

## 9 Scientific publications 2003

Authors of 2 book chapters:

**M.Uhlig, T.Gessner:** “Chemical vapor deposition of C-F- low-k materials”  
and

**S.E.Schulz, T.Gessner:** “Spin-on Si-based low-k materials”

Interlayer Dielectrics for Semiconductor Technologies, ed. S.P.Murarka, M. Eizenberg,  
A.K.Sinha, Elsevier Acad.Press 2003

**Bagdahn J.; Knoll H.; Petzold M.; Wiemer M.:** “Debonding of directly wafer-bonded silicon after high temperature process steps” The Electrochemical Society - 203<sup>rd</sup> meeting, Paris, April 27 – May 2, 2003, in press

**Bennini, F.; Mehner, J.; Dötzel, W.:** "System Level Simulations of MEMS Based on Reduced Order Finite Element Models", International Journal of Computational Engineering Science, Vol. 2, Nr. 2, p. 385-388, June 2003

**Bonitz, J.; Schulz, S.E.; Gessner, T.:** „CVD TiN layers as diffusion barrier films on porous SiO<sub>2</sub> aerogel“, MAM 2003, March 9-12, La Londe Les Maures, France, Proceedings, Microelectronic Eng. 70 (2003) p. 330-336.

**Buschnakowski, S.; Bertz, A.; Bräuer, W.; Heinz, S.; Schuberth, R.; Ebest, G.; Gessner, T.:** „Development and Characterization of a High Aspect Ratio Vertical FET Sensor for Motion Detection”, The 12th International Conference on Solid-State Sensors, Actuators and Microsystems, Transducers 03, Boston, June 8-12 2003

**Buschnakowski, S.; Heinz, S.; Zeun, H.; Korndörfer, F.; Ebest, G.:** „Integrierter Zweiphasen-Lock-In-Verstärker zur kapazitiven Signaldetektion mikromechanischer Vibrationssensoren“, Informationstagung Mikroelektronik 2003, pp. 343-348, 1.-2.10.2003 Wien, Österreich

**Delan, A.; Rennau, M.; Schulz, S.E.; Gessner, T.:** „Thermal Conductivity of ultra low-k dielectrics“, MAM 2003, March 9-12, La Londe Les Maures, France, Proceedings, Microelectronic Eng. 70 (2003) p. 280-284

**Döring, L.; Brand, U.; Peiner, E.; Frühauf, J.; Gärtner, E.:**  
”Development of micro force setting standards for stylus instruments“, Proceedings of the EUSPEN, p. 407, Aachen 2003

**Ecke, R.; Schulz, S.E.; Gessner, T.; Riedel, S.; Lipp, E.; Eizenberg, M.:** “Deposition and treatment of titanium based barrier layers by MOCVD”, Proc. Chemical Vapor Deposition XVI and EUROCVI 14, Eds. M.D. Allendorf, F. Maury, F. Teyssandier, The Electrochemical Society, Inc., Pennington, NJ; Proc. Vol. 2003-08, pp. 1224-1230.

**Ecke, R.; Hecker, M.<sup>1</sup>; Schulz, S.E.; Engelmann, H.-J.<sup>2</sup>; Gessner, T.; Mattern, N.<sup>1</sup>; Zschech, E.<sup>2</sup>:** „Properties of as-deposited and annealed PECVD Tungsten Nitride films”, Talk presented at the European Congress on Advanced Materials and Processes EUROMAT 2003, 1-5 Sept. 2003, Lausanne, Switzerland.

<sup>1</sup> Institute for Solid State and Materials Research, Helmholtzstr. 20, D-01330 Dresden, Germany

<sup>2</sup> AMD Saxony LLC & Co. KG, Dresden, Materials Analysis Department, D-01330 Dresden, Germany

**Ecke, R.; Schulz, S.E.; Hecker, M.<sup>1</sup>; Mattern, N.<sup>1</sup>; Gessner, T.:** „Influence of SiH<sub>4</sub> on the WN<sub>x</sub>-PECVD process”, MAM 2003, March 9-12, La Londe Les Maures, France, Proceedings, Microelectronic Eng. 70 (2003) p. 346-351.

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**Emelianov, V.; Ganesan, G.; Puzic, A.; Schulz, S.; Eizenberg, M.; Habermeier, H.-U.; Stoll, H.:** „Investigation of Electromigration in Copper Interconnects by Noise Measurements“, Invited Talk, Conf. Proc. "SPIE Fluctuations and Noise 2003".

**Flaspöhler, M.; Buschnakowski, S.; Kuhn, M.; Kaufmann, C.; Frühauf, J.; Gessner, T.; Ebest, G.; Hübler, A.:** „Multispectral Image Capturing System Based on a Micro Mirror Device with a Diffraction Grating”, Proceedings of The PICS Conference - The Digital Photography Conference, Rochester, NY, pg. 183-187 (2003)

**Frühauf, J.:**

“Silicon as a suitable material in precision engineering”, Proceedings of the EUSPEN, p. 39, Aachen 2003

**Frühauf, J.; Krönert, S.; Krüger-Sehm, R.:**

“Precision of etched bulk silicon structures with dimensions up to the mm-range”, Proceedings of the EUSPEN, p. 2, Aachen 2003

**Frühauf, S.; Streiter, I.; Rennau, M.; Puschmann, R.; Schulz, S.E.; Gessner, T.; Chudoba, T.; Richter, F., Flannery, C.; Matusche, J.; Schmidt, U.:** “Electrical and Mechanical characterization of porous silicon dioxide as an ultra low k dielectric”, Proceedings of Materialsweek, (Sept 30<sup>th</sup> – Oct 2<sup>nd</sup> 2002, Munich, Germany ) Werkstoff-Informationsgesellschaft mbH, Frankfurt 2003 ,CD-ROM

**Frühauf, S.; Streiter, I.; Puschmann, R.; Schulz, S.E.; Himcinschi, C.; Flannery, C.M.; Gessner, T.; Zahn, D.R.T.:** „Modified silica aerogel as a low-k dielectric with improved mechanical properties“, in Conf. Proc. ULSI XVIII, , Materials Research Society, Warrendale (2003), p.507-512.

**Gärtner, E.; Frühauf, J.; Jänsch, E.; Reuter, D.:**

“Flexural solid hinges etched from silicon”, Proceedings of the EUSPEN, p. 43, Aachen 2003

**Gärtner, E.; Frühauf, J.; Krönert, S.; Jänsch, E.:**

“Festkörpergelenkführungen aus Si mit bis zu 5 mm Hub”, 6. Chemnitzer Fachtagung Mikromechanik und Mikroelektronik 2003, Proceedings p.118

**Geiger, W.; Breng, U.; Leinfelder, P. ; Gutmann, W. ; Ohmberger, R. ; Kunz, J.; Ruf, M.; Huber, M.; Ryrko, B.; Hafen, M.; Spahlinger, G.; Schröder, W.; Handrich E., LITEF GmbH Freiburg ; Hiller, K.; Billep D., TUC:** „The micromechanical Coriolis Rate Sensor  $\mu$ CORS II“, Symposium Gyro Technology, Stuttgart 2003

**Gessner, T.; Bertz, A.; Lohmann, C.; Kurth, S.; Hiller, K.:** „Advanced Silicon Micromachining“, ICMAT Singapore 2003, Intl. J. of Computational Engn. Sc., 4, No. 2 , June 2003, p. 151-156

**Gessner, T.:** „Microelectronics and Microsystems Research within the Center for Microtechnologies and the Fraunhofer IZM Branchlab Chemnitz“, 6. Deutsch-Vietnamesisches Seminar Chemnitz, 25.-30.05.03

**Gessner, T.:** „Micro- and Nanotechnologies – Challenges for Microelectronics and MEMS“, University of Portland, Oregon, USA, “Portland Area Semiconductor Seminar Series” October 2003

**Gessner, T.:** “Selected Challenges of Advanced Interconnect Systems”, University of Albany – SUNY”, Albany, New York, USA, October 2003

**Gessner, T.:** “ MEMS and Microsystems Technologies”, Summer School on Precision Assembly in Eindhoven, Netherlands, July 2003

**Gessner, T.:** “Werkstoff- und Technologieaspekte der Silizium-Mikromechanik für Anwendungen in der Automobilindustrie“, Fachkongress MicroCar 2003, Leipzig, 26.06.03

**Gessner, T.:** „MEMS devices fabricated by using advanced Si-micromachining“, Joint Workshop FhG-IZM/The University of Tokyo, 20.02.03, Tokyo, Japan

**Gessner, T.:** “Microsystems Technologies”, Chongqing, China, July 2003

**Gottfried K.; Kaufmann C.; Hoffmann R.; Wiemer, M.; Gessner T.:** „Temperaturstabile Metallisierungs – und Anschlussysteme für Sensoranwendungen im Kraftfahrzeug“, Fachkongress MicroCar 2003, Leipzig 26. Juni 2003

**Hanf, M.; Kurth, S.; Billep, D.; Hahn, R.; Faust, W.; Heinz, S.; Dötzel, W.; Gessner, T.:** „Application of micro mirror arrays for Hadamard transform optics“, 9<sup>th</sup> Int. Symp. on Microwave and Optical Technology (ISMOT2003), Ostrava, Czech Republic 2003

**Hanf, M.; Dötzel, W.:** „Micromechanical electrostatic field sensor for the detection of surface charges“, Proc. of the EUROSENSORS XVII, pp.374-375, Guimaraes, Portugal 2003, in press “Sensors and Actuators 2004“

**Hecker, M.<sup>1</sup>; Hübner, R.<sup>1</sup>; Mattern, N.<sup>1</sup>; Voss, A.<sup>1</sup>; Acker, J.<sup>1</sup>; Ecke, R.; Schulz, S.E.; Gessner, T.; Wenzel, C.<sup>3</sup>; Bartha, J.<sup>3</sup>; Engelmann, H.-J.<sup>2</sup>; Zschech, E.<sup>2</sup>:** „Effect of thermal stressing on the microstructure of tungsten and tantalum based diffusion barrier layers“, Talk presented at the European Congress on Advanced Materials and Processes EUROMAT 2003, 1-5 Sept. 2003, Lausanne, Switzerland.

<sup>1</sup> Institute for Solid State and Materials Research, Helmholtzstr. 20, D-01330 Dresden, Germany

<sup>2</sup> AMD Saxony LLC & Co. KG, Dresden, Materials Analysis Department, D-01330 Dresden, Germany

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**Heinz, S.; Buschnakowski, S.; Bertz, A.; Bräuer, W.; Schuberth, R.; Ebest, G.; Gessner, T.:** „Vertikaler Feldeffekttransistor mit beweglicher Gate-Elektrode für die Bewegungsdetektion“, 6. Chemnitzer Fachtagung Mikromechanik und Mikroelektronik, Chemnitz, 29.-30.10. 2003

**Heinz, S.; Buschnakowski, S.; Bertz, A.; Bräuer, W.; Korndörfer, F.; Schuberth, R.; Zeun, H.; Ebest, G.; Gessner, T.:** „Vertikaler Feldeffekttransistor mit beweglicher Gate-Elektrode für die Bewegungsdetektion“, Informationstagung Mikroelektronik 2003, pp. 487-492, 1.-2.10.2003 Wien, Österreich

**Heinz, S.; Buschnakowski, S.; Korndörfer, F.; Zeun, H.; Hiller, K.; Hahn, R.; Ebest, G.:** „Integrierter 48-kanaliger Hochvolt-Schalter zur Ansteuerung mikromechanischer Schwenkspiegel“, Informationstagung Mikroelektronik 2003, pp. 493-498, 1.-2.10.2003 Wien, Österreich

**Heinz, S.; Buschnakowski, S.; Bertz, A.; Bräuer, W.; Schuberth, R.; Ebest, G.; Gessner, T.:** „A High Aspect Ratio Vertical FET Sensor for Motion Detection“, MICRO SYSTEM Technologies 2003, Posterpräsentation, München, 7.-8.10.2003;

**Hiller, K.; Hahn, R.; Kaufmann, C.; Hanf, M.; Heinz, S.; Gessner, T.; Dötzel, W.; Ebest, G.:** „Technologieentwicklung für ein Mikrospiegelarray mit integrierter Elektronik“, 6. Chemnitzer Fachtagung Mikromechanik & Mikroelektronik, 29./30. Oktober 2003, S. 54-59

**Hiller, K.; Kurth, S.; Neumann, N.; Hahn, R.; Kaufmann, C.; Hanf, M.; Heinz, S.; Gessner, T.; Dötzel, W.; Ebest, G.:** „Application of low temperature direct bonding in optical devices and integrated systems“, Proceedings of MICRO SYTEM Technologies 2003, pp 102-109

**Himcinschi, C.; Friedrich, M.; Frühauf, S.; Schulz, S.E.; Gessner, T.; Zahn, D.R.T.:** „Contributions to static dielectric constants of low-k xerogels films derived from VASE and IR spectroscopies“, Poster presented at International Conference on Spectroscopic Ellipsometry July 6th - 11th 2003, Vienna, Austria

**König, D.; Zahn, D. R. T.; Ebest, G.:** „Field Effect of Fixed Negative Charges on Oxidized Silicon Induced by AlF<sub>3</sub> Layers with Fluorine Deficiency“, accepted at 9th International Conference on the Formation of Semiconductor Interfaces (ICFSI-9), 15-19 September 2003, Madrid, Spain

**König, D.; Zahn, D. R. T.; Reich, R.; Gottfried, K.; Ebest, G.:** „P inversion layer solar cells as test for the I-S structure: results and prospects“, Poster 1P-D3-21, 3rd World Conference on PV Solar Energy Conversion, 11-18 May 2003, Osaka, Japan

**Korndörfer, F.; Kuschel, B.; Heinz, S.; Zeun, H.; Buschnakowski, S.; Ebest, G.:** „Charakterisierung von Bauelementen unter dem Aspekt der Selbsterwärmung“, Informationstagung Mikroelektronik 2003, pp. 419-424, 1.-2.10.2003 Wien, Österreich

**Kotarsky, U.; Manthey, W.; Dietzsch, M.; Bertz, A.:** „Hochauflösender mikromechanischer Sensor zur Erfassung von Oberflächenprofilen mit großem Eigenzustellbereich“, 6. Chemnitzer Fachtagung Mikromechanik & Mikroelektronik, 29./30. Oktober 2003

**Krüger-Sehm, R.; Häbler-Grohne, W.; Frühauf, J.:** „Traceable calibration standard for the lateral axis of contact stylus instruments“, 9<sup>th</sup> Conference on Metrology and Properties of Engineering Surfaces, Sept. 2003, Halmstad, Proceedings

**Küchler, M.; T. Otto, T. Gessner, F. Ebling H. Schröder:** Hot embossing for MEMS using silicon Tools, ICMAT 2003, Singapore, International Journal of Computational Engineering Science, Vol. 4 No. 3 (2003), pp. 609-612

**Kuhn, M.; Flaspöhler, M.; Krönert, S.; Kaufmann, C.; Gessner, T.; Hübler, A.; Frühauf, J.:** "Herstellung und Charakterisierung von mikromechanischen Scannern mit intergrierten Beugungsgittern", 6. Chemnitzer Fachtagung Mikrosystemtechnik-Mikromechanik & Mikroelektronik, 2003

**Kuhn, M.; Flaspöhler, M.; Krönert, S.; Kaufmann, C.; Gessner, T.; Hübler, A.; Frühauf, J.:** "Microactuators with Diffraction Grating", Micro System Technologies 2003, Postersession, München, October 7-8, 2003

**Kurth, S.,; Hiller, K.; Neumann, N.; Heinze, M.; Dötzel, W.; Gessner, T.:** "An electrically tunable infrared filter on base of Fabry-Perot-Interferometer", 9th International Symposium on Microwave and Optical Technology, ISMOT, Ostrava, Czech Republic, August 11-15, 2003

**Kurth, S.,; Hiller, K.; Dötzel, W.; Gessner, T.; Neumann, N.; Heinze, M.:** "Tunable infrared filter based on Fabry-Perot-Interferometer", Proc. of Micro System Technologies 2003, München, 7.-8.10.2003

**Kurth, S.,; Hiller, K.; Neumann, N.; Heinze, M.; Dötzel, W.; Gessner, T.:** "A tunable Fabry-Perot-Interferometer for 3 – 4.5  $\mu\text{m}$  wavelength with bulk micromachined reflector carrier", Proc. of SPIE Vol. 4983, pp. 215-226 / Photonics West, SPIE 4983\_25, Jan. 2003

**Kurth, S.:** Zuverlässigkeit und Test von MOEMS Komponenten, Workshop „MEMS / Sensors - from Component Manufacturing to Packaged Functional Components“, FhG IZM Branchlab Chemnitz, 16.09.2003

**Löschner, U.; Exner, H.; Gärtner, E.; Frühauf, J.:** "Laser bending of silicon", Proceedings of SPIE Conference Photonics West, Vol. 4977, p. 86-93 San Jose, California, 2003

**Lohmann, C.; Bertz, A.; Kuechler, M.; Gessner, T.:** A Novel High Aspect Ratio Technology for MEMS Fabrication Using Standard Silicon Wafers, Beitrag in: *Advanced Microsystems for Automotive Applications 2003*, Seite 59-66, Valldorf, J; Gessner, W.: Springer-Verlag Berlin Heidelberg New York

**Lohmann, C.; Bertz, A.; Kuechler, M.; Gessner, T.:** Mechanical reliability of MEMS fabricated by a special technology using standard silicon wafers. Presentation at the Photonics West (SPIE Conference 4980), San Jose, USA, Jan. 2003

**Mehner, J.; Dötzel, W.; Schauwecker, B., D.; Ostergard, D.:** "Reduced Order of Fluid Structural Interactions in MEMS Based on Modal Projection Techniques", 12. Intern. Conf. on Solid State Sensors, Actuators and Microsystems, Boston 2003, pp. 1840 - 1843

**Mehner, J.; Schaporin, A.; Dötzel, W.:** "Simulation for MEMS – Packaging", Mems Packaging Workshop 2003, Chemnitz 2003

**Mrwa, A.; Erler, K.; Diefenbach, K.H., Denissov, S.; Ebest G.:** „Ortsaufgelöste Messung der Minoritätsladungsträgerlebensdauer bei Siliziumsolarzellen mittels MWPCD“, Freiburger Siliziumtage 2003, Freiburger Forschungshefte B 327, p. 91-107

**Müller, A.-D.; Müller, F.; Mehner, J.; Wibbeler, J.; Gessner, T.; Hietschold, M.:** „Electrostatic double-cantilever device for dynamic noncontact-mode Atomic Force Microscopy“, 6. Chemnitzer Fachtagung Mikromechanik & Mikroelektronik, 29./30. Oktober 2003

**Neumann, N.; Heinze, M.; Stegbauer, H.-J.; Hiller, K.; Kurth, S.:** Ein mikromechanisches, durchstimmbares Fabry-Perot-Filter für die nichtdispersive Gasanalytik im Spektralbereich (3...5)  $\mu\text{m}$ , 6. Dresdner Sensor-Symposium 2003

**Otto, T.; Saupe, R.; Gessner, T.:** “Novel Possibilities in Physical Analytics Employing Miniaturized Devices”, Proc. of the MST 2003, pp. 565-567, München 2003

**Reuter, D.; Frömel, J.; Schwenzer, G.; Bertz, A.; Gessner, T.:** „Selektives Niedertemperaturbonden mit SU-8 fuer Wafer-Level-Verkappung von mikromechanischen Strukturen“, 6. Chemnitzer Fachtagung Mikromechanik & Mikroelektronik, 29./30. Oktober 2003

**Rinderknecht, J.; Prinz, H.; Kammler, T.; Schell, N.; Zschech, E.; Wetzig, K.; Gessner, T.:** „In situ high temperature synchrotron-radiation diffraction studies of silicidation processes in nanoscale Ni layers“, MAM 2003, March 9-12, La Londe Les Maures, France, Proceedings, Microelectronic Engn., Vol. 70 (2003), p. 226-232

**Saupe, R.; T. Otto, V. Stock, U. Fritzsche, T. Gessner,** “Packaging and Characterization of Micro-Opto-Electro-Mechanical Systems”, 9th International Symposium on Microwave and Optical Technology, Proc. of the ISMOT 2003, Ostrava, in press

**Saupe, R.:** Entwicklung eines auf MOEMS basierten Spektrometers, Beitrag zum Workshop „MEMS /Sensors - from Component Manufacturing to Packaged Functional Components“, FhG IZM Branchlab Chemnitz, 16.09.2003

**Scheibner, D.; Mehner, J.; Reuter, D.; Gessner, T.; Dötzel, W.:** "Tunable Resonators with Electrostatic Self Test Functionality for Frequency Selective Vibration Measurements", Proceedings of the MEMS 2003, p.526-529, Kyoto, 2003

**Scheibner, D.; Mehner, J.; Brämer, B.; Gessner, T.; Dötzel, W.:** "Wide Range Tunable Resonators for Vibration Measurements", Microelectronic Engineering 67-68, p. 542-549, 2003

**Scheibner, D.; Wibbeler, J.; Mehner, J.; Brämer, B.; Gessner, T.; Dötzel, W.:** "A Frequency Selective Silicon Vibration Sensor with Direct Electrostatic Stiffness Modulation", Analog Integrated Circuits and Signal Processing, p. 35-43, 2003

**Scheibner, D.; Mehner, J.; Reuter, D.; Kotarsky, U.; Gessner, T.; Dötzel, W.:** " CHARACTERIZATION AND SELF TEST OF ELECTROSTATICALLY TUNABLE RESONATORS FOR FREQUENCY SELECTIVE VIBRATION MEASUREMENTS", Sensors and Actuators, 2003, article in press

**Schulz, S.E.; Blaschta, F., Eisener, B.; Fruehauf, S.; Schulze, K.; Seidel, U.; Koerner, H.; Gessner, T.:** “SiO<sub>2</sub>-Aerogel ULK Integration into Copper Damascene Interconnects for RF Devices”, Talk presented at Advanced Metallization Conference (AMC), 21-23 Oct. 2003, Montreal, Canada

**Schulz, S.E.; Schulze, K.; Matusche, J.<sup>1</sup>; Schmidt, U.<sup>1</sup>; Gessner, T.:** „Effect of PECVD SiC and SiCN cap layer deposition on mesoporous silica ultra low k dielectric films”, Talk

presented at the 14th Annual IEEE/SEMI Advanced Semiconductor Manufacturing Conference and Workshop, 31 March - 1 April 2003, Munich.

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**Schulz, S.E.; Aubel, O.<sup>1</sup>; Baumann, J.; Hasse, W.<sup>1</sup>; Gessner, T.:** „Copper Alloys for Improved Interconnect Properties“, Poster presented at Advanced Metallization Conference (AMC), 21-23 Oct. 2003, Montreal, Canada.

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**Sternberger, A.; Hiller, K.; Gessner, T.; Dötzel, W.; Kurth, S.; Neumann, N.; Heinze, M.:** Closed loop control of a tunable infrared filter, Proc. of the Int. Conf. on Applied Electronics 2003, Pilsen, Czech Republic, 10.-11.09.2003, pp. 197-200

**Uhlig, M.; Bertz, A.; Brocke, H.<sup>2</sup>; Dobler, M.<sup>3</sup>; Flannery, C.<sup>4</sup>; Jnawali, G.<sup>2</sup>; Zeidler, D.<sup>1</sup>; Gessner, T.:** “Integration of Plasma Deposited CF Polymer in a Copper / Low k Damascene Architecture”, in Conf. Proc. ULSI XVIII, , Materials Research Society, Warrendale (2003), p. 629-635

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**Uhlig, M.; Bertz, A.; Erben, J.-W.; Schulz, S.E.; Gessner, T.; Zeidler, D.<sup>1</sup>; Wenzel, C.<sup>1</sup>; Bartha, J.<sup>1</sup>:** „Experimental results on the integration of copper and CVD ultra low k material“, MAM 2003, March 9-12, La Londe Les Maures, France, Proceedings, Microelectronic Eng. 70 (2003) p. 314-319.

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**Wenger, Ch.; Hübner, R.; Wenzel, Ch.; Reinicke, M.; Hecker, M.; Mattern, N.; Wetzig, K.; Baumann, J.; Schulz, S.; Bartha, J.W.; Engelmann, H.-J.; Zschech, E.:** „Stability of graded Ta-TaN-Ta and single layer TaSiN diffusion barriers for copper interconnect systems“, in Conf. Proc. ULSI XVIII, , Materials Research Society, Warrendale (2003), p. 847-851.

**Wiemer M.; Frömel J.; Jia C.; Gessner T.:** “Bonding and contacting of MEMS-structures on wafer level”, The Electrochemical Society - 203<sup>rd</sup> meeting, Paris, April 27 – May 2, 2003, in press

**Wiemer, M.:** “Wafer bond techniques for MEMS applications“, Suss MEMS seminar 2003 at Pacifico, Yokohama on June 30, 2003

**Wiemer, M.; Frömel, J.; Gessner T.; Nowak, B.; Südkamp, W.; Peschka, A.; Bagdahn, J.; Petzold, M.:** „Bewertung von Niedertemperaturbondverfahren für Drucksensoren in der Automobiltechnik“, Fachkongreß MicroCar 2003, Leipzig 26. Juni 2003

**Wiemer, M.; Frömel, J.; Gessner, T.:** “Trends der Technologieentwicklung im Bereich Waferbonden” 6. Chemnitzer Fachtagung Mikromechanik & Mikroelektronik, 29/30.10.2003, Lichtenwalde/Chemnitz, Tagungsband S. 178

**Windhorn, K.; L. Meixner, S. Drost, H. Schröder, E. Kilgus, W. Scheel, F. Ebling, T. Otto, M. KÜchler, T. Gessner:** “Polymer BioMEMs with integrated optical and fluidic functionality” , Micro System Technologies 2003, pp. 416-423