

Curriculum vitae

Prof. **Peiwen Liu**

Principal investigator

College of Engineering, Huazhong Agricultural University

Professional Education

Jan. 2020 – Feb 2021

Georg-August-Universität Göttingen (Germany), Dept. Wood Technology and Wood-based Composites, Junior Research Group Leader & Project leader.

Mar. 2016 – Jan.2020

Georg-August-Universität Göttingen (Germany), Wood Technology and Wood Chemistry, PhD (Magna Cum Laude).

Sep. 2012 - Jul.2015

Fujian Normal University (China), Environmental Engineering, graduated in Jul. 2015 with a Master Degree.

Sep. 2008 – Jun. 2012

Inner Mongolia Agricultural University (China), Environmental Engineering, graduated in June 2012 with a Bachelor Degree.

Personal Data

Date of Birth: 07.10.1988

Place of Birth: Hubei, China

PUBLICATIONS and PATENTS

1. **Patents:** Kai Zhang* and Peiwen Liu. Germany: DE102018117741A1, PCT: WO 2020/020661 A1, Canada: CA 3, 104,412, USA: US 17/128,397, China: CN 201980043554.0, EU: EP 19740531.9.
2. Peiwen Liu, Houjuan Qi, Jiaxiu Wang, Tim Koddenberg, Dan Xu, Siyuan Liu, Kai Zhang*, Biomimetic confined self-assembly of chitin nanocrystals. *Nano Today*, **2022**, 101420.
3. Ting Xu, Haishun Du, Huayu Liu, Wei Liu, Xinyu Zhang, Chuangling Si*, Peiwen Liu*, Kai Zhang*, Advanced Nanocellulose-based Composites for Flexible Functional Energy Storage Devices, *Advanced Materials*, **2021**, 33(48): 2101368. (*Corresponding Author).
4. Ting Yang†, Peiwen Liu†, Dan Xu, Jiaxiu Wang, Kai Zhang*, Direct Preparation of Nanocelluloses of Tunable Lengths from Native Wood Via Alkaline Periodate Oxidation, *Advanced sustainable systems*, **2021**, 5(7): 2100058. (†: Both authors contributed equally).

5. **Peiwen Liu**, Huan Liu, Timmy Schäfer, Torsten Gutmann, Holger Gibhardt, Houjuan Qi, Lin Tian, Xizhou Cecily Zhang, Gerd Buntkowsky, Kai Zhang*, Unexpected Selective Alkaline Periodate Oxidation of Chitin for the Isolation of Chitin Nanocrystals. **Green Chemistry**, **2021**, *23*, 745-751.
6. **Peiwen Liu**, B. Pang, S. Dechert, X. C. Zhang, L. B. Andreas, S. Fischer, F. Meyer, Kai. Zhang*, Physical structure selectivity of universal alkaline periodate oxidation on lignocellulose for facile isolation of cellulose nanocrystals, **Angew. Chem. Int. Ed.** **2020**, *59*(8), 3218-3225.
7. **Peiwen Liu**, B. Pang, L. Tian, T. Schäfer, T. Gutmann, H. Liu, C. A. Volkert, G. Buntkowsky, Kai. Zhang*, Efficient, Self-Terminating Isolation of Cellulose Nanocrystals through Periodate Oxidation in Pickering Emulsions. **ChemSusChem**, **2018**, *11*, 3581-3585.
8. **Peiwen Liu**, C. Mai, Kai. Zhang*, Formation of uniform multi-stimuli-responsive and multiblock hydrogels from dialdehyde cellulose. **ACS Sustain. Chem. Eng.** **2017**, *5*, 5313-5319.
9. H Zhang[†], **Peiwen Liu**[†], S. M. Musa, C. Mai, Kai Zhang*, Dialdehyde Cellulose as Sustainable and Strong Adhesive for Wood Bonding, **ACS Sustain. Chem. Eng.** **2019**, *7*, 10452-10459. (†: Both authors contributed equally).
10. **Peiwen Liu**, C. Mai, and Kai Zhang*, Preparation of hydrogels with uniform and gradient chemical structures using dialdehyde cellulose and diamine by aerating ammonia gas. **Front. Chem. Sci. Eng.** **2018**, *12*, 383-389.
11. Zhou, Shaowei, Mei Lin, Zechao Zhuang, **Peiwen Liu**, Zuliang Chen*. Biosynthetic graphene enhanced extracellular electron transfer for high performance anode in microbial fuel cell. **Chemosphere**, **2019**, *232*, 396-402.
12. H. Zhang, **Peiwen Liu**, X. Peng, S. Chen, Kai Zhang*, Interfacial Synthesis of Cellulose-derived Solvent-responsive Nanoparticles via Schiff base Reaction. **ACS Sustain. Chem. Eng.** **2019**, *7*, 16595-16603.
13. B. Pang, H. Liu, **Peiwen Liu**, H. Zhang, G. Avramidis, L. Chen, X. Deng, W. Viöl, Kai. Zhang*, Robust, Easy-Cleaning Superhydrophobic/Superoleophilic Copper Meshes for Oil/Water Separation under Harsh Conditions. **Adv. Mater. Interfaces**, **2019**, *6*, 1900158.
14. X. Peng*, **Peiwen Liu**, B. Pang, Y. Yao, J. Wang, Kai Zhang*, Facile fabrication of pH-responsive nanoparticles from cellulose derivatives via Schiff base formation for controlled release, **Carbohydrate polymers**, **2019**, *216*, 113-118.
15. B. Pang, H. Liu, **Peiwen Liu**, X. Peng, Kai. Zhang*, Water-in-oil Pickering emulsions stabilized by stearylated microcrystalline cellulose, **J. Colloid interf. Sci.**, **2018**, *513*, 629-637.
16. Kong, M, Peng, X, Cui, H, **Peiwen Liu**, Pang, B, Kai. Zhang*. pH-responsive polymeric nanoparticles with tunable sizes for targeted drug delivery, **RSC Advances**, **2020**, *10*(9), 4860-4868.

Awards, Scholarships, and research activities

Poster of the **GCCCD® Annual Conference 2017** in Hamburg (the Best Poster Award),

CSC scholarship, 2016-2019,

Annual meeting of GDCh-division Sustainable Chemistry. September 17th-19th, 2018, Aachen, Germany. (Oral presentation),

30th GCCCD® Annual Conference-Frontiers in Chemistry and Chemical Engineering, October 12th-13th, 2018, Karlsruhe, Germany. (Oral presentation),

Organizer of "GCCCD®- Göttingen, Frontiers of Materials Science -Bio, Physics, Chemistry Cross", 2018, Goettingen,

Organizer of "GCCCD®- Göttingen, Falling walls in research", 2019, Goettingen,

Division President of GCCCD®- Göttingen, 2018-present.

Research Fields:

1. Development of selective and efficient as well as ecologically and economically benign preparation methods and their use in the exploitation of natural polymer (cellulose, chitin, hemicellulose, and lignin, etc.).
2. Preparation of advanced functional biomaterials from natural polymers.