

Symposia - C03
Health and Antibiosis Materials
Morning, October 15 (Sunday), 2023

8:35-10:50 **Session I**

Chair: Kun Lian Peng Li

8:35-9:05 (C03-01)

Nano-Copper/Carbon Composite and It's Properties

Kun Lian, Louisiana State University, America

9:05-9:30 (C03-02)

Developing Advanced Nanocomposites to Make Lighting Healthier

Dan Wang, Beijing University of Chemical Technology, China

9:30-9:50 (C03-03)

Oxygen reduction electrocatalytic functional polymers

Xiaojing Long, Qingdao University, China

9:50-10:10 (C03-04)

Glucose-gated Polyetheretherketone Implants for Enzymatic Gas Therapy to Boost Infectious Diabetic Osseointegration

Jiahe Li, Research Center for Oral Diseases, Sichuan University, China

10:10-10:30 (C03-05)

Identification of Top-performance Antimicrobial Peptides from Whole Peptide Libraries via a Sequential Model Ensemble Machine Learning Pipeline

Junjie Huang, Zhejiang University, China

10:30-10:50 *Coffee Break*

10:50-11:50 **Session II**

Chair: Kun Lian Peng Li

10:50-11:10 (C03-06)

A paradigm for high-throughput screening of cell-selective surfaces coupling orthogonal gradients and machine learning-based cell recognition

Hongye Hao, Zhejiang University, China

11:10-11:30 (C03-07)

Modified design of bismuth-based oxide photocatalytic materials and study of antibacterial mechanism

Xiaoning Tang, Kunming University of Science and Technology, China

11:30-11:50 (C03-08)

Sulfated liposome-based artificial cell membrane nanodecoys for broad-spectrum coronavirus inactivation by membrane fusion

Xu Li, Zhejiang University, China

11:50-13:30 *Lunch*

Afternoon, October 15 (Sunday), 2023

13:30-15:35 Session III

Chair: Dan Wang Shun Duan

13:30-13:55 (C03-09)

Antimicrobial Biomaterials and Wearable Devices for Combating Drug-resistant Bacterial Infections

Peng Li, *Northwestern Polytechnical University, China*

13:55-14:15 (C03-10)

Peptide-polymer conjugate for caries prevention with targeting, antibacterial and anti-fouling abilities

Chunmei Ding, *Sichuan University, China*

14:15-14:35 (C03-11)

Optimization of Luminescent Materials for White Light Emitting Diodes towards Healthy Lighting

Fen Wang, *Beijing University of Chemical Technology, China*

14:35-14:55 (C03-12)

Oral environment-adaptive peptide-polymer conjugate for caries prevention with targeting, antibacterial and anti-fouling abilities

Qiangwei Xin, *Sichuan University, China*

14:55-15:15 (C03-13)

Novel MOFs@Natural Polysaccharide composites for long-term and synergistic antibacterial applications

Fengqiong Jiang, *Guangxi University, China*

15:15-15:35 *Coffee Break*

15:35-17:40 Session IV

Chair: Dan Wang Shun Duan

15:35-16:00 (C03-14)

Multi-scale antibacterial materials

Shun Duan, *Beijing University of Chemical Technology, China*

16:00-16:20 (C03-15)

Design of polymer or biopolysaccharide based composites materials for air pollutants purification applications

Jingquan Liu, *Qingdao University, China*

16:20-16:40 (C03-16)

Composite flexible materials based on natural polymers and their applications in the field of general health

Yu Chen, *Beijing Institute of Technology, China*

16:40-17:00 (C03-17)

Long Durability of Hydrogel-Based Flexible Electronics, from High Toughness to Antibacterial and Beyond

Tengjiao Wang, *Northwestern Polytechnical University, China*

17:00-17:20 (C03-18)

A polyzwitterion-based antifouling and flexible bilayer hydrogel coating

Xingwang Wang, *Zhejiang University, China*

17:20-17:40 (C03-19)

Construction of antibacterial surface and its applications in interventional catheter

Lei Wang, *Changchun Institute of Applied Chemistry, China*

17:40 *Dinner*

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9:35-10:30 **Session V**

Chair: Lin Wang Yanzhi Xia

8:35-9:05 (C03-21)

Technology and equipment for industrialization of thousand-ton textile alginate fiber

Yanzhi Xia, Qingdao University, China

9:05-9:30 (C03-22)

Corrosion resistance and photo-responsive antibacterial coatings on biodegradable magnesium alloys

Lanyue Cui, Shandong University of Science and Technology, China

9:30-9:50 (C03-23)

Host Defense Peptide-Mimicking Peptide Polymer-Based Cryogel for Hemorrhage Control and Infected Wound Healing

Wenjing Zhang, Shanghai General Hospital, Shanghai Jiao Tong University, China

9:50-10:10 (C03-24)

A theoretical study on the filtration efficiency and dust holding performance of pleated air filters

Bo Shi, Beijing University of Chemical Technology, China

10:10-10:30 *Coffee Break*

10:10-11:30 **Session VI**

Chair: Lin Wang Yanzhi Xia

10:30-10:50 (C03-25)

Design of liquid metal nanocapsules and nanofibers based on interfacial polymerization and their composites

Chaoxu Li, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, China

10:50-11:10 (C03-26)

Preparation and Functionalization of Alginate Ester Fiber by Aci

Jing Guo, Dalian Polytechnic University, China

11:10-11:30 (C03-27)

Study on rapid synthesis and antimicrobial function of peptide polymers

Yueming Wu, East China University of Science and Technology, China

11:50-13:30 *Lunch*

Afternoon, October 16 (Monday), 2023

13:30-15:45 Session VII

Chair: Chunmei Ding Tengjiao Wang

13:00-13:30 (C03-28)

Combating MDR Bacteria and Fungi with Innovative Polymers

Cy Cyrille Boyer, *University of New South Wales, Australia*

13:30-14:00 (C03-20)

Antimicrobial polymeric nanoparticles

Greg Qiao, *The University of Melbourne, Australia*

14:00-14:25 (C03-29)

Rational design of titanium implant with Antimicrobial Activity and Biocompatibility

Lin Wang, *South China University of Technology, China*

14:25-14:45 (C03-30)

Functionalization of Alginate Fibers for Flexible Electronics

Kewei Zhang, *Qingdao University, China*

14:45-15:05 (C03-31)

Combinatorial Discovery of Antibacterials via a Feature-Fusion Based Machine Learning Workflow

Cong Wang, *Zhejiang University, China*

15:05-15:25 (C03-32)

The discovery of new molecules promoting cell adhesion and the universal modification to render diverse materials bioactivation

Qi Chen, *East China University of Science and Technology, China*

15:25-15:45 Coffee Break

15:45-17:05 Session VIII

Chair: Chunmei Ding Tengjiao Wang

15:45-16:05 (C03-33)

Pressure-driven micro-injection of elastic spongy coating promotes drug delivery across biological barriers

Honglin Qian, *Zhejiang University, China*

16:05-16:25 (C03-34)

Biofilm microenvironment-responsive polymeric CO releasing micelles for enhanced amikacin efficacy

Qian Zhou, *Northwestern Polytechnical University, China*

16:25-16:45 (C03-35)

In vitro degradation and dual responsively antibacterial zeolitic imidazolate frameworks-8@Rhein composite coating on magnesium alloy

Chenhui Duan, *Shandong University of Science and Technology, China*

16:45-17:05 (C03-36)

Design TiO₂/TiOF₂ Z-scheme heterojunction for high-performance antibacterial and mechanism

Yuanyuan Chen, *Kunming University of Science and Technology, China*