Curriculum Vitae: *Prof. Mark H. Rümmeli*

PERSONAL DATA

Telephone	+86 139-12779016
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Citizenship	Swiss/British
Family Status	Married, one child
Date and place of birth	October 16th 1967, Blantyre, Malawi
Core Interests:	*Understanding the formation of low dimensional structures and their functionalization. Understanding the potential of nanomaterials in renewable enery systems and bio-medical applications.*

EXPERIENCE

Total number of articles	**302 (excluding conference proceedings) 20 (proceedings/abstracts)**
Total citations and h-index	**Total citations - 8496, h-index – 47, i10-index – 191 (***Google Scholar***)**
2015 to present	**Full Professor,** *School of Energy, Soochow University* & Head of the characterisation center, *Soochow Institute for Energy Materials Innovasions (SIEMES), Suzhou, Jiangsu Province, China*
2003 to present	**Marie Curie & DFG Fellow/Group Leader/Guest Professor ''Molecular Nanostructures''**, *Leibniz Institute for Solid State and Materials Research, IFW, Dresden, Germany*.
2014 to present	**Full Professor** of the Polish Academy of Sciences, *Center of Polymer and Carbon Materials, Zabrze, Poland*
2014 to present	**Guest Professor,** *Wuhan University, China*
2013 to 2015	**Professor & Group Leader of the Structural Analysis Group,** *Center for Integrated Nanostructure Physics (IBS), & Department of Energy Sciences, Sungkyunkwan University, Suwon, S. Korea*
2001 to 2002	**Crew-member**, *Sailing Yacht Sensation – Mediterranean & Trans-Atlantic crossing*

1999 to 2001	**Post-Doctoral TMR Fellow**, *Institute of Space Sensor Technology and Planetary Exploration, DLR, German Aerospace Centre, Berlin, Germany*
1999	**Computer Engineer**, *Computer Services, Antigua, West Indies*
1998 to 1999	**Consultant of Learning Systems**, *St. John's University, School of Medicine, Montserrat, West Indies (Now: The College of Medicine, St. Lucia)*
1998	**Educational Multimedia Consultant, Translator and Developer**, *Interactive Technology Group, Eugene, Oregon, U.S.A.*
1997 to 1998	**Associate Director of Academic and Students Affairs**, *The University of Health Sciences, Antigua*
1991 to 1994	**Lecturer in B.Sc. and BTEC Sciences**, *The University of North London, London, England*
1986 to 1987	**Assistant Manager**, *Access Cars, Sussex, England*

HIGHER EDUCATION AND QUALIFICATIONS

2016	**Full Habilitation rights**, *Polish Academy of Sciences, PL*
2015	**D.Sc. Honoris Causa,** *London Metropolitan University, UK*
2004	**Chartered Scientist**, *Institute of Physics, London, UK*
2003	**Registered European Physicist**, *European Physical Society, The Netherlands*
2002	**Chartered Physicist**, *Institute of Physics, London, UK*
1991 to 1996	**Ph.D. in Plasma Physics and Analytical Atomic Spectroscopy**, *The University of North London, London, UK*
1994	**Certificate in Data Communication Systems**, *The University of North London, London, UK*
1993	**Post-Graduate School ''Scientists in Industry and Commerce''**, *Durham University, Durham UK*
1988 to 1991	**B.Sc. 1st. class honors in Physics and Computer Electronics**, *The Polytechnic of North London, London, UK*

Prof. Mark H. Rümmeli publication list

Articles in journals (peer reviewed)

Accepted

1. Huy Q. Ta; Liang Zhao; Wanjian Yin; Darius Pohl; Bernd Rellinghaus; Thomas Gemming; Barbara Trzebicka; Justinas Palisaitis; Gao Jing; Per O. Å. Persson; Zhongfan Liu; Alicja Bachmatiuk; Mark H. Rümmeli; Single Cr atom catalytic growth of graphene, *Nano Research* (2017) doi.org/10.1007/s12274-017-1861-3

2. Yue Qi, Bing Deng, Xiao Guo, Shulin Chen, Jing Gao, Tianran Li, Zhipeng Dou, Haina Ci, Jingyu Sun, Zhaolong Chen, Ruoyu Wang, Lingzhi Cui, Xudong Chen, Ke Chen, Huihui Wang, Sheng Wang, Peng Gao, **Mark H Rummeli**, Hailin Peng, Yanfeng Zhang, Zhongfan Liu, "Switching Vertical to Horizontal Graphene Growth Using Faraday Cage-Assisted PECVD Approach for High-Performance Transparent Heating Device" *Adv. Mater*. (2018) accepted

3. **Mark Rummeli**, Yumo Pan, Liang Zhao, Jing Gao, Huy Ta, Ignacio Martinez, Rafael Mendes, homas Gemming, Lei FU, Alicja Bachmatiuk, Zhongfan Liu; In situ Room Temperature Electron-beam Driven Graphene Growth from Hydrocarbon Contamination in a Transmission Electron Microscope. *Materials* (2018)

4. Jinbo Pang; Alicja Bachmatiuk; Yin Yin; Barbara trzebicka; Liang Zhao; Lei Fu; Rafael Mendes; Thomas Gemming; Zhongfan Liu; **Mark Rümmeli**; Applications of phosphorene and black phosphorus in energy conversion and storage devices, *Adv. Energy Mater*. doi.org/10.1002/aenm.201702093

Published

1. **Mark H. Rummeli**, Huy Q. Ta, Rafael G. Mendes, Ignacio G. Gonzalez-Martinez, Liang Zhao, Jing Gao, Lei Fu, Thomas Gemming, Alicja Bachmatiuk, Zhongfan Liu, "New Frontiers in Electron-Beam Driven Chemistry in and around Graphene", *Adv. Mater*. 2018, **30**, 1800715.

2. Raghunandan Ummethala, Martin Fritzsche, Tony Jaumann, Juan Balach, Steffen Oswald, Rafał Nowak, Natalia Sobczak, Ivan Kaban, **Mark. H. Rümmeli**, Lars Giebeler, "Lightweight, free-standing 3D interconnected carbon nanotube foam as a flexible sulfur host for high performance lithium-sulfur battery cathodes", *Energy Storage Materials* (2018) **10**, 206,-15

3. Akash Soni, Liang Zhaoa, Huy Q. Ta, Qitao Shi, Jinbo Pang, Pawel S. Wrobel, Thomas Gemming, Alicja Bachmatiuk, **Mark H. Rummeli**, Facile graphitization of silicon nano-particles with ethanol based chemical vapor deposition, *Nano-Struct. & Nano-Obj* (2018) **16**, 38-44

4. Pei Wang, Christoph Gammer, Florian Brenne, Konda Gokuldoss Prashanth, Rafael Gregorio Mendes, **Mark Hermann Rümmeli**, Thomas Gemming, Jürgen Eckert, Sergio Scudino, Microstructure and mechanical properties of a heat-treatable Al-3.5 Cu-1.5 Mg-1Si alloy produced by selective laser melting, *Materials Science and Engineering: A* (2018) **711**, 562-570

5. F Avilés, A May-Pat, MA López-Manchado, R Verdejo, A Bachmatiuk, **MH Rümmeli**, A comparative study on the mechanical, electrical and piezoresistive properties of polymer composites using carbon nanostructures of different topology, *European Polymer Journal*, (2018) 99, 394-402

6. Mendes, RG; Mandarino, A; Koch, B; Meyer, AK; Bachmatiuk, A; Hirsch, C; Gemming, T; Schmidt, OG; Liu, ZF; **Rummeli, MH**," Size and time dependent internalization of label-free nano-graphene oxide in human macrophages", *Nano Research* (2017) **10**, 1980-1995

7. Ke Chen, Fei Zhang, Jingyu Sun, Zhenzhu Li, Li Zhang, Alicja Bachmatiuk, Zhiyu Zou, Zhaolong Chen, Liya Zhang, **Mark Hermann Rümmeli**, Zhongfan Liu, Growth of Defect-Engineered Graphene on Manganese Oxides for Li-Ion Storage, *Energy Storage Materials*, 2017 12, 110-118

8. Karolina Olszowska, Jinbo Pang, Pawel S Wrobel, Liang Zhao, Huy Q Ta, Zhongfan Liu, Barbara Trzebicka, Alicja Bachmatiuk, Mark H Rummeli, Three-dimensional nanostructured graphene: Synthesis and energy, environmental and biomedical applications, *Synthetic Metals* (2017) **234**, 53-85

9. Zhao, Liang; Ta, Huy Q; Dianat, Arezoo; Soni, Akash; Fediai, Artem; Yin, Wanjian; Gemming, Thomas; Trzebicka, Barbara; Cuniberti, Gianaurelio; Liu, Zhongfan; Bachmatiuk, Alicja; **Rummeli, Mark H**, "In Situ Electron Driven Carbon Nanopillar-Fullerene Transformation through Cr Atom Mediation" *Nano Letters* (2017), **17**, 4725-4732

10. Gong, HY; Cao, XC; Mendes, RG; **Rummeli, MH**; Zhang, JY; Yang, RZ; Self-Supported PtAuCu@Cu2O/Pt Hybrid Nanobranch as a Robust Electrocatalyst for the Oxygen Reduction Reaction, *Chem. Electr. Chem*.; (2017), 4, 1554-1550

11. Mahmoud Madian, Raghunandan Ummethala, Ahmed Osama Abo El Naga, Nahla Ismail, **Mark Hermann Rümmeli**, Alexander Eychmüller, Lars Giebeler; Ternary CNTs@TiO_2/CoO Nanotube Composites: Improved Anode Materials for High Performance Lithium Ion Batteries; *Materials* 2017, **10**(6), 678

12. Ye Fan, Alex W. Robertson, Yingqiu Zhou, Qu Chen, Xiaowei Zhang, Nigel D. Browning, Haimei Zheng, **Mark H. Rümmeli**, and Jamie H. Warner; Electrical Breakdown of Suspended Mono- and Few-Layer Tungsten Disulfide via Sulfur Depletion Identified by in Situ Atomic Imaging; *ACS Nano* (2017) **11**, 9435–9444

13. Madian, M; Ummethala, R; El Naga, AOA; Ismail, N; **Rummeli, MH**; Eychmuller, A; Giebeler, L, "Ternary CNTs@TiO2/CoO Nanotube Composites: Improved Anode Materials for High Performance Lithium Ion Batteries", *Materials* (2017) **10**, UNSP 678

14. Zhang, QQ; Xiao, Y; Zhang, T; Weng, Z; Zeng, MQ; Yue, SL; Mendes, RG; Wang, LX; Chen, SL; Rummeli, MH; Peng, LM; Fu, L "Iodine-Mediated Chemical Vapor Deposition Growth of Metastable Transition Metal Dichalcogenides", *Chemistry of Materials* (2017), **29**, 4641-4644

15. Ju, M; Liang, XY; Liu, JX; Zhou, L; Liu, Z; Mendes, RG; **Rummeli, MH**; Fu, L' "Universal Substrate Trapping Strategy To Grow Strictly Monolayer Transition Metal Dichalcogenides Crystals" *Chemistry of Materials*, (2017) **29**, 6095-6103

16. Fu, Y; Romay, V; Liu, Y; Ibarlucea, B; Baraban, L; Khavrus, V; Oswald, S; Bachmatiuk, A; Ibrahim, I; **Rummeli, M**; Gemming, T; Bezugly, V; Cuniberti, G, "Chemiresistive biosensors based on carbon nanotubes for label-free detection of DNA sequences derived from avian influenza virus H5N1", *Sensors and Actuators B-Chemical* (2017) **249**, 691-699

17. Rafael G. Mendes, Angelo Mandarino, Britta Koch, Anne K. Meyer, Alicja Bachmatiuk, Cordula Hirsch, Thomas Gemming, Oliver G. Schmidt, Zhongfan Liu, and **Mark H. Rümmeli**, "Size and time dependent internalization of label-free nano-graphene oxide in human macrophages", *Nano Research* (2017) **10**, 1980

18. Ye Fan, Alex W. Robertson, Xiaowei Zhang, Martin Tweedie, Yingqiu Zhou, **Mark H. Rummeli**, Haimei Zheng, and Jamie H. Warner; Negative Electro-conductance in Suspended 2D WS_2 *Nanoscale Devices; Applied Materials and Interfaces* (2016) **8**, 32963

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20. Pang, Jinbo; Mendes, Rafael; Wrobel, Pawel; Wlodarski, Michal; Ta, Huy Quang; Zhao, Liang; Giebeler, Lars; Trzebicka, Barbara; Gemming, Thomas; Fu, Lei; Liu, Zhongfan; Eckert, Juergen; Bachmatiuk, Alicja; **Rummeli, Mark**, "A Self Terminating Confinement Approach for Large Area Uniform Monolayer Graphene Directly over Si/SiOx by Chemical Vapor Deposition", *ACS Nano* (2017) **11**, 1946

21. Chernysheva, Maria; Bednyakova, Anastasia; Al Araimi, Mohammed; Howe, Richard C T; Hu, Guohua; Hasan, Tawfique; Gambetta, Alessio; Galzerano, Gianluca; **Rummeli, Mark**; Rozhin, Aleksey; Double-Wall Carbon Nanotube Hybrid Mode-Locker in Tm-doped Fibre Laser: A Novel Mechanism for Robust Bound-State Solitons Generation, *Scientific Reports* (2017) **7**, 44314

22. Gong, Hongyu; Cao, Xuecheng; Li, Fan; Gong, Yue; Gu, Lin; Mendes, Rafael Gregorio; **Rummeli, Mark H**; Strasser, Peter; Yang, Ruizhi; PdAuCu Nanobranch as Self-Repairing Electrocatalyst for Oxygen Reduction Reaction, *ChemSusChem* (2017) **10**, 1469

23. Karlsson, LH; Birch, J; Mockute, A; Ingason, AS; Ta, HQ; **Rummeli, MH**; Rosen, J; Persson, POA; Graphene on graphene formation from PMMA residues during annealing; *Vacuum* (2017) **137**, 191

24. Zhao, J; Jeon, I; Yi, QH; Jain, **M; Rummeli**, MH; Song, PY; Matsuo, Y; Zou, GF An efficient organic solvent-free solution-processing strategy for high-mobility metal chalcogenide film growth; *Green Chemistry* (2017) **19**, 946

25. Tao Zhang, Bei Jiang, Zhen Xu, Rafael G. Mendes, Yao Xiao, Linfeng Chen, Liwen Fang, Thomas Gemming, Shengli Chen, **Mark H. Rümmeli** & Lei Fu, Twinned growth behaviour of two-dimensional materials, *Nature Comm*., (2016) 7, 13911

26. Ta, Huy Q; Perello, David J; Duong, Dinh Loc; Han, Gang Hee; Gorantla, Sandeep; Nguyen, Van Luan; Bachmatiuk, Alicja; Rotkin, Slava V; Lee, Young Hee; **Rummeli, Mark H**; Stranski-Krastanov and Volmer-Weber CVD Growth Regimes To Control the Stacking Order in Bilayer Graphene, *Nano Letters* (2016)

27. Chen, K; Li, C; Shi, LR; Gao, T; Song, XJ; Bachmatiuk, A; Zou, ZY; Deng, B; Ji, QQ; Ma, DL; Peng, HL; Du, ZL; **Rummeli, MH**; Zhang, YF; Liu, ZF; Growing three-dimensional biomorphic graphene powders using naturally abundant diatomite templates towards high solution processability, *Nature Comm*., (2016) **7**, 13440.

28. Zeng, MQ; Tan, LF; Wang, LX; Mendes, RG; Qin, ZH; Huang, YX; Zhang, T; Fang, LW; Zhang, YF; Yue, SL; **Rummeli, MH**; Peng, LM; Liu, ZF; Chen, SL; Fu, L: Isotropic Growth of Graphene toward Smoothing Stitching, *ACS Nano* (2016) **10**, 7189

29. Ta, Huy; Bachmatiuk, Alicja; Warner, Jamie; Zhao, Liang; Sun, Yinghui; Zhao, Jiong; Gemming, Thomas; Trzebicka, Barbara; Liu, Zhongfan; Pribat, Didier; **Rümmeli Mark**, Electron Driven Metal Oxide Effusion and Graphene Gasification at Room-Temperature, *ACS Nano* (2016) **10**, 6323

30. Liu, Jinxin; Zeng, Mengqi; Wang, Lingxiang; Chen, Yongting; Xing, Zhuo; Zhang, Tao; Liu, Zheng; Zuo, Junlai; Nan, Fan; Mendes, Rafael G; Chen, Shengli; Ren, Feng; Wang, Ququan; Rummeli, Mark H; Fu, Lei; Ultrafast Self-Limited Growth of Strictly Monolayer WSe2 Crystals, *Small* (2016) **12**, 5741

31. Qin Zhang, Wenjie Wang, Xin Kong, Rafael G. Mendes, Liwen Fang, Yinghui Xue, Yao Xiao, **Mark Hermann Rümmeli**, Shengli Chen, and Lei Fu, Edge-to-edge Oriented Self-assembly of ReS_2 Nanoflakes *J. Am. Chem. Soc.*, (2016) **138**, 11101

32. Maria Bendova, Carlos C. Bof Bufon, Vladimir M. Fomin, Sandeep Gorantla, **Mark H. Rümmeli**, and Oliver G. Schmidt, Electrical Properties of Hybrid Nanomembrane/Nanoparticle Heterojunctions: The Role of Inhomogeneous Arrays, *J. Phys. Chem. C*, (2016) 120, 6891

33. Ibrahim, I; Gemming, T; Weber, WM; Mikolajick, T; Liu, ZF; **Rummeli, MH**; Current Progress in the Chemical Vapor Deposition of Type-Selected Horizontally Aligned Single-Walled Carbon Nanotubes. *ACS Nano* (2016) **10**, 7248

34. Yinghui Xue, Jingwen Deng, Cheng Wang, Rafael G. Mendes, Linfeng Chen, Yao Xiao, Qin Zhang, Tao Zhang, Xuebo Hu, Xianglong Li, **Mark H. Rümmeli** and Lei Fu A pinecone-inspired nanostructure design for long-cycle and high performance Si anodes, *J. Mater. Chem. A*, (2016) **4**, 5395

35. Huy Q. Ta, Liang Zhao, Darius Pohl, Jinbo Pang, Barbara Trzebicka, Bernd Rellinghaus, Didier Pribat, Thomas Gemming, Zhongfan Liu, Alicja Bachmatiuk, **Mark H. Rümmeli,** Graphene-Like ZnO: A Mini Review, *Crystals* (2016) **6**, 100

36. Liurong Shi, Ke Chen, Ran Du, Alicja Bachmatiuk, **Mark Hermann Rümmeli**, Kongwei Xie, Youyuan Huang, Yanfeng Zhang, and Zhongfan Liu, Scalable Seashell-Based Chemical Vapor Deposition Growth of Three-Dimensional Graphene Foams for Oil–Water Separation, *JACS* (2016) **138**, 6360

37. I. G. Gonzalez-Martinez, A. Bachmatiuk,V. Bezugly,J. Kunstmann,T. Gemming,Z. Liu,G. Cuniberti, **M. H. Rümmeli**, Electron-beam induced synthesis of nanostructures: a review, *Nanoscale* (2016) **8**, 11340

38. Yangyong; Wang, Cheng; Xue, Yinghui; Zhang, Qin; Mendes, Rafael; Chen, Linfeng; Zhang, Tao; Gemming, Thomas; **Rümmeli, Mark**; Ai, Xinping; Fu, Lei, A Coral-inspired Nanoengineering Design for Long-cycle and Flexible Lithium-ion Battery Anode *ACS Applied Materials & Interfaces* (2016), **8**, 9185

39. Maryam Khazaee, Wei Xia, Gerhard Lackner, Rafael G. Mendes, Mark Rümmeli, Martin Muhler & Doru C. Lupascu, Dispersibility of vapor phase oxygen and nitrogen functionalized multi-walled carbon nanotubes in various organic solvents, *Scientific Reports* (2016) **6**, 26208

40. Qin Zhang, Shuangjie Tan, Rafael G. Mendes, Zhongti Sun, Yongting Chen, Xin Kong, Yinghui Xue, **Mark H. Rümmeli**, Xiaojun Wu, Shengli Chen, and Lei Fu, Extremely Weak van der Waals Coupling in Vertical ReS_2 Nanowalls for High-Current-Density Lithium-Ion Batteries, *Adv. Mater*., (2016), **28**, 2616

41. Ignacio G. Gonzalez-Martinez, Thomas Gemming, Rafael Mendes, Alicja Bachmatiuk, Viktor Bezugly, Jens Kunstmann, Jürgen Eckert, Gianaurelio Cuniberti & **Mark H. Rümmeli**, In-situ Quasi-Instantaneous e-beam Driven Catalyst-Free Formation of Crystalline Aluminum Borate Nanowires, *Scientific Report*s (2016) **6**, 22524

42. Maria Chernysheva, Chengbo Mou, Raz Arif, Mohammed AlAraimi, **Mark Rümmeli**, Sergei Turitsyn & Aleksey Rozhin; High Power Q-Switched Thulium Doped Fibre Laser using Carbon Nanotube Polymer Composite Saturable Absorber, *Scientific Reports*, (2016) **6**, 24220

43. In Hyuk Son, Jong Hwan Park, Soonchul Kwon, Jang Wook Choi and **Mark H. Rümmeli**, Graphene Coating of Silicon Nanoparticles with CO2-Enhanced Chemical Vapor Deposition, Graphene Coating of Silicon Nanoparticles with CO2-Enhanced Chemical Vapor Deposition, *Small*, (2106) **12**, 658

44. Wenjing Lu, Mengqi Zeng, Xuesong Li, Jiao Wang, Lifang Tan, Miaomiao Shao, Jiangli Han, Sheng Wang, Shuanglin Yue, Tao Zhang, Xuebo Hu, Rafael G. Mendes, Mark H. Rümmeli, Lianmao Peng, Zhongfan Liu and Lei Fu, Controllable Sliding Transfer of Wafer-Size Graphene, *Advanced Science*, (2016) 1600006

45. Linda H. Karlsson, Jens Birch, Aurelija Mockute, Arni S. Ingasona, Huy Q. Ta, **Mark H. Rummeli**, Johanna Rosena, Per O.Å. Persson, Residue reduction and intersurface interaction on single graphene sheets, *Carbon* (2016**) 100**, 345

46. Lei Fu, Yangyong Sun, Nian Wu, Rafael G. Mendes, Linfeng Chen, Zhen Xu, Tao Zhang, **Mark H. Rümmeli**, Bernd Rellinghaus, Darius Pohl, Lin Zhuang, and Lei Fu, Direct Growth of MoS2/h-BN Heterostructures via a Sulfide-Resistant Alloy, *ACS Nano* (2016) **10**, 2063

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50. Yubin Chen, Jingyu Sun, Junfeng Gao, Feng Du, Qi Han, Yufeng Nie, Zhaolong Chen, Alicja Bachmatiuk, Manish Kr. Priydarshi, Donglin Ma, Xiuju Song, Xiaosong Wu, Chunyang Xiong, **Mark H. Rümmeli**, Feng Ding, Yanfeng Zhang and Zhongfan Liu, Growing Uniform Graphene Disks and Films on Molten Glass for Heating Devices and Cell Culture, *Advanced Mater.* (2015) **27**, 7839

51. Alexey Stepanova, Asiya Mustafina, Svetlana Soloveva, Sonia Kleshnina, Igor Antipin, Ildar Rizvanov, Irek Nizameev, Rafael G. Mendes, **Mark H. Rümmeli**, Lars Giebeler, Rustem Amirov, Alexander Konovalov Amphiphiles with polyethyleneoxide–polyethylenecarbonate chains for hydrophilic coating of iron oxide cores, loading by Gd(III) ions and tuning R_2/R_1 ratio, *React. & Func. Polymers* (2016) **99**, 107

52. Liurong Shi, Ke Chen, Ran Du, Alicja Bachmatiuk, **Mark Hermann Rümmeli**, Manish Kumar Priydarshi, Yanfeng Zhang, Ayyakkannu Manivannan and Zhongfan Liu. Direct Synthesis of Few-Layer Graphene on NaCl Crystals, *Small* (2015) **11**, 6302

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56. Jinbo Pang, Alicja Bachmatiuk, Imad Ibrahim, Lei Fu, Daniela Placha, Grazyna Simha Martynkova, Barbara Trzebicka, Thomas Gemming, Juergen Eckert and **M H Rummeli**, "CVD growth of 1D and 2D sp2 carbon nanomaterials", *J. Materials Science* (2016) **52**, 640

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62. Alicja Bachmatiuk, Jiong Zhao, Sandeep Madhukar Gorantla, Ignacio Guillermo Gonzalez Martinez, Jerzy Wiedermann, Changgu Lee, Juergen Eckert, **Mark H. Rummeli**, Low voltage transmission electron microscopy of graphene: A review, *Small* (2015) **11**, 515

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19. V.N. Shastin, N.A. Bekin, R.Kh. Zhukaviv, E.E. Orlova, H.-W. Hübers, S.G. Pavlov, **M.H. Rümmeli**, B.N. Zvonkov, E.A.Uskova, THz emission from CO_2 laser pumped MQW heterostructures doped by shallow impurity centers, *Bulletin of the Russian Academy of Sciences (English translation of the Russian Journal "Doklady Akademii Nauk"), Ser. Fizicheskaya*, No.2 (February), 2002.

20. S.G. Pavlov, H.-W. Hübers, **M.H. Rümmeli**, V.N. Shastin, R.Kh. Zhukavin, E.E. Orlova, J.N. Hovenier, T.O. Klaassen, and H. Nakata, *Physics of optically pumped semiconductor bulk lasers for the 5-15 Thz frequency range*, *Proc. of the 2001 Symposium of IEEE/LEOS Benelux Chapter*, ISBN 90-5487247-0, Ed. by H. Trienpont et al. Published by VUB (Vrije Universiteit Brussel) Press, Pleinlaan 2, 1050 Brussels, Belgium, pp. 49-52, 2001.

Book and book chapters

1. J. H. Warner, F. Schäffel, A. Bachmatiuk, **M. H. Rümmeli**, "Graphene: Fundamentals and Emergent Applications" Elsevier, ISBN: 9780123945938

2. C.G. Rocha, **M.H. Rümmeli**, I. Ibrahim, H. Sevincli, F. Börrnert, J. Kunstmann, A. Bachmatiuk, M. Pötschke, W. Li, S.A.M. Makharza, S. Roche, B. Büchner, G. Cuniberti, Tailoring the physical properties of graphene, Graphene: Synthesis and Applications". Edited by W. Choi and J.-W. Lee. CRC Press. (2011). ISBN: 978-1-469-86187-5.] ISBN: 1439861870.

3. **M.H. Rümmeli**, P. Ayala, T. Pichler, *Carbon Nanotubes and Related Structures. Edited by Dirk M. Guldi and Nazario Martin*, Chapter: Carbon Nanotubes and Related Structures: Production and Formation, Copyright 2010 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, ISBN: 978-3-527-32406-4.

4. S. da Costa, C. Trpisciano, **M H. Rümmeli**, E. Borowiak Palen, *Carbon Nanotubes for Biomedical Applications*, Chapter: Filled carbon Nanotubes. Springer, Berlin; ISBN-13: 978-3642148019

5. F. Börrnert, A. Bachmatiuk, B. Büchner, **M.H. Rümmeli**, Low-Voltage Aberration-Corrected Transmission Electron Microscopy: Progressing Carbon Nanostructures, *Microscopy: Science, Technology, Applications and Education*, Microscopy Book Series – Formatex, 2010, Vol. 1-3, 1846-1852 (2011)

Invited talks

1. **M.H. Rummeli**, Nano-engineering and Chemistry with electrons, University of Science and Technology Beijing, Beijing, China, December 2017

2. **M. H. Rummeli**, In-situ Electron Beam Driven Nano Devices – A Route to New Materials Development for Energy Applications and Beyond, 232nd ECS Meeting, National Harbor, USA, October 2017

3. **M.H. Rummeli**, Nano Chemistry and Engineering with Electron Beams, Frontiers in NanoChemistry, Beijing, China, June 2017

4. **M.H. Rummeli,** Nano-Engineering with Electrons, Tianjin University of Technology, Tianjin, China, January 2017

5. **M.H. Rummeli,** In-situ Fabrication of Novel Nanostructures using Electron Beams, Asia Nano 2016, Sapporo, Japan, October 2016

6. **M.H. Rummeli,** Fabricating Novel Nanostructures in situ with Electron beams**,** Invited talk, DSL 2016, Split, Croatia, June 2016

7. **M.H. Rummeli,** Nanomaterials: From synthesis to nano-engineering to application, Dalian University of Technology, May 2016, China

8. **M.H. Rummeli,** Nanomaterials: From synthesis to nano-engineering to application, Zhejiang University, April 2016, China

9. **M.H. Rummeli,** Electron Driven Engineering of Graphene**,** Invited talk, MRS Fall meeting, USA, December 2015

10. **M.H. Rummeli**, In Electron driven in-situ transmission electron microscopy of nanostructures, Nano Ostrava 2015, Ostrava, Czech Republic, May 2015

11. **M.H. Rummeli**, In-Situ Nano-Engineering with nanomaterials, Soochow University, School of Energy, China, March 2015

12. **M.H. Rummeli**, In-Situ Nano-Engineering with nanomaterials, Peking University, Dept. Chemistry, China, December 2014

13. **M.H. Rummeli**, Room temperature in-situ nanostructure synthesis using electron beam irradiation, TNT 2014, Barcelona, Spain, October 2014

14. **M.H. Rummeli**, In-Situ Nano-Engineering with Graphene, ISGD-04, Seattle, USA, September 2014

15. **M.H. Rummeli**, In-situ nano-engineering with Graphene, ICOMF 2014, Jeju, South Korea, July 2014

16. **M.H. Rummeli**, Room temperature in-situ nanostructure synthesis using electron beam irradiation, ICOMF 2014, Jeju, South Korea, July 2014

17. **M. H. Rummeli**, Room temperature in-situ nanostructure synthesis using electron beam irradiation, DSL 2014, Paris, France, June 2014

18. **M. H. Rümmeli,** In Situ transmission electron microscopy based electron engineering of (graphene) nanostructures, SAINT, Sunkyungkwan University, S. Korea, May 2014

19. **M. H. Rümmeli,** Synthesis and Engineering sp2 carbon nanostructures, Polish Academy of Sciences, Poland, December 2013

20. **M. H. Rümmeli**, Electron-driven in-situ growth of B/BOx nanowires and BOx Nanotubes, Wuhan University, China, November, 2013.

21. **M. H. Rümmeli**, Electron-driven in-situ growth of B/BOx nanowires and BOx Nanotubes, Asia 3 (A3) conference, Jeju, Korea, November, 2013.

22. **M. H. Rümmeli**, The Nanostructure Analysis Unit at CINAP, 1st IBS conference, Daejeon, Korea, November 2013.

23. **M. H. Rümmeli**, The Nanostructure Analysis Unit at CINAP, Workshop, POSTECH, Pohang, Korea, August 2013.

24. **M. H. Rümmeli**, The Nanostructure Analysis Unit at CINAP, Sungkyunkwan University, Suwon, Korea, August 2013.

25. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, Invited Talk, KRICT, Daejing, South Korea, July 2013

26. **M.H. Rummeli**, Engineering sp^2 carbon nanostructures with electrons, Invited Talk, Aalto University, July 2013

27. **M.H. Rummeli**, On the Catalyst-free Growth of Carbon Nanotubes, Invited Talk, DSL 2013, Madrid, Spain June 2013

28. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, Invited Talk, Institute of Integrative Nanotechnology, IFW Dresden, Germany, January 2013

29. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, Invited Talk, Joint Dresden-Japan Workshop on Molecular Scale and Organic Electronic Materials, Germany, December 2012.

30. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, Invited Talk, MRS Fall meeting, USA, December 2012.

31. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, plenary lecture, XXV Congreso Nacional de la Sociedad Polimerica de Mexico, November 2012

32. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, 5^{th} European school on Molecular Nanoscience, Cuenca, Spain, 31^{st} October 2012

33. **M.H. Rümmeli**, Understanding sp^2 carbon growth, functionalization and bio-applications, invited talk, International ECEMP colloquium 2012, Technical University Dresden, 2012, Germany

34. **M.H. Rümmeli**, Understanding sp^2 carbon growth, invited talk, Sino-European Workshop on Graphene Applications, Peking University, 28^{th} September 2012

35. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Okinawa Institute of Science and Technology, 25th September 2012

36. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Wuhan University, 21^{st} September 2012

37. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Tsinhua University, Chinese National Electron Microscopy Centre, 18^{th} September 2012

38. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Chinese academy of sciences, department of chemistry, China, September 17^{th} September.

39. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Sung Kyun Kwan University, Korea 12 September 2012

40. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Samsung Electronics, R & D labs, Korea 11 September 2012

41. **M.H. Rümmeli**, Engineering sp^2 carbon nanostructures with electrons, invited talk, Pohang university of science and technology (POSTECH), Korea 10 September 2012

42. **M.H. Rümmeli**, Electron driven Engineering of Graphene, Invited Talk, Diffusion in Solids and Liquids (DSL 2012), Turkey 25-29 June 2012

43. **M.H. Rümmeli**, A Microscopic Evaluation of Metal Free CVD Grown Graphene, Plenary lecture, New Diamond and Nano Carbons 2012, Puerto Rico, May 20-24, 2012

44. **M.H. Rümmeli**, Conventional and unconventional approaches to carbon nanotube fabrication and manipulation, CAMS3'12 Ustron, Poland 27-29.2 (2012)

45. **M.H. Rümmeli**, Functionalized Carbon Nanotubes, THz Workshop, Rosendorf, Dresden, German 05 -07.03 (2012)

46. **M.H. Rümmeli**, A. Bachmatiuk, I. Ibrahim, Evolving catalytic routes for carbon nanotube and graphene growth, Invited Talk, Nablus/ Palestine, 1.-2.6.11 (2011).

47. **M.H Rümmeli**, Evolving catalytic routes for carbon nanotube and graphene growth, Invited Talk, Al Quds/ Palestine, 4.-6.6.11 (2011).

48. **M.H. Rümmeli**, The rise of ceramic catalysts for carbon nanotube and graphene growth, Conference Trends in Nanotechnology (TNT 2010), Braga/ Portugal, 8.-10.9.10 (2010).

49. **M.H. Rümmeli**, Rethinking Carbon Nanotube Growth, Keynote lecture, Edgar-Luescher-Seminar, Klosters/ Schweiz, 6-12.2.10 (2010).

50. **M.H. Rümmeli,** Rethinking carbon nanotube and graphene growth, Lecture in Triest/ Italien, 26.3.2010 (2010).

51. **M.H. Rümmeli**, Opportunities for Academics and Students in Germany, National Autonomous University Mexico, Queretaro/ Mexico, 8.-9.4.10 (2010).

52. **M.H. Rümmeli**, Rethinking carbon nanotube and graphene growth, Centre for Applied Physics and Advanced Technology, Queretaro/ Mexico, 9.4.10 (2010).

53. **M.H. Rümmeli**, A. Bachmatiuk, F. Börrnert, B. Büchner, Rethinking carbon nanotube and graphene growth, Invited Lecture, 1st International Conference on Nantechnology, Quito/ Ecuador, 14.-18.6.10 (2010).

54. **M.H. Rümmeli**, Rethinking carbon nanotube and graphene growth, Talk, University of the Witswasersrand, Johannesburg/ South Africa, 3.-4.12.09 (2009).

55. **M.H. Rümmeli**, M. Bystrzejewski, R. Schönfelder, A. Bachmatiuk, I. Ibrahim, C. Schuenemann, A. Balanaga Tetali, F. Börrnert, B.L. Aryasomayajula, A. Scott, 12 Months growth at the IFW, *Oxford/ UK*, (2009).

56. **M.H. Rümmeli**, F. Schäffel, A. Bachmatiuk, R. Schönfelder, M. Bystrzejewski, F. Börnert, U. Wolff, E. Coric, C. Schuenemann, M. Ulbrich, R. Huebel, M. Knupfer, B. Büchner, Advances in understanding carbon nanotube nucleation and growth, *Oxford University, Oxford/ UK*, (2009).

57. **M.H. Rümmeli**, Advances in understanding the nucleation and growth of carbon nanotubes, Invited Talk, *London Metropolitan University, London/ UK*, (2009).

58. **M.H. Rümmeli**, Engineering carbon at the nanoscale, Presentation at the Max Bergmann Zentrum, *Dresden, Germany*, (2009).

59. **M.H. Rümmeli**, Engineering carbon at the nanoscale, Indiviual Seminar, *Sakarya University, Tuerkei*, (2009).

60. **M.H. Rümmeli**, Opportunities with nanostructured thermoelectric materials, Seminar talk at the *ITT Friction, Barge, Piemont/ Italy*, (2008).

61. **M.H. Rümmeli**, F. Schäffel, M. Bystrzejewski, M. Löffler, R. Schönfelder, J. Warner, B. Rellinghaus, L. Schultz, B. Büchner, On the advantages of gas phase prepared catalyst particles in understanding carbon nanotube growth, Conference, *Ostrava/ Czech Republic*, (2008).

62. **M.H. Rümmeli**, F. Schäffel, M. Bystrzejewski, M. Löffler, R. Schönfelder, B. Büchner, Advances in understand carbon nanotube nucleation and growth, Invited talk at the *University of Alabama*, *Birmingham/ USA*, (2008).

63. **M.H. Rümmeli**, F. Schäffel, M. Bystrzejewski, R. Schönfelder, B. Büchner, Advances in understanding carbon nanotube nucleation and growth, Invited talk at the *Vanderbilt University*, *Nashville/ USA*, (2008).

64. **M.H. Rümmeli**, F. Schäffel, M. Bystrzejewski, R. Schönfelder, B. Büchner, Advanced in understanding carbon nanotube nucleation and growth, Invited talk at *the Fisk University/ USA*, (2008).

65. **M.H. Rümmeli**, F. Schäffel, M. Bystrzejewski, R. Schönfelder, B. Büchner, Advanced in understanding carbon nanotube nucleation and growth, Invited talk at *the US Air Force Research Laboratories/ USA*, (2008).

66. **M.H. Rümmeli**, A. Grüneis, M. Löffler, O. Jost, R. Schönfelder, K. Kramberger, D. Grimm, T. Gemming, A. Barreiro, P. Agola, E. Borowiak-Palen, M. Kalbac, L. Dunsch, T. Pichler, M. Knupfer, H.W. Huekers, B. Büchner, Novel catalysis, room temperature and the importance of O_2 for the synthesis of single wall carbon nanotubes, *XXth International Winterschool on Electronic Properties of Novel Materials, IWEPNM, Kirchberg/ Oesterreich*, (2006).

67. **M.H. Rümmeli**, C. Kramberger, A. Grueneis, F. Schäffel, M. Löffler, D. Grimm, E. Mohn, B. Rellinghaus, T. Pichler, B. Büchner, Single wall carbon nanotubes: synthesis, characterization and growth mechanism, *Politechnika Szczecinska*, *Szczecin/ Poland*, (2006).

68. **M.H. Rümmeli**, E. Borowiak-Palen, G.G. Fuentes, T. Gemming, T. Pichler, M. Knupfer, Synthesis and characterization of molecular nanostructures, *Warsaw University/Poland*, (2004).

Examiner/Supervisor for PhD thesis:

1. Hongyu Gong, *Design, Synthesis and Mechanism Investigation of Self-supported Noble-metal-based Trimetallic Nanocatalyst for Oxygen Reduction Reaction and Oxygen Evolution Reaction*, Soochow University. China (2018) - examiner
2. Gao Jing, *The relationaship of morphological structure, electronic structure and electrical transport property of one-dimensional nanomaterials by in-situ TEM studies*, Soochow University. China (2017) - examiner
3. Huy Ta Quang, *Studies on the preparation of bi- and few-layer graphene and its interactions with zinc oxide, copper oxide and chromium atoms at the atomic scale*, Polish Academy of Sciences. Poland (2017) - co-supervisor
4. Jinbo Pang, *Thermal deposition approaches for graphene growth over various substrates*. Technical University Dresden. Germany (2017) – co-supervisor
5. Anja Bonatto Minela, *One-dimensional carbon nanostructures grown from permalloy catalyst nanoparticles*. Technical University Dresden, Germany (2017) - examiner
6. Ignacio Guillermo Gonzalez Martinez, *Novel Thermal and electron-beam approaches for the fabrication of Boron-rich nanowires.* Technical University Dresden, Germany (2016) – co-supervisor
7. Neeraj Mishra, *Self - Aligned Synthesis of High Quality Graphene on 3c-Sic on Silicon Microstructures*. Griffith University, Australia (2016) - examiner
8. Erbin Guillermo Uc Cayetano, *Decoración de nanotubos de carbono con óxidos de hierro e inmovilización de la enzima glucosa oxidasa para su aplicación en biosensors*. Centro de Investigación Científica de Yucatán A.C., Mexico (2015) co-supervisor
9. Rafael Gregorio Mendes, *Synthesis, characterisation and toxicological evaluation of carbon-based nanostructures*. Technical University Dresden, Germany (2014) - co-supervisor

Note: I have informaly supervised over 15 Masters and PhD researchers at the IFW Dresden.

Teaching:

- Advanced characterisation of nano-materials (BSc/MSc)
- Transmission Electron Microscopy I & II (MSc)
- Physical properties of carbon nanomaterials I & II (MSc)

Partial Collaboration list:

Prof. Jamie Warner – University of Oxford
Dr. Amelia Barreiro – Columbia University
Dr. John Boeckl – US Air Force Research Laboratories
Dr. Stanislav Avdoshenko – Purdue University
Dr. Cordula Hirsch – EMPA
Prof. Meyya Meyyappan – Center for Nanotechnology, NASA
Prof. Lieven Vanderspysen – Delft University
Prof. Gianaurelio Cuniberti – Technical University Dresden
Prof. Michael Spencer – Cornell University
Prof. Lei Fu – Wuhan University
Prof. Hans Kuzmany – University of Vienna
Prof. Rüdiger Klingeler – Heidelberg University

Proposal Review

Science Foundation Ireland (Ireland)
Deutsche Furschungs Gemeinschaft (Germany)
Engineering and Physical Sciences Research Council (UK)
European Research Council (EU)
Fundacja na rzecz Nauki Polskie (Poland)
ANR French National Research Agency (France)

Awards:

Leibniz Institute IFW-Dresden, IFF Research prize 2009
Certificate of recognition, Program of Introducing Talents of Disciplines to Universitites, Univeristy of Science and Technology Beijing, 2017
100 Talents program, Jiangsu Province, PRC, 2018
Suzhou Talents, Suzhou, PRC, 2017

Committees:

1. III Workshop on Functional Materials (Greece, 2006), Scientific Committee.
2. Nano Ostrava (Czech Republic, 2008), Scientific Advisory Committee.
3. MRS Fall Meeting (USA, 2010) Symposium Organizer.
4. Nano Ostrava (Czech Republic, 2011), Academic Committee.
5. MRS International Materials Research Congress (IMRC) - 2012, Symposium Organizer
6. Nano Ostrava (Czech Republic, 2013), Academic Committee.
7. International Advanced Materials Science Networking Workshop, (Vietnam, 2013) Co-Organizer
8. International Advisory Board An-Najah National University (Palestine) - ongoing
9. Muju International Winter School Series & 19th Nanotube Workshop (2014) - Organizing committee
10. Nano Ostrava (Czech Republic, 2015), Organizing Committee, Vice-Chairman of Conference
11. Nano Ostrava (Czech Republic, 2017), Academic Committee
12. The 3rd International Conference on New Material and Chemical Industry (2018) - Organizing committee

Reviewing:

Science, Nature, Nature Nanotechnology, Nano letters, ACS Nano, Chemistry of Materials, Materials Chemistry, Physical Review, Nanoscale, Nanoletters, Advanced Materials, Advanced Functional Materials, Small, J. Physical Chemistry, Carbon, Nanoscale, Nanoscale Research letters, Applied Physics Letters, J. Applied Physics, Scientific Reports *etc*.

Editorial:

1. General Chemistry – Senior Editorial Board Member
2. Polish Journal of Chemical Technology - Editorial Advisory Board.
3. The Open Nanomedicine Journal - Editorial Advisory Board.
4. Materials Research Express, IOP - International Advisory Board.

Editor Books & Proceedings

1. Gražyna Simha Martynková and Karla Èech Barabaszová, Introduction to Nanocomposite Science of Layered and tubular Materials, Editor: M. H. Rümmeli, 2012, Nova Publishers ISBN: 978-1-60741-739-2
2. Editors: Postava K, Lafdi K, Rümmeli MH Conference Information: 1st Nanomaterials and Nanotechnology Meeting, SEP 01-04, 2008 Nano Ostrava, Czech Republic, *Journal of Scientific Conference Proceedings* Volume: 2 Issue: 1 Pages: 1-2 Published: 2010
3. Editors: J. J. Boeckl, W. Lu, M. H. Rümmeli, Symposium C: Fundamentals of Low-Dimensional Carbon Nanomaterials, MRS Fall meeting 2010, Boston, USA Nov/Dec. 2010. *MRS proceedings*

Selected Grants

DFG (German research council)	- 151000 Euro
DFG (German research council)	- 190000 Euro
Sino-German Institute Grant	- 151675 Euro
Sino-German Institute Grant	- 120000 Euro
NSFC (China)	- 770000 RMB
Saxony Development Bank (TEM)	- 1500000 Euro
Foundation for Polish Science	- 200000 Euro
Various Small DFG grants	> 63000 Euro
Other misc. grants	> 50000 Euro