

# Publikationsliste Thomas Grethe

## Veröffentlichungen in Zeitschriften sowie Buchkapitel

- 2023 M.T. Hoque, T. Benrui, T. Grethe, B. Mahltig  
Evaluation of chitosan based pretreatment for cotton and linen dyeing with direct dyes and reactive dyes  
Communications in Development and Assembling of Textile Products. 4. 187-200. <https://doi.org/10.25367/cdatp.2023.4.p187-200>
- 2023 W. Yuan, T. Grethe, B. Mahltig  
Sol-gel coatings with the fluorescence dye Rhodamine B for optical modification of cotton  
Communications in Development and Assembling of Textile Products, 4(1), 1-17. <https://doi.org/10.25367/cdatp.2023.4.p1-17>
- 2022 B. Mahltig, T. Grethe  
High-Performance and Functional Fiber Materials—A Review of Properties, Scanning Electron Microscopy SEM and Electron Dispersive Spectroscopy EDS  
Textiles 2(2):209-251 <https://doi.org/10.3390/textiles2020012>
- 2022 K. Klinkhammer, K. Ratovo, O. Heß, E. Bendt, T. Grethe, M. Krieg, M. Sturm, T. Weide, B. Mahltig  
Reduction of radiation transmission through functionalization of textiles from man-made cellulosic fibers  
Communications in Development and Assembling of Textile Products, 3(1), 51-61. <https://doi.org/10.25367/cdatp.2022.3.p51-61>
- 2022 A. Ehrmann, T. Blachowicz, G. Ehrmann, T. Grethe  
Recent developments in phase-change memory  
Appl. Res. 2022; 1:e202200024. <https://doi.org/10.1002/appl.202200024>
- 2021 T. Grethe  
Biodegradable Synthetic Polymers in Textiles – What Lies Beyond PLA and Medical Applications? A Review.  
Tekstilec, Vol. 64(1), 33–47
- 2021 R. Brendgen, C. Graßmann, T. Grethe, B. Mahltig, A. Schwarz-Pfeiffer  
Coatings with Recycled Polyvinyl Butyral on Polyester and Polyamide Mono- and Multifilament Yarns, accepted in Journal of Coatings Technology and Research
- 2021 B. Mahltig, E. Bendt, T. Grethe, O. Hess, T. Weide, M. Krieg  
Biophysikalisches Konzept für den textilen Hautschutz  
Technische Textilien, 2021, 64, 68-70
- 2021 B. Mahltig, E. Bendt, T. Grethe, O. Hess, T. Weide, M. Krieg  
Biophysical concept for textile skin protection  
Technical Textiles, 2021, 64, 154-156
- 2020 T. Grethe, B. Mahltig  
Alternative Prüfungsformen im Sommersemester 2020, Die Neue Hochschule (6) 2020
- 2019 C. Grassmann, T. Grethe, L. Van Langenhove, A. Schwarz-Pfeiffer  
Digital printing of electroluminescent devices on textile substrates  
Journal of Engineered Fibers and Fabrics 14:155892501986162, DOI: 10.1177/1558925019861624

- 2018 T. Grethe, A. Schwarz-Pfeiffer, C. Grassmann, E. Engelhardt, S. Feld, F. Guo, M. De Vrieze, B. Mahltig  
Polyvinylbutyral (PVB) coatings for optical modification of textile substrates  
Buchkapitel in: „Polymer Research: Communicating Current Advances, Contributions, Applications and Educational Aspects“, Editor: A. Mendez-Vilas, Formatex Research Center, Badajoz, 2018, S. 36-45, ISBN 978-84-947512-4-0
- 2018 I. Juhasz Junger, C. Großerhode, J.L. Storck, S. Kohn, T. Grethe, C. Grassmann, A. Schwarz-Pfeiffer, N. Grimmelsmann, H. Meissner, T. Blachowicz, A. Ehrmann  
Influence of graphite-coating methods on the DSSC performance  
Optik – International Journal for Light and Electron Optics 2018, 174, 40-45, DOI: 10.1016/j.ijleo.2018.08.041
- 2018 T. Grothe, R. Böttjer, D. Wehlage, C. Großerhode, J.-L. Storck, I.-J. Junger, B. Mahltig, T. Grethe, C. Graßmann, A. Schwarz-Pfeiffer, A. Ehrmann  
Photocatalytic Properties of TiO<sub>2</sub> Composite Nanofibers Electrospun With Different Polymers  
Buchkapitel in: „Inorganic and Composite Fibers“, Editors: B. Mahltig und Y. Kyosev, ISBN: 9780081022283, Woodhead Publishing, 26.10.2018
- 2018 Thomas Grethe, Boris Mahltig, Haoqian Miao, Thomas Kick, Hajo Haase, Mark Kopietz, Sergiy Grishchuk  
Fibers and Textiles for Fully Bio-Based Fiber Reinforced Materials  
Buchkapitel aus: „Narrow and Smart Textiles“, Ed. Y. Kyosev, Springer, ISBN: 978-3-319-69049-0, S. 123-136
- 2017 F. Terzioglu, T. Grethe, C. Both, A. Joßen, B. Mahltig, M. Rabe  
Coating Technologies for Antimicrobial Textile Surfaces: State of the Art and Future Prospects for Textile Finishing  
Buchkapitel aus: „Handbook of Antimicrobial Coatings“, Ed. A. Tiwari, Elsevier, ISBN: 978-0-12-811982-2, S. 33-48
- 2017 Thomas Grethe, Karoline Günther, Thomas Weide, Anne Schwarz-Pfeiffer  
Achieving Electrical Conductivity in Textiles: An Overview of Current Techniques  
Buchkapitel aus: „Textiles: Advances in Research and Applications“, Ed. B. Mahltig, Nova Science Publishers, ISBN: 978-1-53612-855-0, S. 133-150
- 2017 T. Kick, T. Grethe, B. Mahltig  
A natural based method for hydrophobic treatment of natural fiber material  
Acta Chim. Slov. 2017, 64, 373–380
- 2017 Irén Juhász Junger, Sarah Vanessa Homburg, Thomas Grethe, Andreas Herrmann, Johannes Fiedler, Anne Schwarz-Pfeiffer, Tomasz Blachowicz, Andrea Ehrmann  
Examination of the sintering process-dependent properties of TiO<sub>2</sub> on glass and textile substrates  
J. Photon. Energy. 7(1), 015001 (Mar 16, 2017)
- 2017 M. Normann, T. Grethe, A. Schwarz-Pfeiffer, I. Juhász-Junger, A. Herrmann, J. Fiedler, A. Ehrmann  
Textile solutions for energy harvesting and storage  
Technical Textiles International 60(1):E38-E41, March 2017
- 2017 Thomas Grethe, Thomas Kick, Boris Mahltig  
Sustainable controlling of hydrophilic properties of cotton and linen by application of amino acids  
Journal of the Textile Institute, 2017, 108, 436-439

- 2017 I. J. Junger, S. V. Homburg, H. Meissner, T. Grethe, A. Schwarz Pfeiffer, J. Fiedler, A. Herrmann, T. Blachowicz, A. Ehrmann  
Influence of the pH value of anthocyanins on the electrical properties of dye-sensitized solar cells  
AIMS Energy, 2017, 5(2): 258-267
- 2016 M. Norman, T. Grethe, A. Schwarz-Pfeiffer, I. J. Junger, A. Herrmann, J. Fiedler, A. Ehrmann  
Textile Lösungen zur Energiegewinnung und -speicherung  
Technische Textilien 5/2016, S. 203ff
- 2016 T. Felbeck, A. Bonk, G. Kaup, S. Mundinger, T. Grethe, M. Rabe, U. Vogt, U. Kynast  
Porous nanoclay polysulfone composites: A backbone with high pore accessibility for functional modifications  
Microporous and Mesoporous Materials, Volume 234, 1 November 2016, Pages 107–112
- 2016 B. Mahltig, T. Grethe, H. Haase  
Antimicrobial Coatings Obtained by Sol–Gel Method  
Handbook of Sol-Gel Science and Technology, S. 1-27, Mai 2016, Springer
- 2016 T. Grethe, C. Vorneweg, H. Haase, B. Mahltig  
Antibacterials: Synthesis, Properties an Biological Activities - Chapter 4: Natural Antibacterials for Technical Applications  
Nova Science Publishers, 2016 - 3rd Quarter ISBN: 978-1-63485-793-2
- 2016 Thomas Grethe, Hajo Haase, Boris Mahltig  
Natural Materials for Surface Modification of Cellulosic Narrow Woven Fabrics — Strides Towards Fully Bio-based Composites  
Y. Kyosev (Ed.): Recent Developments in Braiding and Narrow Weaving, Springer International Publishing, 149-154 (2016)
- 2015 Thomas Grethe, Hajo Haase, HariharaSudan Natarajan, Nadia Limandoko, Boris Mahltig  
Coating process for antimicrobial textile surfaces derived from a polyester dyeing process  
Journal of Coatings Technology and Research, 08/2015 DOI: 10.1007/s11998-015-9709-9
- 2015 Jerome Bidu, Thomas Grethe, Hajo Haase, Boris Mahltig  
Inorganic Nanosol Coatings for Antimicrobial Treatment of Textiles  
Comprehensive Guide for Nanocoatings Technology, Volume 3: Properties and Development, edited by M. Aliofkhazraei, book chapter 13, Nova Science Publishers, 2015, ISBN: 978-1-63482-647-1
- 2014 Thomas Grethe, Jerome Bidu, Boris Mahltig, Hajo Haase  
Antimicrobial finishing of textiles by modified clay minerals  
Technical Textiles 2/2014
- 2014 Boris Mahltig, Dorothee Schulenberg, Thomas Grethe, Torsten Textor, Jochen S. Gutmann, Hajo Haase  
Biokomposit-basierte anorganische Ausrüstungsmittel zur effektiven antimikrobiellen Ausrüstung  
TextilPlus 05/06-2014
- 2014 Thomas Grethe, Nadia Limandoko, Karin Peter, Maike Rabe  
Modifizierte Tonminerale - Adsorber für textile Filtermedien  
GIT Labor-Fachzeitschrift 3/2014

- 2014 Thomas Grethe, Jerome Bidu, Boris Mahltig, Hajo Haase  
Antimikrobielle Ausrüstung von Textilien durch modifizierte Tonminerale  
Melliand Textilberichte-Newsletter Februar 2014
- 2013 B. Mahltig, J. Bidu, T. Grethe, P. Pascuali, Y. Kyosev  
Rasterelektronenmikroskopie an textilen Oberflächen  
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## Konferenzbeiträge

- 2022 K. Ratovo, M. Krieg, K. Klinkhammer, I. Etzel, E. Bendt, T. Weide, O. Heß, T. Grethe, M. Sturm, B. Mahltig  
Preparation of bi-functional textiles from Lyocell with reduced radiation transmission  
Proceedings of the Aachen-Dresden-Denkendorf International Textile Conference, 2022
- 2022 K. Klinkhammer, K. Ratovo, O. Heß, E. Bendt, T. Grethe, M. Krieg, M. Sturm, T. Weide, B. Mahltig  
Reduction of radiation transmission through functionalization of textiles from man-made cellulosic fibers  
International Conference of Cellulose Fibres, 2.-3.2.2022, Cologne
- 2021 K. Ratovo, O. Heß, K. Alaskalany, E. Bendt, T. Grethe, M. Krieg, K. Klinkhammer, M. Sturm, T. Weide, B. Mahltig  
Biophysical concept for textile skin protection – a systematic approach with functionalized man-made cellulosic fibres  
Proceedings of the Aachen-Dresden-Denkendorf International Textile Conference, 2021
- 2021 R. Brendgen, C. Graßmann, K. Mengler, T. Grethe, B. Mahltig, A. Schwarz-Pfeiffer  
Recycled polyvinyl butyral for uv-protecting yarn coatings  
AUTEX 20th World Textile Conference 05.-09.09.2021, ISBN 978-989-54808-6-9, 2021
- 2020 T. Grethe, O. Heß, B. Mahltig  
Textiles for Biophysical Skin Care  
3. European Industry + Research Exchange Technical Textiles 08.-09.11.2020, IVGT, Online
- 2019 T. Grethe, K. Lux, A. Schwarz-Pfeiffer  
Achieving Textile Based Supported Noble Metal Catalysts by Physical Vapor Deposition  
Proceedings of the Aachen-Dresden-Denkendorf International Textile Conference, 2019, 28.-29.11.2019, Dresden
- 2019 T. Grethe, K. Lux, A. Schwarz-Pfeiffer  
Achieving Textile Based Supported Noble Metal Catalysts by Physical Vapor Deposition  
Proceedings of the Aachen-Dresden-Denkendorf International Textile Conference, 2019, 28.-29.11.2019, Dresden
- 2019 T. Grethe, K. Plenkmann, A. Schwarz-Pfeiffer  
Sensory Wound Dressing and Data Acquisition Assembly for Continuous Monitoring of Wound Healing and Wound pH  
Proceedings of the Aachen-Dresden-Denkendorf International Textile Conference, 2019, 28.-29.11.2019, Dresden
- 2019 C. Grassmann, T. Grethe, A. Krause, C. Großerhode, J.L. Storck, A. Ehrmann, L. Van Langenhove A. Schwarz-Pfeiffer  
Textile based dye-sensitized solar cells with natural dyes  
Proceedings of AUTEX 2019, 19th World Textile Conference, 11.-15.6.2019, Gent, Belgium

- 2019 C. Grassmann, T. Grethe, A. Krause, C. Großerhode, J.L. Storck, A. Ehrmann, L. Van Langenhove A. Schwarz-Pfeiffer  
Textile based dye-sensitized solar cells with natural dyes  
Proceedings of AUTEX 2019, 19th World Textile Conference, 11.-15.6.2019, Gent, Belgium
- 2018 T. Grethe, K. Plenkmann, M. Normann, M. Rabe, A. Schwarz-Pfeiffer  
Realizing Moisture Sensors with Textile Materials in Different Integration Levels by Using Capacitive Measurement Principles  
Proceedings of the 11th Aachen-Dresden-Denkendorf International Textile Conference, 29.11 - 30.11.2018, Aachen
- 2018 C. Graßmann, T. Grethe, B. Mahltig, B. Morgenstern, O. Klimmt, M. De Vrieze, P. Paelinck, A. Schwarz-Pfeiffer  
Coating of recycled Polyvinylbutyral on yarns and textiles  
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- 2018 C.Großerhode, S. Kohn, J. L. Storck, G. Grötsch, C. Cornelißen, A. Streitenberger, C. Graßmann, T. Grethe, A. Schwarz-Pfeiffer, A. Ehrmann  
Investigation of dye-sensitive solar cells on different conductive elastic materials  
Proceedings of the 11th Aachen-Dresden-Denkendorf International Textile Conference, 29.11 - 30.11.2018, Aachen
- 2018 G. Grötsch, C. Cornelißen, C. Graßmann, T. Grethe, C.Großerhode, S. Kohn, J. L. Storck, A. Streitenberger, A. Schwarz-Pfeiffer, A. Ehrmann  
Development of textile-based organic photovoltaics  
Proceedings of the 11th Aachen-Dresden-Denkendorf International Textile Conference, 29.11 - 30.11.2018, Aachen
- 2017 M. Normann, T. Grethe, K. Zöll, A. Ehrmann, A. Schwarz-Pfeiffer  
Development of 2D and 3D structured textile batteries processing conductive material with Tailored Fiber Placement (TFP)  
IOP Conference Series: Materials Science and Engineering, Volume 254,
- 2017 M. Obermann, A. Schwarz-Pfeiffer, T. Grethe  
Challenges in creating electronic medical textiles – a multidisciplinary effort  
Proceedings of the 10th Aachen-Dresden-Denkendorf International Textile Conference, 30.11 - 01.12.2017, Stuttgart
- 2017 A. Krause, A. Schwarz-Pfeiffer, T. Grethe  
Carbonaceous Conductive Coatings for the Application In Medical Textiles  
Proceedings of the 10th Aachen-Dresden-Denkendorf International Textile Conference, 30.11 - 01.12.2017, Stuttgart
- 2017 I. Juhász Junger, N. Grimmelsmann, S. V. Homburg, H. Meissner, T. Grethe, A. Schwarz-Pfeiffer, J. Fiedler, A. Herrmann, T. Blachowicz, A. Ehrmann  
Einfluss des pH-Wertes von Anthocyan-Farbstoffen auf die elektrischen Eigenschaften von Farbstoffsolarzellen  
Publikation zur Doktorandentagung „Ressourcen-Wissen - Hebung ungenutzter Potenziale“ des Graduierteninstitut NRW
- 2016 I. Juhász-Junger, S.-V. Homburg, N. Grimmelsmann, T. Grethe, A. Schwarz-Pfeiffer, J. Fiedler, A. Herrmann, T. Blachowicz, A. Ehrmann  
Investigations of textile materials for utilization in dye sensitized solar cells  
Proceedings of the 10th Aachen-Dresden International Textile Conference, 24.-25. 11.2016, Dresden

- 2016 M. Norman, T. Grethe, A. Schwarz-Pfeiffer, A. Ehrmann  
Development and characterization of textile batteries  
IOP Conference Series: Materials Science and Engineering, Volume 175, conference 1
- 2016 T. Grethe, B. Mahltig  
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Proceedings of 15. Chemnitzer Textiltechnik-Tagung, Chemnitz 31.5.2016
- 2016 A. Herrmann, J. Fiedler, A. Ehrmann, T. Grethe, A. Schwarz-Pfeiffer, T. Blachowicz  
Examination of the sintering process dependent micro- and nanostructure of TiO<sub>2</sub> on textile substrates  
R.B. Wehrspohn, A. Gombert (Eds.): Proceedings of SPIE, 2016, 9898, Photonics for Solar Energy Systems VI, ISBN: 9781510601437
- 2015 A. Herrmann, J. Fiedler, A. Ehrmann, T. Grethe, A. Schwarz-Pfeiffer  
Strides towards textile based dye sensitized solar cells  
Proceedings of the 9th Aachen-Dresden International Textile Conference, 26.-27.11.2015, Aachen
- 2015 T. Grethe, C. Vorneweg, J. Riedel, H. Haase, B. Mahltig  
Sustainable antibacterial finishing of natural fiber materials  
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- 2015 T. Grethe, A. Krause, M. Lutz, B. Mahltig  
Plant based products for hydrophobization of natural fibers  
Proceedings of the 9th Aachen-Dresden International Textile Conference, 26.-27.11.2015, Aachen
- 2015 F. Strobl, T. Grethe, B. Karmann, J. Grothe, M. Rabe  
Introducing catalytic functions in polymeric fiber materials  
Proceedings of the 9th Aachen-Dresden International Textile Conference, 26.-27.11.2015, Aachen
- 2015 T. Grethe, B. Karmann, M. Rabe  
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47th International Detergency Conference, Düsseldorf, 19.-21.05.2015
- 2014 T. Grethe, E. Berg, D. Schulenberg, H. H. Natarajan, H. Haase, B. Mahltig, T. Textor, J. S. Gutmann  
Antimikrobielle Ausrüstung mit Metallionen  
MG Open Spaces - Forschung aktuell, 16.5.2014, Mönchengladbach
- 2014 Thomas Grethe, Hajo Haase, Harihara Sudan Natarajan, Nadia Limandoko, Boris Mahltig  
Introducing antimicrobial functions in polyester fabrics by HT-finishing  
Proceedings of Aachen-Dresden International Textile Conference, 27.-28.11.2014, Dresden
- 2014 Nadia Limandoko, Mareen Warncke, Thomas Grethe, Omar Guerra-Gonzalez, Julia Grothe, Andreas Demmel, Stefan Kaskel, Bertram Böhringer, Maike Rabe  
Combination of catalytic active textile surfaces and particulate filters  
Proceedings of Aachen-Dresden International Textile Conference, 27.-28.11.2014, Dresden

- 2013 T. Grethe, D. Schulenberg, J. Bidu, H. Haase, B. Mahltig, T. Textor, J. S. Gutmann  
Antimicrobial finishing of textiles by complexated metal-ions  
Proceedings of Aachen-Dresden International Textile Conference, 28.-29.11.2013, Aachen
- 2013 T. Grethe, D. Schulenberg, J. Bidu, H. Haase, B. Mahltig, T. Textor, J. S. Gutmann  
Antimicrobial finishing of textiles by complexated metal-ions  
Aachen-Dresden International Textile Conference, 28.-29.11.2013, Aachen
- 2013 L. Alsamman, K. Peter, M. Möller, T. Grethe, M. Rabe  
Combined materials of textile and pillared clays as selective filter media for water treatment  
Proceedings of Aachen-Dresden International Textile Conference, 28.-29.11.2013, Aachen
- 2013 B. Mahltig, T. Grethe, J. Bidu, T. Textor, J.S. Gutmann  
Einsatz von Algen zur Funktionalisierung von Textilien  
Dechema e.V.: 6. Bundesalgenstammtisch, 13.-14.05.2013, Hamburg
- 2013 T. Grethe, L. Alsamman, T. Felbeck, E. Janssen, P. Klauth, K. Klinkhammer, M. Korger, K. Peter, M. Rabe, A. Tsvetkova, D. Uebel  
Nanoclay coatings for adsorption of xenobiotics  
International Federation of Associations of Textile Chemists and Colourists: XXIII International Congress, 08.-10.05.2013, Budapest
- 2013 T. Grethe, J. Bidu, E. Berg, J. Vavra, B. Mahltig  
Antimikrobielle Ausrüstung auf Basis modifizierter Algen  
52. Chemiefasertagung Dornbirn, 11.-13.9.2013
- 2013 T. Grethe, L. Alsamman, E. Janssen, P. Klauth, K. Klinkhammer, M. Korger, K. Peter, M. Rabe, A. Tsvetkova, D. Uebel  
Nano-clay coatings on textiles for adsorption of xenobiotics  
XXIII Congress of IFATCC, Budapest / Hungary 8-10 May 2013
- 2012 T. Grethe, E. Berg, B. Mahltig, T. Textor, J.S. Gutmann  
Antimicrobial textiles by use of modified algae material  
Proceedings of Aachen-Dresden International Textile Conference, 29.-30.11.2012, Dresden
- 2012 T. Grethe, L. Alsamman, T. Felbeck, E. Janssen, P. Klauth, K. Klinkhammer, M. Korger, K. Peter, M. Rabe, A. Tsvetkova, D. Uebel  
Nanoclay coatings for adsorption of xenobiotics  
Proceedings of Aachen-Dresden International Textile Conference, 29.-30.11.2012, Dresden
- 2011 A. Bosse, V. Wasch, H. Bettermann, T. Grethe  
Photoacoustics: An approach for online process control of degassing XLPE insulated high voltage cables  
Jicable International Conference on Insulated Powercables, 19.-23.06.2011, Versailles

## Schutzrechtsanmeldungen

- 2020 T. Grethe, C. Steinem, A. Schwarz-Pfeiffer,  
Sprühbeschichtung von Garnen DE102019100061A1

2019 T. Grethe, A. Schwarz-Pfeiffer, et al.  
Anordnung mindestens eines Sensors an einer Wundauflage, Wundauflage, Sensorhalter sowie Verfahren zur Überwachung des Zustandes einer Wunde eines Lebewesens DE102018107046A1