

## Publikationen

F. Püschner, Günther Ruhl, J. Pohl, T. Spöttl (2019): Elektronisches Identifikationsdokument und Verfahren zur Herstellung eines elektronischen Identifikationsdokuments.

Günther Ruhl, T. Ullrich, Benedikt Winter, Raimund Förg, Alois Kasberger (2019): Entwicklung einer wasserdichten LED Flächenleuchte mit direkt im Glas eingebrachtem Konvertermaterial. Poster. In: DGaO Proceedings zur 120. Jahrestagung (11.-15.06.2019; Darmstadt).

Günther Ruhl, M. König (2019): Schichtstruktur und Verfahren zur Herstellung einer Schichtstruktur.

J.-M. Batke, S. Wittman, Günther Ruhl, I. Costina, M. Lemme, T. Preis, M. König, A. Gahoi (2019): Accurate Graphene-Metal Junction Characterization. In: IEEE Journal of the Electron Devices Society (J-EDS), vol. 7, pp. 219-226. DOI: 10.1109/JEDS.2019.2891516.

A. Dehe, S. Beer, Günther Ruhl, S. Kolb, G. Beer, F. Jost, H. Theuss, R. Schaller (2019): Photo-acoustic gas sensor module having light emitter and detector units.

G. Poeppel, Günther Ruhl, T. Hirsch, H. Roedig (2019): Sensor arrangement for particle analysis and a method for particle analysis.

Günther Ruhl, M. König (2019): Elektronische Vorrichtung.

Günther Ruhl, M. Koenig (2018): Process for the formation of a graphene membrane component, graphene membrane component, microphone and Hall-effect sensor.

T. Zimmer, W. Lippert, Günther Ruhl, H.-J. Schulze (2018): Semiconductor device having a graphene layer, and method manufacturing thereof.

K. Elian, Günther Ruhl, F. Darrer, S. Chiang, T. Mueller, M. Vaupel, S. Auer, J. Dangelmaier, H. Theuss, M. Fries, M. Rose, Wee, T. F. D. (2018): Sensor arrangement, battery cell and energy system.

Günther Ruhl, T. Hirsch, A. Zoepfl (2018): Graphene gas sensor for measuring the concentration of carbon dioxide in gas environments.

H.-J. Timme, Günther Ruhl, H.-J. Schulze (2018): Semiconductor device including a phase change material.

Günther Ruhl, M. Koenig (2018): Method for processing a carrier and method for transferring a graphene layer.

T. Spoettl, Stampka P., Günther Ruhl, F. Püschner (2018): Semiconductor package, smart card and method for producing a semiconductor package.

Günther Ruhl, K.-O. Subke, R. Berger (2018): Verfahren zur Herstellung eines Grabenkondensators.

H.-J. Timme, R. Otremba, Günther Ruhl, J. Mahler, H.-J. Schulze (2017): Power semiconductor device including a cooling material.

K. Elian, Günther Ruhl, G. Meyer-Berg, J. Hoegerl, T. Mueller, M. Vaupel, M. Fies, J. Dangelmaier, H. Theuss (2017): Apparatus for determining a state of a rechargeable battery or of a battery, a rechargeable battery or a battery, and a method for determining a state of a rechargeable battery or of a battery.

P. Irsigler, Günther Ruhl, H.-J. Schulze (2017): Method of forming a graphene structure.

A. Dehe, M. Eckinger, Günther Ruhl, S. Kolb (2017): Hall effect sensor with graphene detection layer.

Günther Ruhl, W. Lehnert, R. Berger (2017): Two-dimensional material containing electronic components.

R. Foerg, Günther Ruhl, Kersten Kellermann, R. Rupp, W. Lehnert, M. Sommer, R. Berger, C. Rottmair, H.-J. Schulze, H. Gruber, A. Mauder (2017): Method for manufacturing a composite wafer having a graphite core, and composite wafer having a graphite core.

Günther Ruhl, F. Bachl (2017): Fluid sensor chip and method for manufacturing the same.

I. Escher-Poeppel, K. Elian, Günther Ruhl, H. Theuss (2017): Method for making a sensor device using a graphene layer.

P. Schoderböck, Günther Ruhl, M. Mengel, T. Lampke, F. Streb, C. Kasztelan, D. Schweitzer (2017): Characterization methods for solid thermal interface materials. In: IEEE Transactions on Components, Packaging and Manufacturing Technology, vol. 8, no. 6, pp. 1024-1031. DOI: 10.1109/TCPMT.2017.2748238.

D. Neumaier, Günther Ruhl, S. Wittmann, M. König (2017): The integration of graphene into microelectronic devices. In: Beilstein Journal of Nanotechnology, vol. 8, pp. 1056-1064. DOI: 10.3762/bjnano.8.107.

P. Schoderböck, Günther Ruhl, M. Mengel, T. Lampke, F. Streb, C. Kasztelan, D. Schweitzer (2017): Characterization Methods for Solid Thermal Interface Materials. In: IEEE Transactions on Components, Packaging and Manufacturing Technology, vol. PP, no. 99, pp. 1-8. DOI: 10.1109/TCPMT.2017.2748238.

A. Dehe, Günther Ruhl (2016): MEMS acoustic transducer, MEMS microphone, MEMS microspeaker, array of speakers and method for manufacturing an acoustic transducer.

J. Laven, Günther Ruhl, C. Kegler, J. Mahler, H.-J. Schulze (2016): Temperature sensor.

Günther Ruhl, M. Koenig (2016): Electronic device.

Günther Ruhl, K. Pruegl (2016): Method for processing a carrier and an electronic component.

Günther Ruhl, R. Rupp, W. Lehnert, R. Berger, H.-J. Schulze, A. Mauder (2016): Composite wafer for bonding and encapsulation of a SiC-based functional layer.

Günther Ruhl, F. Bachl (2016): Fluid sensor chip and method for manufacturing the same.

R. Foerg, Günther Ruhl (2016): Electrical contact for graphene part.

R. Foerg, Günther Ruhl, W. Lehnert, R. Berger, H.-J. Schulze, H. Gruber, A. Mauder (2016): Method for manufacturing a composite wafer having a graphite core.

J.-M. Batke, Günther Ruhl, M. Lemme, M. König (2016): Self-organized growth of graphene nanomesh with increased gas sensitivity. In: Nanoscale, vol. 8, no. 34, pp. 15490-15496.

A. Schubert, Günther Ruhl, S. Flemmig, H. Zeidler, T. Lampke, M. Penzel, F. Streb, I. Todaro, R. Squatrito (2016): Simulations and measurements of annealed pyrolytic graphite-metal composite baseplates. In: IOP Conference Series:Materials Science and Engineering, vol. 118, no. Conference 1.

R. Foerg, Günther Ruhl, Kersten Kellermann, R. Rupp, W. Lehnert, M. Sommer, R. Berger, C. Rottmair, H.-J. Schulze, H. Gruber, A. Mauder (2015): Method for manufacturing a composite wafer having a graphite core, and composite wafer having a graphite core.

Günther Ruhl, R. Rupp, W. Lehnert, R. Berger (2015): Compound structure and method for forming a compound structure.

K. Elian, Günther Ruhl, H. Theuss (2015): Sensor module and battery elements.

I. Escher-Poeppel, K. Elian, Günther Ruhl, H. Theuss (2015): Sensorbauelement und Verfahren.

Günther Ruhl, M. Vaupel (2015): Semiconductor dies having opposite sides with different reflectivity.

K. Elian, Günther Ruhl, H. Theuss (2015): Sensor package and method of manufacturing thereof.



- H.-J. Timme, Günther Ruhl, H.-J. Schulze (2015): Semiconductor device including a phase change material.
- I. Escher-Poeppel, K. Elian, Günther Ruhl, H. Theuss (2015): Method for making a sensor device using a graphene layer.
- G. Lippert, F. Driussi, J. Dabrowski, V. Di Leece, Günther Ruhl, W. Mehr, S. Vaziri, M. Lemme, M. Östling, A. Gnudi, M. König, G. Lupina, A. Smith, S. Venica, M. Belete (2015): Going ballistic: Graphene hot electron transistors. In: *Solid State Communications*, vol. 224, no. December, pp. 64-75. DOI: 10.1016/j.ssc.2015.08.012.
- J. Kitzmann, O. Luxenhofer, A. Krajewska, W. Strupinski, G. Zoth, Günther Ruhl, W. Mehr, I. Costina, S. Vaziri, M. Lukosius, I. Pasternak, M. Lemme, C. Wenger, M. Östling, A. Wolff, S. Kataria, G. Lupina, A. Gahoi (2015): Residual Metallic Contamination of Transferred Chemical Vapor Deposited Graphene. In: *ACS Nano*, vol. 9, no. 5, pp. 4776-4785. DOI: 10.1021/acsnano.5b01261.
- R. Foerg, Günther Ruhl, Kersten Kellermann, R. Rupp, W. Lehnert, M. Sommer, R. Berger, C. Rottmair, H.-J. Schulze, H. Gruber, A. Mauder (2014): Method for manufacturing a composite wafer having a graphite core, and composite wafer having a graphite core.
- M. Hammer, Günther Ruhl (2014): Vehicle lighting arrangement.
- I. Escher-Poeppel, K. Elian, Günther Ruhl, H. Theuss (2014): Method for making a sensor device using a graphene layer.
- D. Groteloh, M. Melzl, M. Hammer, A. Strasser, Günther Ruhl, R. Goellner (2014): Method of processing a contact pad, method of manufacturing a contact pad, and integrated circuit element.
- M. Hammer, R. Kainzbauer, Günther Ruhl (2014): Integriertes Bauelement und Verfahren zur Trennung einer elektrisch leitfähigen Verbindung.
- F.-M. Matysik, Günther Ruhl, A. Zöpfl, T. Hirsch, M. König, M.-M. Lemberger (2014): Reduced graphene oxide and graphene composite materials for improved gas sensing at low temperature. In: *Faraday Discussions*, vol. 173, pp. 403-414. DOI: 10.1039/c4fd00086b.
- S. Rushworth, S. Haukkac, W. Besling, T. Blomberg, B. Riou, Günther Ruhl, A. Roeste, A. Zauner, M. Lukosius, W. Lehnert, E. Langereis, P. Baumann, C. Wenger, F. Roozeboom, S. Lhostif, A. Halimaou, C. Baristiran Kaynak, W.M.M. Kessels (2014): Dielectric Material Options for Integrated Capacitors. In: *ECS Journal of Solid State Science and Technology*, vol. 3, no. 8. DOI: 10.1149/2.0101408jss.
- R. Foerg, Günther Ruhl, W. Lehnert, R. Berger, H.-J. Schulze, H. Gruber, A. Mauder (2013): Method for manufacturing a composite wafer having a graphite core, and composite wafer having a graphite core.
- M. Hammer, R. Kainzbauer, Günther Ruhl (2013): System for separation of an electrically conductive connection.
- T. Blomberg, Günther Ruhl, M. Lukosius, C. Wenger (2013): Properties of stacked SrTiO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> metal-insulator-metal capacitors. In: *Journal of Vacuum Science & Technology B*, vol. 31, no. 1. DOI: 10.1116/1.4766183.
- M. Engelhardt, H.-J. Timme, W. Robl, Günther Ruhl, I. Nikitin, T. Kunstmann, M. Frank (2012): Method of processing a semiconductor wafer or die, and particle deposition device.
- D. Walcyk, T. Blomberg, Günther Ruhl, M. Lukosius, C. Wenger (2012): Metal-Insulator-Metal capacitors with ALD grown SrTiO<sub>3</sub>: Influence of Pt electrodes. In: *IOP Conference Series:Materials Science and Engineering*, vol. 41.
- A. Abrutis, T. Blomberg, Günther Ruhl, P. Baumann, M. Lukosius, C. Wenger, G. Lupina (2012): Electrical and Morphological Properties of ALD and AVD Grown Perovskite-Type Dielectrics and Their Stacks for Metal-Insulator-Metal Applications. In: *ECS Journal of Solid State Science and Technology*, vol. 1, no. 1.
- T. Blomberg, Günther Ruhl, M. Lukosius, S. Kubotsch, C. Wenger, C. Baristiran Kaynak (2012): Properties of atomic-vapor and atomic-layer deposited Sr, Ti, and Nb doped Ta<sub>2</sub>O<sub>5</sub> Metal-Insulator-Metal capacitors. In: *Thin Solid Films*, vol. 520, no. 14, pp. 4576-4579. DOI: 10.1016/j.tsf.2011.10.199.
- Günther Ruhl, A. Gschwandtner, W. Lehnert (2012): Plasma enhanced atomic layer batch processing of aluminum doped titanium dioxide. In: *Journal of Vacuum Science & Technology A*, vol. 30, no. 1. DOI: 10.1116/1.3670876.



- A. Abrutis, T. Blomberg, Günther Ruhl, M. Lukosius, P. Baumann, C. Wenger (2011): ALD and AVD Grown Perovskite-type Dielectrics for Metal-Insulator-Metal Application. (Invited). In: ECS Transactions, vol. 41, no. 2, pp. 53-61. DOI: 10.1149/1.3633654.
- T. Blomberg, Günther Ruhl, P. Baumann, C. Wenger, C. Baristiran Kaynak (2011): ALD grown NbTaOx based MIM capacitors. In: Microelectronic Engineering, vol. 88, no. 8, pp. 2447-2451.
- A. Abrutis, Günther Ruhl, V. Kubilius, M. Skapas, A. Zauner, M. Lukosius, C. Wenger, C. Baristiran Kaynak (2011): Metal-insulator-metal capacitors with MOCVD grown Ce-Al-O as dielectric. In: Microelectronic Engineering, vol. 88, no. 7, pp. 1529-1532. DOI: 10.1016/j.mee.2011.03.044.
- T. Blomberg, Günther Ruhl, B. Tillack, M. Lukosius, C. Wenger, C. Baristiran Kaynak (2011): Single SrTiO<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub>/SrTiO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> based MIM capacitors: Impact of the bottom electrode material. In: Microelectronic Engineering, vol. 88, no. 7, pp. 1521-1524. DOI: 10.1016/j.mee.2011.03.022.
- T. Blomberg, Günther Ruhl, B. Tillack, I. Costina, M. Lukosius, C. Wenger, C. Baristiran Kaynak (2011): Enhanced leakage current behavior of Sr<sub>2</sub>Ta<sub>2</sub>O<sub>7-x</sub>/SrTiO<sub>3</sub> bilayer dielectrics for metal-insulator-metal capacitors. In: Thin Solid Films, vol. 519, no. 17, pp. 5734-5739. DOI: 10.1016/j.tsf.2011.01.001.
- S. Rushworth, Günther Ruhl, M. Lukosius, P. Baumann, C. Wenger, C. Baristiran Kaynak (2011): Atomic Vapor Depositions of Ti-Ta-O thin films for Metal-Insulator-Metal applications. In: Thin Solid Films, vol. 519, no. 11, pp. 3831-3834. DOI: 10.1016/j.tsf.2011.01.239.
- S. Rushworth, Günther Ruhl, M. Lukosius, C. Wenger, C. Baristiran Kaynak (2011): Electrical characteristics of Ti-Ta-O based MIM capacitors. In: Journal of Vacuum Science & Technology B, vol. 29, no. 1. DOI: 10.1116/1.3534020.
- D. Groteloh, M. Melzl, M. Hammer, A. Strasser, Günther Ruhl, R. Goellner (2010): Method of processing a contact pad, method of manufacturing a contact pad, and integrated circuit element.
- M. Hammer, R. Kainzbauer, Günther Ruhl (2010): System for separation of an electrically conductive connection.
- S. Rushworth, Günther Ruhl, B. Tillack, I. Costina, M. Lukosius, C. Wenger, C. Baristiran Kaynak (2010): Investigations of thermal annealing effects on electrical and structural properties of SrTaO based MIM capacitor. In: Microelectronic Engineering, vol. 87, no. 12, pp. 2561-2564. DOI: 10.1016/j.mee.2010.07.015.
- J.-M. Batke, Günther Ruhl, M. Krenzer (2009): Development of a TiN-CVD process with very high step coverage. In: Proceedings of the IEEE/SEMI Advanced Semiconductor Manufacturing Conference 2009 (ASMC '09 ; 10-12 May 2009, Berlin, Germany). DOI: 10.1109/ASMC.2009.5155948.
- Günther Ruhl, S. Pasko, H.-J. Müssig, M. Lukosius, C. Wenger, C. Lohe (2009): Influence of the electrode material on HfO<sub>2</sub> metal-insulator-metal capacitors. In: Journal of Vacuum Science & Technology B, vol. 27, no. 1, pp. 286-289. DOI: 10.1116/1.3071843.
- L. Pfitzner, S. Petersen, G. Roeder, V. Yanev, C. Manke, Günther Ruhl, M. Schellenberger, P. Baumann, A. Gschwandtner, H. Ryssel, P. Petrik (2008): Characterization of Ru and RuO<sub>2</sub> thin films prepared by pulsed metal organic chemical vapor deposition. In: Current Topics in Solid State Physics, vol. 5, no. 5, pp. 1231-1234. DOI: 10.1002/pssc.200777865.
- J. Mathuni, Günther Ruhl (2006): Process for the plasma etching of materials not containing silicon.
- T. Lutz, Günther Ruhl, B. Schönherr, T. Franke, F. Gans, F. Erber, C. Ebi (2006): Verfahren zur Kompensation von Streu-/Reflexionseffekten in der Teilchenstrahlolithographie.
- J. Mathuni, Günther Ruhl (2005): Verfahren zur Seitenwandpassivierung beim Plasmaätzen.
- T. Lutz, Günther Ruhl, B. Schönherr, T. Franke, F. Gans, F. Erber, C. Ebi (2005): Method for compensating for scatter /reflection effects in particle beam lithography.
- J. Mathuni, Günther Ruhl (2005): Production method for a halftone phase mask.



- Günther Ruhl, N. Falk (2004): Plasma-etching process for molybdenum silicon nitride layers on half-tone phase masks based on gas mixtures containing monofluoromethane and oxygen.
- G. Prechtel, Günther Ruhl, A. Kersch, W. Sabisch, F. Gans, P. Nesladek, R. Anderson (2004): Kompensationsrahmen zur Aufnahme eines Substrats.
- J. Mathuni, Günther Ruhl (2004): Verfahren und Vorrichtung zum Entlacken eines Bereiches auf einem Maskensubstrat.
- E. Cotte, U. Dersch, Günther Ruhl, J. Perlich, C. Holfeld (2004): Numerical and experimental study of oxide growth on EUV mask capping layers. In: 24th Annual BACUS Symposium on Photomask Technology (14-17 September, 2004, Monterey, California, USA), Bellingham, Wash., vol. v. 5567. DOI: 10.1117/12.569276.
- M. Kristlib, Günther Ruhl, P. Nesladek (2004): Investigation of Cr chamber conditioning. In: EMC 2004: 20th European Mask Conference on Mask Technology for Integrated Circuits and Micro-Components ; lectures held at the GMM-Conference, January 12-14, 2004 in Dresden, Germany, Berlin, vol. 43.
- F.-M. Kamm, F. Letzkus, J. Mathuni, J. Butschke, Günther Ruhl, J. Rau, C. Koepernik, C. Holfeld (2004): Optimized processes and absorber-stack materials for EUV masks,. In: EMC 2004: 20th European Mask Conference on Mask Technology for Integrated Circuits and Micro-Components ; lectures held at the GMM-Conference, January 12-14, 2004 in Dresden, Germany, Berlin, vol. 43.
- F.-M. Kamm, F. Letzkus, J. Mathuni, J. Butschke, Günther Ruhl, J. Rau, M. Irmscher, C. Koepernik (2004): Dry etch processes for the fabrication of EUV masks. In: Microelectronic Engineering, vol. 73-74, no. June, pp. 282-288. DOI: 10.1016/j.mee.2004.02.054.
- M. Schober, Günther Ruhl, K. Hieber, T. Kruck (2003): Gasgemisch und Verfahren zum Trockenätzen von Metallen, insbesondere Kupfer, bei niedrigen Temperaturen.
- J. Mathuni, Günther Ruhl (2003): Plasmaätzverfahren für MoSi(O)N-Schichten.
- F.-M. Kamm, F. Letzkus, J. Mathuni, Günther Ruhl, J. Rau, D. Knobloch, R. Springer (2003): Development of a plasma etch process for TaN absorber patterning on EUV masks. In: Proceedings of Photomask and Next-Generation Lithography Mask Technology X (16-18 April 2003, Yokohama, Japan), Bellingham, Wash., vol. v. 5130. DOI: 10.1117/12.504243.
- M. Buie, G. Prechtel, Günther Ruhl, A. Kersch, W. Sabisch, P. Nesladek, R. Anderson (2003): Improvement of Chrome CDU by Optimizing Focus Ring Design. In: Proceedings of Photomask and Next-Generation Lithography Mask Technology X (16-18 April 2003, Yokohama, Japan), Bellingham, Wash., vol. v. 5130.
- Günther Ruhl, A. Boesl, P. Nesladek (2003): An optimized process for dry stripping photomasks. In: Solid State Technology, vol. 46, no. 5/May, pp. 103-106.
- Günther Ruhl, N. Falk (2002): Plasmaätzprozess für MoSiN-Schichten auf Halbton-Phasenmasken auf der Basis von Monofluormethan und Sauerstoff enthaltenden Gasgemischen.
- Günther Ruhl, T. Struck, M. Verbeek (2002): Verfahren und Vorrichtung zur Analyse von Strukturen einer Fotomaske.
- M. Buie, Günther Ruhl, N. Sandlin, R. Anderson (2002): Study of the role of Cl<sub>2</sub>, O<sub>2</sub>, and He in the chrome etch process with optical emission spectroscopy. In: Proceedings of the 22nd Annual BACUS Symposium on Photomask Technology (September 30-October 4, 2002; Monterey, CA, USA), vol. v. 4889. DOI: 10.1117/12.467849.
- Günther Ruhl, A. Boesl, P. Nesladek (2001): Microwave plasma resist stripping for mask manufacturing. In: Proceedings of Photomask and Next-Generation Lithography Mask Technology IX (23-25 April, 2002, Yokohama, Japan), Bellingham, Wash., vol. v. 4754. DOI: 10.1117/12.476956.
- M. Buie, Günther Ruhl, Y.-C. Huang, A. Buxbaum, B. Stoehr (2001): Extended Chamber Matching and Repeatability Study for Chrome Etch. In: 21th Annual BACUS Symposium on Photomask Technology (October 3-5, 2001; Monterey, CA, USA), Bellingham (Wash.), vol. Vol. 4562. DOI: 10.1117/12.458344.



- M. Buie, Günther Ruhl, A. Buxbaum, B. Stoehr (2001): An Endpoint Solution for Photomask Chrome Loads Down to 0.25%. In: 21th Annual BACUS Symposium on Photomask Technology (October 3-5, 2001; Monterey, CA, USA), Bellingham (Wash.), vol. Vol. 4562. DOI: 10.1117/12.458342.
- J. Mathuni, R. Dietrich, Günther Ruhl, F. Erber, P. Nesladek (2001): Development and characterization of a new plasma etching process for mask manufacturing. In: Proceedings of Photomask and Next Generation Lithography Mask Technology VIII (September 2001; Kanagawa, Japan), vol. Vol. 4409. DOI: 10.1117/12.438358.
- R. Dietrich, Günther Ruhl, T. Morrison, N. Falk, B. Stoehr, R. Ludwig (2001): Optimizing the Chromium Dry Etch Process. In: Semiconductor International, vol. 24, pp. 239-246.
- R. Dietrich, Günther Ruhl, T. Morrison, N. Falk, B. Stoehr, R. Ludwig (2001): Chrome dry etch characterization using Surface Nano Profiling. In: Proceedings of the 20th Annual BACUS Symposium on Photomask Technology (September 13-15, 2000; Monterey, CA, USA), vol. Vol. 4186. DOI: 10.1117/12.410753.
- J. Mathuni, S. List, W. Maurer, R. Gordon, R. Pforr, A. Erdmann, L. Mader, Günther Ruhl, C. Kalus, C. Friedrich, U. Griesinger (2000): Optimising edge topography of alternating phase shift masks using rigorous mask modelling. In: Optical Microlithography XIII (1-3 March 2000, Santa Clara, USA), Bellingham, Washington, vol. vol. 4000.
- Günther Ruhl, J. Hochmuth, T. Coleman (1999): Control Methodology of off-target for varying pattern densities with chrome dry etch. In: Symposium on Photomask Technology, Bellingham, Washington, USA, vol. Vol. 3873. DOI: 10.1117/12.373324.
- H. Treichel, P. Ansmann, C. Müller, Günther Ruhl, R. Würfl, M. Dietlmeier (1998): Low dielectric constant materials for interlayer dielectric. (Invited Paper). In: Microelectronic Engineering, vol. 40, no. 1, pp. 1-19. DOI: 10.1016/S0167-9317(97)00185-8.
- V. Schröcke, Günther Ruhl (1997): Verfahren und Vorrichtung zur Erfassung von atomarem Wasserstoff in einem Mikroelektronik-Fertigungsreaktor.
- H. Treichel, P. Ansmann, C. Müller, Günther Ruhl, R. Würfl, M. Dietlmeier (1997): Dielectric Materials and Insulators for Microelectronics. In: Chemical vapor deposition, Pennington, NJ, vol. 97-25.
- M. Engelhardt, Günther Ruhl, et al. (1997): Vertically integrated circuits: A key technology for future high performance systems. In: Proceedings of the 11th International Colloquium on Plasma Processes (CIP '97).
- Günther Ruhl, D. Bollmann, et al. (1997): Three dimensional metallization for vertically integrated circuits. In: MAM'97 Abstracts (European Workshop Materials for Advanced Metallization), vol. 53.
- P. Ramm, Günther Ruhl, et al. (1997): Three dimensional metallization for vertically integrated circuits. (Invited Lecture). In: Microelectronic Engineering (Materials for Advanced Metallization MAM '97; 16-19 March 1997; Villard de Lans, France), vol. 37-38, no. November, pp. 39-47. DOI: 10.1016/S0167-9317(97)00092-0.
- H. Treichel, C. Müller, Günther Ruhl, K. Neumeier, S. Seitz (1997): High-Temperature Resistent Devices for Energy-Efficient Automotive Applications. In: Proceedings of the 30th International Symposium on Automotive Technology and Automation 1997 (ISATA).
- H. Treichel, Günther Ruhl, K. Hieber, G. Röska (1996): Metallisierung höchstintegrierter und komplexer Systeme. (Eingeladener Beitrag). In: Verhandlungen der DPG (VI), vol. 31.
- H. Treichel, Günther Ruhl, K. Hieber, G. Röska (1996): Future Challenges in Multilevel Interconnection and Wiring. In: Proceedings of the 8th Dielectrics and CVD Metallization Symposium (San Diego, CA, USA; March 1996).
- S. Vepřek, Günther Ruhl, R. Merica, R. Rehmet, M. Knoživá (1996): In situ XPS studies of the deposition of TiNxCy films from tetrakis(dimethylamido)titanium(IV) and bis[N,N'-bis(tert.-butyl)- ethylenediamido]titanium(IV). In: Chemistry of Materials, vol. 8, no. 12, pp. 2712-2720.
- M. Engelhardt, Günther Ruhl, T. Graßl, W. Pamler (1995): A Wafer-to-Wafer Interconnect Scheme Using Through-Hole Silicon Trench Etching and MCVD. In: Proceedings of Applied Materials Fall Seminar 1995 (Freising, Germany).



- M. Engelhardt, Günther Ruhl, T. Graßl, W. Pamler, B. Fröschle (1995): Interchip Vias. In: European Semiconductor, no. October.
- P. Ramm, Günther Ruhl, A. Intemann, W. Pamler, B. Fröschle (1995): Deposition of titaniumnitride/tungsten films for application in vertically integrated circuits technology. In: Applied Surface Science, vol. 91, no. 1-4, pp. 382-387.
- M. Engelhardt, Günther Ruhl, T. Graßl, W. Pamler, B. Fröschle (1995): Vertical integration of chips: a technological challenge for plasma etching and deposition. In: Proceeding of Tegal European Plasma Seminar, vol. 13.
- Günther Ruhl, H. Körner, E. Hartmann, A. Intemann (1995): Applications and properties of MOCVD-TiN. In: Conference Proceedings ULSI-X (MRS).
- S. Vepřek, J. Oswald, Günther Ruhl, H. Tamura, M. Rückschloß, T. Wirschem (1995): Photoluminescence from OH-related radiative centres in silica, metal oxides, oxidized nanocrystalline and porous silicon. In: Journal of Luminescence, vol. 63, no. 5-6, pp. 279-287. DOI: 10.1016/0022-2313(94)00076-O.
- Günther Ruhl, A. Intemann (1995): Remote Plasma Deposition of CVD Titanium Nitride Films using Organometallic Precursors. In: Proceedings of the 1995 ACS Meeting "Organometallic/Inorganic Chemistry in Materials Research" (Anaheim, CA, USA).
- Günther Ruhl, H. Koerner, E. Hartmann, K. Hieber, A. Intemann (1994): Applications and Properties of MOCVD Titanium Nitride. In: Proceedings of the 1994 Advanced Metallization Congress (Austin, TX, USA).
- S. Vepřek, Günther Ruhl, R. Rehm, M. Knoživá (1993): In situ XPS studies of the deposition of thin films from tetrakis (dimethylamido)titanium organometallic precursor for diffusion barriers. In: Materials Research Society Symposium Proceedings (Symposium M2 – Materials Reliability in Microelectronics III), vol. 309. DOI: 10.1557/PROC-309-461.
- Günther Ruhl, Stefan Menzel, Raimund Förg, Alois Kasberger: Development of a waterproof, high color fidelity LED Light Panel. In: 6th European Seminar on Precision Optics Manufacturing (POM19), Teisnach.
- Günther Ruhl: Challenges in process integration of graphene for manufacturing microelectronic devices. eingeladener Vortrag. In: Graphene Week 2016, Warschau, Polen.
- Günther Ruhl: Graphene - Balancing the Elephant. Eingeladener Vortrag. In: 6. NRW Nano-Konferenz, Dortmund.
- Günther Ruhl: Perspectives of Graphene in Semiconductor Industry. eingeladener Vortrag. In: TNT 2014, Barcelona, Spanien.
- Günther Ruhl: Perspective of ICT industry on the use of graphene. Eingeladener Vortrag. In: 6th Stuttgart NanoDays Workshop, Stuttgart.
- Günther Ruhl: Graphene- Balancing the Elephant. Eingeladener Vortrag. In: IHP Institutsseminar, Frankfurt (Oder).
- Günther Ruhl, M. Lukosius: Material Options for Integrated MIM Capacitors. Eingeladener Vortrag. In: WoDiM 2012, Dresden.
- Günther Ruhl: MaxCaps – Next Generation Dielectrics for Integrated Capacitors. Eingeladener Vortrag. In: Semicon Europe 2011, Dresden.
- Günther Ruhl, W. Lehnert, C. Wenger: CVD grown ternary high-k oxides for MIM capacitors. In: Novel High-k Applications Workshop, Dresden.
- Günther Ruhl: From Graphite to Graphene. Eingeladener Vortrag. In: Infineon R&D Colloquium, München.
- Günther Ruhl, A. Lechner, A. Brandl: Analysis of Cu oxide films on Cu by Raman spectroscopy. Eingeladener Vortrag. In: GMM Fachgruppentagung Analytik, Erlangen.
- J.-M. Batke, Günther Ruhl, M. Krenzer: Investigation of CVD-TiN layers for high aspect ratios. Eingeladener Vortrag. In: GMM Fachgruppentagung PVD/CVD, Erlangen.



F.-M. Kamm, F. Letzkus, J. Mathuni, Günther Ruhl, J. Rau, D. Knobloch, R. Springer: Development of a plasma etch process for TaN absorber patterning on EUV masks. In: Photomask Japan, Yokohama, Japan.

J. Mathuni, Günther Ruhl: Dry Etching of Photomasks Utilizing DPS Technology. eingetragener Vortrag. In: Applied Materials Technical Seminar, Semicon West, San Francisco, CA, USA.

Günther Ruhl, J. Hochmuth, T. Coleman: Control Methodology of off-target for varying pattern densities with chrome dry etch. In: 19th Annual Symposium on Photomask Technology, Monterey, CA, USA.

P. Ramm, Günther Ruhl, A. Intemann, W. Pamler, B. Fröschle: Deposition of titaniumnitride/tungsten films for application in vertically integrated circuits technology. In: Materials for Advanced Metallization '95, Dresden.

Günther Ruhl, K. Hieber: Trends in der Prozeßentwicklung für die Mehrlagenmetallisierung. Eingeladener Vortrag. In: Arbeitskreis Plasmaoberflächentechnologie, Sindelfingen.

S. Vepřek, M.G.J. Vepřek-Heijman, Günther Ruhl: Plasmaätzen von Mangan-Zink-Ferriten. In: 4. Bundesdeutsche Fachtagung Plasmatechnologie, Garching.

Günther Ruhl: XPS-Studien oberflächenchemischer Prozesse beim Plasmaätzen von (Mn,Zn)Ferriten und der MOCVD von TiNxCy.

Günther Ruhl, Liane Bingel, Raimund Förg: Glas als Verpackungsmaterial für Lebensmittel. Posterpräsentation. In: 5. Tag der Forschung, Deggendorf.