str. 6, 220013 Minsk, Belarus
- J/P06** THE IMPROVEMENT OF THE DEPOSITION AND CONFIGURATION TECHNOLOGICAL STEPS FOR SACRIFICIAL AND ACTIVE LAYERS OF SURFACE MICROMACHINED RESONANT STRUCTURES, **M. Modreanu**, C. Moldovan, R. Iosub, I. Ghinea, National Institute for Research and Development in Microtechnologies, PO Box, 38-160, Bucharest, Romania

- J/P07** INTERACTION OF CARBON NANOTUBS WITH MOLECULES AND SUBSTRATES, A.P. Popov, I.V. Bazhin, Don State Technical University, Gagarin Sq.1, 344091 Rostov-on-Don, Russia
- J/P08** EXPERIMENTS FOR MICROPHOTONIC COMPONENTS FABRICATION USING Si<111> ETCHING TECHNIQUES, D. Cristea, P. Obreja, M. Purica, E. Manea, V. Avramescu, National Institute for R&D in Microtechnologies, PO Box 36-160, 72225 Bucharest, Romania
- J/P09** SILICON MEMBRANES FABRICATION BY WET ANISOTROPIC ETCHING, R. Iosub, C. Moldovan, M. Modreanu, National Institute for R&D in Microtechnologies, PO Box 38-160, Bucharest, Romania
- J/P10** INVESTIGATION ON OPTICAL AND MICROSTRUCTURAL PROPERTIES OF LOW TEMPERATURE ANNEALED SILICON FILMS OBTAINED BY LPCVD, M. Gartner, Institute of Physical Chemistry, Spl.Independentei 202, Bucharest 77208, Romania, M. Modreanu, M. Danila, R. Gavrila, National Institute for R&D in Microtechnologies PO Box 38-160, Bucharest 72225 Romania
- J/P11** SILICON MEMBRANES AS SENSING ELEMENTS FOR MOEMS APPLICATIONS: FABRICATION/ CHARACTERIZATION, R. Muller, E. Manea and P. Obreja, National Institute for Research and Development in Microtechnologies , PO Box. 38-160, 72225 Bucharest, Romania
- J/P12** CORRELATION BETWEEN EPITAXIAL CONDITIONS OF 3C-SiC THIN FILMS GROWN ON Si AND MECHANICAL BEHAVIOR OF 3C-SiC SELF-SUSPENDED MEMBRANES, C. Gourbeyre(a), T. Chassagne(b), M. Le Berre(a), G. Ferro(b), E. Gautier(a), C. Malhaire(a), Y. Monteil(b), D. Barbier(a), (a)L.P.M., UMR 5511, INSA Lyon, 20 Av. Einstein, 69621 Villeurbanne, (b)L.M.I., UMR 5615, U.C.B.L., 43 Bd du 11 Novembre 1918, 69622 Villeurbanne, France
- J/P13** ROLE OF THE i LAYER SURFACE PROPERTIES ON THE PERFORMANCE OF a -Si:H SCHOTTKY BARRIER DIODES, H. Aguas, E. Fortunato, I. Ferreira, V. Silva, L. Pereira and R. Martins, Departamento de Ciencia dos Materiais, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, 2825-114 Caparica, Portugal
- J/P14** ADDITIVE-MODIFIED IN₂O₃ FOR INTEGRATED ARRAYS OF GAS SENSORS, A. Cabot, I. Jimenez and J.R. Morante, Ingeniería i Materials Electronics, Departament d'Electronica, Universitat de Barcelona, C/Marti i Franquès 1, 08028 Barcelona, Spain
- J/P15** POROUS SILICON TECHNOLOGY FOR THIN MONOCRYSTALLINE SILICON LAYER BONDING ON LOW COST SUBSTRATES FOR SOLAR CELL APPLICATIONS, A. Ouldabbes(a), A. Kaminski(b), S. Quoizola(b), A. Fave(b), S. Perichon(b), A. Laugier(b), (a)Université Abou Bakr Belkaid, Faculté des Sciences, Département de Physique, Laboratoire des Matériaux et Energies Renouvelables, Tlemcen, Algérie, (b)Laboratoire de Physique de la Matière, INSA, 20 av. A. Einstein, 69621 Villeurbanne Cedex, France
- J/P16** THE EFFECTS OF ANNEALING CONDITIONS ON CRYSTALLOGRAPHIC PROPERTIES OF SPUTTER DEPOSITED BARIUM FERRITE FILMS, B. Bayard(a), J.P. Chatelon(a), M. Leberre(b), J.J. Rousseau(a), D. Barbier(b), (a)DIOM, Université Saint-Etienne, France, (b)LPM, INSA Lyon, France
- J/P17** POLYSi/Al THERMOPILE INTEGRATED ON POROUS SILICON SUBSTRATE, S. Perichon, V. Lysenko, B. Remaki, D. Barbier, Laboratoire De Physique De La Matière, INSA de Lyon, Batiment 502, 20 Avenue A. Einstein, 69621 Villeurbanne Cedex, France
- J/P18** THE SURFACE LAYER PROPERTIES OF THE TlBiSe₂ AND TlBiS SEMICONDUCTORS, A.N. Anagnostopoulos, V.B. Bogevolnov, I.M. Ivankiv, O.Yu. Shevchenko, A.D. Perepelkin, A.M. Yafyasov, Institute of Physics, St Petersburg State University, Russia
- J/P19** PZT THIN FILMS INTEGRATION FOR THE REALIZATION OF A HIGH SENSITIVITY PRESSURE MICROSENSOR BASED ON A VIBRATING MEMBRANE, C. Millon, LPM, E. Defay, LETI-CEA-Grenoble, C. Malhaire, LPM, M. Troccaz, LGEF, D. Barbier, LPM, France

Thursday, June 7, 2001
Jeudi 7 juin 2001

Morning
Matin

Session IV: Material in Microsystems (M2)

- J-IV.1** 8:30 Invited MICRO AND NANO-MORPHOLOGICAL STRUCTURE DEPENDENCE OF ORGANIC TRANSISTOR GAS SENSOR RESPONSES, **L. Torsi**(a, b), A. Dodabalapur(b), A.J. Lovinger (b), B. Crone (b), A. Gelperin (b), H.E. Katz (b), Z. Bao(b), N. Cioffi(a), L. Sabbatini(a) and P.G. Zambonin(a), (a)Dipartimento di Chimica - Universita degli Studi di Bari, 4 via Orabona, 70126 Bari, Italy, (b)Bell Laboratories Lucent Technologies, 600 Mountain Avenue, Murray Hill NJ 07974, USA
- J-IV.2** 9:00 MICRODEPOSITION OF MICROWAVE OBTAINED NANOSCALED SnO₂ POWDERS FOR GAS SENSING MICROSYSTEMS, A. Cirera, J. Cerda, A. Cornet, **J.R. Morante**, Electronics Materials & Engineering, Electronics Department, University of Barcelona, Marti i Franquès 1, 08028 Barcelona, Spain
- J-IV.3** 9:15 SPUTTERED THIN FILMS OF CuBr FOR AMONIA MICROSENSORS: MORPHOLOGY, COMPOSITION AND AGEING, **M. Bendahan**, J-L. Seguin, C. Lemire, H. Carchano, P. Knauth, Laboratoire Matériaux et Microélectronique de Provence (L2MP UMR 6137 CNRS), Faculté des Sciences de St Jérôme (service 152), 13397 Marseille cedex 20, France
- J-IV.4** 9:30 PASSIVE RF-COMPONENTS MADE OF METAL PLATED PLASTIC, **N. Scheffer**, R. Dolp, W. Hager, EADS Deutschland GmbH, Woerthstrasse 85, 89070 Ulm, Germany
- J-IV.5** 9:45 COMPARISON OF POROUS-SILICON, -POLYSILICON AND -SILICON CARBIDE AS MATERIALS FOR HUMIDITY SENSING APPLICATIONS, **E.J. Connolly**, P.J. French, Delft University of Technology, DIMES, Laboratory for Electronic Instrumentation, Mekelweg 4, 2628 CD Delft, The Netherlands, G.M. O'Halloran, FA Group - QRI Dept., Consumer Systems Building FB0.096, Philips Semiconductors, Gerstweg 2, 6534 AE Nijmegen, The Netherlands
- 10:00 **BREAK**
- J-IV.6** 10:45 Invited THIN-FILM TECHNOLOGY FOR THE DEVELOPMENT OF ELECTROCHEMICAL MICROSYSTEMS, L. Berdondini, V. Auger, P. van der Wal, N.F. de Rooij, **M. Koudelka-Hep**, Institute of Microtechnology, University of Neuchatel, Jaquet-Droz 1, 2007 Neuchatel, Switzerland
- J-IV.7** 11:15 FABRICATION OF MICROMECHANICAL CAPACITIVE ULTRASONIC TRANSDUCERS BY LOW TEMPERATURE PROCESS, **D. Memmi**, V. Foglietti and E. Cianci, Istituto di Elettronica dello Stato Solido, IESS-CNR, Via Cineto Romano 42, 00156 Roma, Italy, G. Caliano and M. Pappalardo, Dip. Ingegneria Elettronica, Universita di Roma Tre, Via della Vasca Navale 84, 00146 Roma, Italy
- J-IV.8** 11:30 ADVANCED MICROMACHINING PROCESSES FOR MICRO-OPTO-ELECTRO MECHANICAL COMPONENTS AND DEVICES, **G. D'Arrigo**, S. Castorina, S. Coffa, C. Spinella, CNR-IMETEM, Stradale Primosole 50, 95121 Catania, Italy
- J-IV.9** 11:45 ELECTRODEPOSITED Co-Ni ALLOY FOR MICROSYSTEMS APPLICATIONS, E. Valles, E. Gomez, J. Esteve, **M. Duch**, R. Perez-Castillejos, Centro Nacional de Microelectronica, Dept of Microsystems and Silicon Technologies, Campus Univ. Autonoma de Barcelona 08193 Bellaterra, Spain
- J-IV.10** 12:00 THERMAL INVESTIGATION OF MICRO-FILAMENT HEATERS, **P. Fürjes**(a), Zs. Vizvary(b), M. Adam(a), M. Racz(a) and I. Barsony(a), (a)Research Inst. for Technical Physics and Materials Science - MFA, P.O.Box. 49, 1525 Budapest, Hungary, (b)Budapest University of Technology and Economics, Department of Applied Mechanics, Muegyetemrka 3., 1111 Budapest, Hungary
- 12:15 **LUNCH**

Thursday, June 7, 2001
Jeudi 7 juin 2001

Afternoon
Après-midi

Session V: Transducer Materials I (TM-I)

- J-V.1** 14:00 invited NANOSTRUCTURED SEMICONDUCTOR METAL OXIDES FOR GAS SENSING APPLICATIONS, E. Comini, G. Faglia, G. Sberveglieri, INFN, Via Valotti 9, 25133 Brescia, Italy, M. Ferroni, V. Guidi, G. Martinelli, Dipartimento di Fisica and INFN, Via Paradiso 12, 44100 Ferrara, Italy
- J-V.2** 14:30 MONITORING THE TEXTURE AND OPTICAL PROPERTIES OF FERROELECTRIC MULTILAYERS ON AMORPHOUS SUBSTRATES, M. Maglione, ICMCB CNRS 87, Av. Dr. Schweitzer, 33608 Pessac cedex, France and A. Gueldry and P. Sibillot, LPUB CNRS, BP 47870, 21078 Dijon cedex, France
- J-V.3** 14:45 MICRO-GAS-SENSOR WITH CONDUCTING POLYMERS, Q. Fang, D.G. Chetwynd and J.W. Gardner, The Centre for Nanotechnology & Microengineering, School of Engineering, University of Warwick, Coventry CV4 7AL, UK
- J-V.4** 15:00 AN ELECTRONIC NOSE BASED ON NANOSTRUCTURED METAL OXIDES SENSORS, S. Capone, M. Epifani, C. Distante, R. Rella, P. Siciliano, L. Vasanelli Istituto per lo Studio di Nuovi Materiali per l'Elettronica IME-CNR, Via Arnesano 73100 Lecce, Italy
- J-V.5** 15:15 HIGH SENSITIVITY WO₃ THIN FILMS DEPOSITED PULSED LASER ABLATION FOR NO₂ AND C₆H₆ DETECTION, S. Nicoletti, S. Zampolli, I. Elmi, P. Negrini, L. Dori, CNR-LAMEL Institute, Via P.Gobetti 101, 40129 Bologna, Italy
- J-V.6** 15:30 RECEPTOR FUNCTIONS OF SnO₂-BASED SENSORS: LOW TEMPERATURE SENSING OF HYDROGEN AND CARBON MONOXIDE, V. Golovanov, C.C. Liu, Electronics Design Center, Case Western Reserve University, 112 Bingham Building, Cleveland OH 44106, USA and G. Korotcenkov, V. Brinzari, Technical University of Moldova, Bld. Stefan cel Mare 168, 2004 Chisinau, Moldova
- 16:00 **BREAK**
- J-V.7** 16:30 GAS SENSING THROUGH THICK-FILM TECHNOLOGY, V. Guidi, M.A. Butturi, M.C. Carotta, B. Cavicchi, L. Crema, M. Ferroni, C. Malag, G. Martinelli, D. Vincenzi, University of Ferrara, Dept Physics, Via Paradiso 12, 44100 Ferrara, Italy
- J-V.8** 17:00 SURFACE ACTIVATION BY THE SOL-GEL FIXATION OF AMINO GROUPS, M. Manso, R.J. Martín-Palma, J.M. Martínez-Duart, Departamento de Física Aplicada, Universidad Autónoma de Madrid, 28049 Madrid, Spain and J. Pérez-Rigueiro, Departamento de Ciencia de Materiales, ETSI Caminos Canales y Puertos, Universidad Politécnica de Madrid, 28040 Madrid, Spain
- J-V.9** 17:15 ELECTRICAL PROPERTIES OF REACTIVELY SPUTTERED WO₃ THIN FILMS AS OZONE GAS SENSOR, K. Aguir, C. Lemire, D. Lollman, L2MP, UMR-CNRS 6137, F.S.T. St. Jérôme, Av. E.N. Niemen, 13397 Marseille cedex 20, France
- J-V.10** 17:30 PURE PEROVSKITE-TYPE BaSnO₃ POWDERS FOR HIGH TEMPERATURE GAS SENSOR APPLICATIONS, J. Cerda, J. Arbiol, J.R. Morante, Departament d'Electronica, Facultat de Fisica, Universitat de Barcelona, C/ Martí i Franquès 1, 08028 Barcelona, Spain
- J-V.11** 17:45 MINIATURE TRANSDUCERS BASED ON JUNCTIONS OF Si WHISKERS, S.S. Varshava, I.P. Ostrovskii, State university "Lvivska polytechnika", 1 Kotlyarevskii st., Lviv, Ukraine

Friday, June 8, 2001
Vendredi 8 juin 2001

Morning
Matin

Session VI: Transducer Materials II (TM-II)

- J-VI.1** 8:30 SHAPE MEMORY THIN FILMS WITH TRANSITION ABOVE ROOM TEMPERATURE FROM Ni-RICH NiTi FILMS, N. Frantz, E. Dufour-Gergam, J.P. Grandchamp, A. Bosseboeuf, IEF, Bât. 220, Université Paris sud, 91405 Orsay Cedex, France, W. Seiler, LM3, ENSAM PARIS, 151 bd de l'Hôpital, 75013 Paris, France and G. Nouet LERMAT, 6 bd du Maréchal Juin, 14050 Caen Cedex, France
- J-VI.2** 8:45 ANALYSIS OF THE CATALYTIC ACTIVITY OF DIFFERENT MODIFIED SnO₂ MATERIALS FOR INTEGRATED GAS SENSORS, A. Cabot, A. Vila and J.R. Morante, Enginyeria i Materials Electronics, Departament d'Electronica, Universitat de Barcelona, C/Marti i Franquès 1, 08028 Barcelona, Spain
- J-VI.3** 9:00 EFFECT OF NOBLE METALS ON MICROSTRUCTURE, ELECTRICAL AND GAS SENSOR PROPERTIES OF NANOMETER-SCALED TIN DIOXIDE, O.V. Safonova, L.I. Ryabova, A.M. Gaskov, Chemistry Department of Moscow State University, Moscow, 119899, Russia and M. Labeau, LMGP, CNRS UMR 5628, INPG, BP 46, 38402 Saint Martin d'Herès Cedex, France
- J-VI.4** 9:15 DESIGN AND OPERATIONAL CONDITIONS OF SMALL ELECTROCHEMICAL CELLS EMPLOYING HYDROGENATION OF Pd/Y STRUCTURES FOR OPTICAL SWITCHING, E. Matveeva(a), A. Sanchez Bolinchez(a), E. Starostina(b) and V.Parkhutik(a), (a)Department of Materials Science, Technical University of Valencia, Cami de Vera s/n, 46071 Valencia, Spain, (b)Institute of Microelectronics Technology, Russian Academy of Science, Chernogolovka, Russia
- J-VI.5** 9:30 ADJUSTMENT OF SEMICONDUCTOR FILM PROPERTIES FOR INTEGRATED SYSTEM OF THE ODOR ANALYSIS, V.V. Sysoev, V.V. Kissine, Physics Department of Saratov State Technical University, Russia
- J-VI.6** 9:45 CRYSTALLOGRAPHIC STRUCTURE OF THE In₂O₃ FILMS DEPOSITED BY SPRAY PYROLYSIS, G. Korotcenkov(a), V. Brinzari(a), A. Cerneavschi(a), A. Cornet(b), A. Cabot(b), J. Arbiol(b), J. Morante(b), Technical University of Moldova, Bld. Stefan cel Mare 168, 2004 Chisinau, Moldova, (b)Dept. of Electron. Materials and Eng., University of Barcelona, Diagonal 647, 08028 Barcelona, Spain
- 10:00 **BREAK**

- J-VI.7** 10:45 FATIGUE STUDY OF SrBi₂Ta₂O₉ THIN FILMS PROCESSED IN FORMING GAS, Tao Yu, Dong-Sheng Wang, Di Wu, Ai-Dong Li, Yi-Dong Xia, An Hu, Zhi-Guo Liu and Nai-Ben Ming, National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, P.R. China
- J-VI.8** 11:00 REACTIVE R.F. MAGNETRON SPUTTERING DEPOSITION OF WO₃ THIN FILMS, C. Lemire, D.B.B. Lollman, A. Al Mohammad, E. Gillet and K. Aguir, Faculté des Sciences de St.Jérôme, Université d'Aix-Marseille III, 13397 Marseille Cedex 20, France
- J-VI.9** 11:15 ELECTRODEPOSITION OF CdS PARTICLES INTO ALUMINIUM ANODIC OXIDE FILM NANOTUBES FROM DIMETHYL SULFOXIDE SOLUTION, A. Jagminas, S. Lichuina, Institute of Chemistry, Gostauto 9, 2600 Vilnius, Lithuania, I. Mikulskas, R. Tomasinas, Institute of Material Science & Applied Research, Vilnius University, Saulutekio 10, 2040 Vilnius, Lithuania
- J-VI.10** 11:30 IR-SPECTRA OF WAVEGUIDES IN LiNbO₃ OBTAINED BY USING DIFFERENT MELTS, M.K. Kuneva, S.H. Tonchev, Institute of Solid State Physics, Bulgarian Academy of Sciences, 72 Tzarigradsko Chaussee Blvd, 1784 Sofia, Bulgaria and D. Dimova-Malinovska, Central Laboratory of Solar Energy and New Energy Sources, 72 Tzarigradsko Chaussee Blvd, 1784 Sofia, Bulgaria
- J-VI.11** 11:45 MICROPOROUS XEROGELS IN MESOPOROUS FILMS, N.V. Gaponenko, Belarusian State University of Informatics and Radioelectronics, P. Browki St. 6, 220013 Minsk, Belarus