

## List of Publications Ille C. Gebeshuber

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### *Peer-Reviewed Articles and Editorial Material*

1. Ismardi A., Dee C.F., Hamzah A.A., Bais B., Salleh M.M., Majlis B.Y. and **Gebeshuber I.C.**  
*Co-Synthesis and characterization of In<sub>2</sub>O<sub>3</sub> and ZnO nanowires (Sintesis Bersama dan Pencirian bagi Nanowayar In<sub>2</sub>O<sub>3</sub> dan ZnO)*  
Sains Malaysiana 41(4), 459-463, 2012. ISSN 0126-6039.
2. **Gebeshuber I.C.** and Roy M.  
*Guest Editorial: Special Issue on Advanced Materials Engineering: Selected Papers from the Indo-Austrian Symposium 2010*  
Proc. IMechE Part C: J. Mech. Eng. Sci. 226(C2), Special Issue “Advanced Materials Engineering: Selected Papers from the Indo-Austrian Symposium 2010” (Guest Eds: Ille C. Gebeshuber and Manish Roy), 299-302, 2012.  
doi:10.1177/0954406211435297, **invited article**
3. **Gebeshuber I.C.**  
*Green nanotribology*  
Proc. IMechE Part C: J. Mech. Eng. Sci. 226(C2), Special Issue “Advanced Materials Engineering: Selected Papers from the Indo-Austrian Symposium 2010” (Guest Eds: Ille C. Gebeshuber and Manish Roy), 374-386, 2012  
doi:10.1177/0954406211428020, **invited article**
4. Ismardi Abrar, Dee C.F., **Gebeshuber I.C.** and Majlis B.Y.  
*Growth and characterization of Indium doped ZnO nanowires using vapor transport deposition method*  
Adv. Mat. Res. 364, 202-205, 2012. ISSN 1022-6680.  
doi:10.4028/www.scientific.net/AMR.364.202
5. Gordon R., Levin S.M. and **Gebeshuber I.C.**  
*Triggered, nanostructured biodegradables (TNBs) for surgical implants*  
**invited article**, Special issue on Bioinspired Micro and Nanosystems, Micro and Nanosystems 3(4), 271-276, 2011. ISSN 1876-4029,  
doi:10.2174/1876402911103040271
6. **Gebeshuber I.C.** and Gordon R.  
*Bioinspiration for tribological systems on the micro- and nanoscale: dynamic, mechanic, surface and structure related functions*

- invited article**, Special issue on Bioinspired Micro and Nanosystems, Micro and Nanosystems 3(4), 284-289. ISSN 1876-4029, doi:10.2174/1876402911103040284
7. Macqueen M.O., Mueller J., Dee C.F. and **Gebeshuber I.C.**  
*GEMS: A MEMS-based way for the innervation of materials*  
Adv. Mat. Res. 254(8), 34-37, 2011. ISSN 1022-6680.
  8. Karman S.B., Macqueen M.O., Matin T.R., Diah S.M., Mueller J., Yunas J., Davaji B., Makarczuk T. and **Gebeshuber I.C.**  
*On the way to the bionic man: A novel approach to MEMS based on biological sensory systems*  
Adv. Mat. Res. 254(8), 38-41, 2011. ISSN 1022-6680.
  9. Yunas J., Johari J., Bahadorimehr A.R., **Gebeshuber I.C.** and Majlis B.Y.  
*Investigation of simple process technology for the fabrication of valveless micropumps*  
Adv. Mat. Res. 254(8), 211-214, 2011. ISSN 1022-6680.
  10. **Gebeshuber I.C.** and Majlis B.Y.  
*3D corporate tourism: A concept for innovation in nanomaterials engineering*  
Int. J. Mat. Eng. Innov. 2(1), 38-48, 2011, **invited article**. Online ISSN 1757-2762, Print ISSN 1757-2754.
  11. Naveira-Suarez A., Tomala A., Pasaribu R., Larsson R. and **Gebeshuber I.C.**  
*Evolution of ZDDP-derived reaction layer morphology with rubbing time*  
Scanning 32(5), 294-303, 2010, **invited article**. doi: 10.1002/sca.20207. Online ISSN 1932-8745, ISSN 0161-0457. Incl. **Coverpage**.
  12. Doerr N., **Gebeshuber I.C.**, Holzer D., Wanzenboeck H.D., Ecker A., Pauschitz A. and Franek F.  
*Evaluation of ionic liquids as lubricants*  
J. Microeng. Nanoel. 1(1), 29-34, 2010. ISSN 2229-3183, **invited article**
  13. Yunas J., Johari J., **Gebeshuber I.C.** and Majlis B.Y.  
*Design and fabrication of MEMS micropumps using double sided etch technique*  
IMAPS Journal of Microelectronics and Electronic Packaging 7(1), 44-47, 2010. ISSN 1551-4897
  14. **Gebeshuber I.C.** and Majlis B.Y.  
*New ways of scientific publishing and accessing human knowledge inspired by transdisciplinary approaches*  
Tribology - Surfaces, Materials and Interfaces 4(3), 143-151, 2010. Print ISSN 1751-5831, Online ISSN 1751-584X, doi:10.1179/175158310X12626998129716
  15. Zika T., Buschbeck F., Preisinger G., **Gebeshuber I.C.** and Groeschl M.  
*Surface damage of rolling bearings caused by discrete current flow*  
Z. Tribologie und Schmierungstechnik T&S 57(2), 11-14, 2010. ISBN-13 978-3-8169-9999-7, ISSN 0724-3472, **invited article**
  16. Tiffany M.A., Gordon R. and **Gebeshuber I.C.**  
*Hyalodiscopsis plana, a sublittoral centric marine diatom, and its potential for nanotechnology as a natural zipper-like nanoclash*  
Polish Botanical Journal 55(1), 27-41, 2010. Incl. **Coverpage**.

17. Tomala A., **Gebeshuber I.C.**, Pauschitz A. and Roy M.  
*A comparative AFM study of carbon alloyed Mo-Se-C and W-S-C films for tribological applications*  
Int. J. Mat. Res. (formerly: Zeitschrift fuer Metallkunde) 2010/07, 845-851, 2010.  
ISSN 1862-5282, doi:10.3139/146.110358
18. **Gebeshuber I.C.**, Majlis B.Y. and Stachelberger H.  
*Tribology in Biology: Biomimetic studies across dimensions and across fields*  
Int. J. Mech. Mat. Eng. (3), 321-327, 2009. ISSN 1823-0334
19. Tomala A., Naveira-Suarez A., **Gebeshuber I.C.** and Pasaribu R.  
*Effect of base oil polarity on micro and nano friction behaviour of base oil + ZDDP solutions*  
Tribology - Surfaces, Materials and Interfaces 3(4), 182-188, 2009  
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20. **Gebeshuber I.C.**, Gruber P. and Drack M.  
*A gaze into the crystal ball - biomimetics in the year 2059*  
Proc. IMechE Part C: J. Mech. Eng. Sci. 223(C12), 50st Anniversary Issue, 2899-2918, 2009  
doi:10.1243/09544062JMES1563, **invited article**
21. Tomala A., Doerr N. and **Gebeshuber I.C.**  
*Ultradünne Schichten aus Ethanolamin - energieeffiziente wartungsarme Schmierstoffe*  
Z. Tribologie und Schmierungstechnik T&S 05/2009, 29-32. ISBN-13 978-3-8169-9999-7, ISSN 0724-3472, 2009, **invited article**
22. Tomala A., Doerr N. and **Gebeshuber I.C.**  
*Ultraschleife von Ethanolamin - energetisch effektive Schmierstoffe ohne Zusätze*  
Tribotechnika 4/2009, 40-43, 2009. ISSN 1338-0824, **invited article**
23. Srajer J., Majlis B.Y. and **Gebeshuber I.C.**  
*Microfluidic simulation of a colonial diatom chain reveals oscillatory movement*  
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24. Tomala A., Werner W.S.M., **Gebeshuber I.C.**, Doerr N. and Stoeri H.  
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25. Zika T., **Gebeshuber I.C.**, Buschbeck F., Preisinger G. and Gröschl M.  
*Surface analysis on rolling bearings after exposure to defined electric stress*  
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26. **Gebeshuber I.C.**, Holzer D., Goschke R., Aumayr F. and Störi H.  
*Development of an atomic force microscope closed fluid cell for tribological investigations of large samples in chemically aggressive environments*  
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27. **Gebeshuber I.C.**, Stachelberger H., Ganji B.A., Fu D.C., Yunas J. and Majlis B.Y.

*Exploring the innovational potential of biomimetics for novel 3D MEMS*  
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28. **Gebeshuber I.C.**

*Engineering at the interface revisited*  
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29. **Gebeshuber I.C.**, Drack M. and Scherge M.

*Tribology in biology*  
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30. **Gebeshuber I.C.** and Drack M.

*An attempt to reveal synergies between biology and engineering mechanics*  
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31. Bogus A., **Gebeshuber I.C.**, Pauschitz A., Roy M. and Haubner R.

*Micro- and nanomechanical properties of diamond film with various surface morphologies*  
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32. El-Said A.S., Heller R., Meissl W., Ritter R., Facsko S., Lemell C., Solleder B., **Gebeshuber I.C.**, Betz G., Toulemonde M., Möller W., Burgdörfer J. and Aumayr F.

*Creation of nano-hillocks on CaF<sub>2</sub> surfaces by slow highly charged ions*  
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33. Hekele O., Goesselsberger C.G. and **Gebeshuber I.C.**

*Nanodiagnosics performed on human red blood cells with the atomic force microscope*  
Mat. Sci. Technol. 24(9), 1162-1165(4), 2008, doi: 10.1179/174328408X341834

34. Lemell C., El-Said A.S., Meissl W., **Gebeshuber I.C.**, Trautmann C., Toulemonde M, Burgdörfer J. and Aumayr F.

*On the nano-hillock formation induced by slow highly charged ions on insulator surfaces*  
Solid-State Electronics 51, 1398-1404, 2007, doi: 10.1016/j.sse.2007.06.016

35. **Gebeshuber I.C.**

*Biotribology inspires new technologies*  
Nano Today 2(5), 30-37, 2007  
doi:10.1016/S1748-0132(07)70141-X, **invited article**

36. El-Said A.S., Meissl W., Simon M.C., Crespo López-Urrutia J.R., **Gebeshuber I.C.**, Laimer J., Winter HP., Ullrich J. and Aumayr F.

*Creation of surface nanostructures by irradiation with slow highly charged ions*  
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*Potential energy threshold for nanohillock formation by impact of slow highly charged ions on a CaF<sub>2</sub>(111) surface*  
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38. Gruenberger C., Ritter R., Aumayr F., Stachelberger H. and **Gebeshuber I.C.**  
*Algal biophysics: Euglena gracilis investigated by atomic force microscopy*  
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39. El-Said A.S., Meissl W., Simon M.C., Crespo López-Urrutia J.R., **Gebeshuber I.C.**, Lang M., Winter HP., Ullrich J. and Aumayr F.  
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40. Fürsatz M., Meissl W., Pleschko S., **Gebeshuber I.C.**, Stolterfoht N., Winter HP. and Aumayr F.  
*Charging and discharging of nano-capillaries during ion-guiding of multiply charged projectiles*  
J. Phys. Conf. Ser. 58, 319-322, 2007
41. Crawford R.M. and **Gebeshuber I.C.**  
*Harmony of beauty and expediency*  
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42. Crawford R.M. and **Gebeshuber I.C.**  
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43. Crawford R.M., **Gebeshuber I.C.**, Thamatrakoln K. and Hildebrand M.  
*Mini Nano-engineers*  
Science First Hand 5(10), 2006.
44. Crawford R.M., **Gebeshuber I.C.**, Thamatrakoln K. and Hildebrand M.  
*Mini Nano-engineers (in Russian)*  
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45. **Gebeshuber I.C.** and Crawford R.M.  
*Micromechanics in biogenic hydrated silica: hinges and interlocking devices in diatoms*  
Proc. IMechE Part J: J. Eng. Tribol. 220(J8), 787-796, 2006
46. **Gebeshuber I.C.**  
*Bio-tribology and the operating environment (Discussion on D. Dowson and A. Neville)*  
Proc. IMechE Part J: J. Eng. Tribol. 220(J3), 333, 2006
47. **Gebeshuber I.C.**, Stachelberger H. and Drack M.  
*Diatom tribology*  
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48. Kolm R., **Gebeshuber I.C.**, Kenesey E., Ecker A., Pauschitz A., Werner W.S.M., and Störi H.  
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Life Cycle Tribology 48, 269-282, 2005
49. **Gebeshuber I.C.**, Stachelberger H. and Drack M.  
*Diatom bionanotribology - Biological surfaces in relative motion: their design, friction, adhesion, lubrication and wear*  
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50. **Gebeshuber I.C.**, Cernusca S., Aumayr F. and Winter HP.  
*Nanosopic surface modification by slow ion bombardment*  
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*Slow multicharged-ion induced nanodefects on monocrystalline insulator surfaces studied by UHV-AFM*  
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52. **Gebeshuber I.C.**, Kindt J.H., Thompson J.B., Del Amo Y., Stachelberger H., Brzezinski M., Stucky, G.D. Morse D.E. and Hansma P.K.  
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*In vivo nanoscale atomic force microscopy investigation of diatom adhesion properties*  
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54. Petracchi D., **Gebeshuber I.C.**, DeFelice L.J. and Holden A.V.  
*Stochastic resonance in biological systems*  
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55. Viani M.B., Pietrasanta L.I., Thompson J.B., Chand A., **Gebeshuber I.C.**, Kindt J.H., Richter M., Hansma H.G. and Hansma P.K.  
*Probing protein-protein interactions in real time*  
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56. **Gebeshuber I.C.**  
*The influence of stochastic behavior on the human threshold of hearing*  
Chaos, Solitons & Fractals 11, 1855-1868, 2000
57. Svrcek-Seiler W.A., **Gebeshuber I.C.**, Rattay F., Biro T. and Markum H.  
*Micromechanical models for the Brownian motion of hair cell stereocilia*  
J. Theor. Biol. 193, 623-630, 1998
58. Rattay F., **Gebeshuber I.C.**, Gitter A.H.  
*The auditory hair cell: a simple electric circuit model*  
J. Acoust. Soc. Am. 103, 1558-1565, 1998

## ***Monographs and Edited Scientific Works***

**Gebeshuber I.C.** and Roy M. (Guest Eds.)

*Advanced Materials Engineering: Selected Papers from the Indo-Austrian Symposium 2010*

Special Issue of Proc. IMechE Part C: J. Mech. Eng. Sci., 226(C2), 2012, SAGE Publishing, 103 pp.

Gruber P., Bruckner D., Hellmich C., Schmiedmayer H.-B., Stachelberger H. and **Gebeshuber I.C.** (Eds.)

*Biomimetics - Materials, Structures and Processes. Examples, Ideas and Case Studies*

Series: Biological and Medical Physics, Biomedical Engineering, Springer Heidelberg Dordrecht London New York, 2011. Series Editor Claus Ascheron, 123 illus. (53 in color), Hardcover, ISBN 978-3-642-11933-0, eISBN 978-3-642-11934-7, 266 p.

**Gebeshuber I.C.**

*Biomimetics and Nanotechnology*

UKM Press, Bangi, 2011. ISBN 978-967-412-004-7. 59 pp.

**Gebeshuber I.C.**

*Nanoscience on Surfaces*

Holzhausen Publishing, Vienna, 2010. ISBN 978-3-85493-178-2. 156 pp.

**Gebeshuber I.C.**, Holden A.V. and Petracchi D. (Guest Eds.)

*Stochastic resonance in biological systems*

Special issue of Chaos, Solitons & Fractals, 11(12), 09/2000, Pergamon Press, Oxford, 129 pp.

**Gebeshuber I.C.**, Holden A.V. and Petracchi D. (Eds.)

*Stochastic resonance in biological systems*

Book of Abstracts, First International Conference on Stochastic Resonance in Biological systems, Arcidosso, Italy, May 5-9, 1998.

## ***Book Chapters***

1. Tomala A., Goecerler H. and **Gebeshuber I.C.**

*Bridging nano- and microtribology in mechanical and biomolecular layers*

In: Scanning Probe Microscopy in Nanoscience and Nanotechnology, Vol. III, Ed. Bhushan B., NanoScience and Nanotechnology Series published by Springer-Verlag, accepted

2. **Gebeshuber I.C.** and Lee D.W.

*Nanostructures for coloration (organisms other than animals)*

In: Springer Encyclopedia of Nanotechnology, Eds. Bhushan B. and Nosonovsky M., Springer (projected publication date: June 18, 2012), 3200 pages, ISBN 978-9048197507

3. **Gebeshuber I.C.**, Gruber P. and Imhof B.  
*Biornametics*  
In: Springer Encyclopedia of Nanotechnology, Eds. Bhushan B. and Nosonovsky M., Springer (projected publication date: June 18, 2012), 3200 pages, ISBN 978-9048197507
4. **Gebeshuber I.C.**  
*Green Nanotribology and sustainable nanotribology in the frame of the global challenges for humankind*  
In: Green Tribology: Biomimetics, Energy Conservation, and Sustainability, Eds. Nosonovsky M. and Bhushan B., Series: Green Energy and Technology, Springer Berlin Heidelberg, 632 p., Hardcover, 2012, ISBN 978-3642236808, Ch. 5, 105-125. doi:10.1007/978-3-642-23681-5\_5
5. Gruber P., Bruckner D., Hellmich C., Schmiedmayer H.-B., Stachelberger H. and **Gebeshuber I.C.**  
*Preface*  
In: Biomimetics - Materials, Structures and Processes. Examples, Ideas and Case Studies, Eds: Gruber P., Bruckner D., Hellmich C., Schmiedmayer H.-B., Stachelberger H., **Gebeshuber I.C.**, Series: Biological and Medical Physics, Biomedical Engineering, Springer Heidelberg Dordrecht London New York, Series Editor Claus Ascheron, 266 p., 123 illus. (53 in color), Hardcover, July 15, 2011, ISBN 978-3-642-11933-0, v.
6. Stachelberger H., Gruber P. and **Gebeshuber I.C.**  
*Biomimetics - its technological and societal potential*  
In: Biomimetics - Materials, Structures and Processes. Examples, Ideas and Case Studies, Eds: Gruber P., Bruckner D., Hellmich C., Schmiedmayer H.-B., Stachelberger H., **Gebeshuber I.C.**, Series: Biological and Medical Physics, Biomedical Engineering, Springer Heidelberg Dordrecht London New York, Series Editor Claus Ascheron, 266 p., 123 illus. (53 in color), Hardcover, July 15, 2011, ISBN 978-3-642-11933-0, Ch. 1, 1-6.
7. **Gebeshuber I.C.**, Majlis B.Y. and Stachelberger H.  
*Biomimetics in Tribology*  
In: Biomimetics - Materials, Structures and Processes. Examples, Ideas and Case Studies, Eds: Bruckner D., Gruber P., Hellmich C., Schmiedmayer H.-B., Stachelberger H., **Gebeshuber I.C.**, Series: Biological and Medical Physics, Biomedical Engineering, Springer Heidelberg Dordrecht London New York, Series Editor Claus Ascheron, 266 p., 123 illus. (53 in color), Hardcover, July 15, 2011, ISBN 978-3-642-11933-0, Ch. 3, 25-50.
8. **Gebeshuber I.C.**, Gordon R. and Macqueen M.O.  
*Algae biofuel*  
In: Green Technology: An A-to-Z Guide, The SAGE Reference Series on Green Society: Towards a Sustainable Future, Vol. 10, General Ed. Mulvaney D.R., Series Ed. Robbins P., Eds. Vol. 10: Robbins P., Mulvaney D. and Golson J.G., Sage Publications, Thousand Oaks, CA, USA, 528 p., June 28, 2011, ISBN 978-1-4129-9692-1, 7-9.

9. **Gebeshuber I.C.**, Aumayr M., Hekele O., Sommer R., Goesselsberger C.G., Gruenberger C., Gruber P., Borowan E., Rosic A. and Aumayr F.  
*Bacilli, green algae, diatoms and red blood cells - how nanobiotechnological research inspires architecture*  
In: *Diatoms: Ecology and Life Cycle*, Ed. Compton J.C., Chapter X, Series: Environmental Science, Engineering and Technology, Nova Science Publishers, Hauppauge, New York, 317 p., January 2011, ISBN 978-1-61761-979-3, 265-300, 2011.
10. **Gebeshuber I.C.**, Drack M., Aumayr F., Winter HP. and Franek F.  
*Scanning Probe Microscopy: From living cells to the subatomic range*  
In: *Biosystems Investigated by Scanning Probe Microscopy*, (Eds. Fuchs H. and Bhushan B.), 1st Edition (February 23, 2010), Springer: New York, 834 p., Hardcover, ISBN 978-3-642-02404-7, 359-385, doi:10.1007/3-540-26910-X\_2 (review in Anal. Bioanal. Chem.)
11. **Gebeshuber I.C.** and Tomala A.  
*International Dialogue*  
In: *Encyclopedia of Nanoscience and Society*, Eds. Guston D. and Golson J.G., 1st edition (July 14, 2010), Sage Publications, Thousand Oaks, CA, USA, ISBN-10 1412969875, ISBN-13 978-1412969871, 356-357
12. **Gebeshuber I.C.** and Matin T.R.  
*Kroto, Sir Harry*  
In: *Encyclopedia of Nanoscience and Society*, Eds. Guston D. and Golson J.G., 1st edition (July 14, 2010), Sage Publications, Thousand Oaks, CA, USA, ISBN-10 1412969875, ISBN-13 978-1412969871, 385-386
13. **Gebeshuber I.C.** and Abdel-Aal H.A.  
*Molecular Assembler*  
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14. **Gebeshuber I.C.** and Macqueen M.  
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15. **Gebeshuber I.C.** and Sukumaran M.S.  
*Monash Centre for Regulatory Studies*  
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16. **Gebeshuber I.C.** and Laggner P.  
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In: *Encyclopedia of Nanoscience and Society*, Eds. Guston D. and Golson J.G., 1st edition (July 14, 2010), Sage Publications, Thousand Oaks, CA, USA, ISBN-10 1412969875, ISBN-13 978-1412969871, 559-563

17. **Gebeshuber I.C.**, Belegatis M. and Schmidt V.  
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18. **Gebeshuber I.C.**  
*Nanogate (Tribological Coating for Automobiles)*  
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