CONFERENCE PROGRAM

3rd International Conference on Biofilms

Asia-Pacific Biofilms 2021

May 11-16, 2021 | Guangzhou, China

Asia-Pacific Biofilms 2021

On behalf of the Organizing Committee, you are cordially invited to attend the virtual conference of the 3rd International Conference on Biofilms (Asia-Pacific Biofilms 2021), held on May 11-16 of 2021, in Guangzhou, China.

Asia-Pacific Biofilms 2021 will cover subjects including characteristics of biofilms, quorum sensing in biofilms, industrially- and clinically- relevant biofilms and emerging technologies on biofilms. In the relevant fields, distinguished scholars are invited for keynote or invited presentations, and young scientists with latest research findings from various disciplines are also invited for oral presentations. This is undoubtedly the best opportunity for participants to present the recent progress and foster new collaboration. Asia-Pacific Biofilms 2021 also builds a bridge between Chinese and international universities or enterprises.

Highlighted topics include:

1. **Bioinformatics analysis in biofilms**
2. **Biofilms development and control**
3. **Biofilms antimicrobial resistance**
4. **Communication and signaling factors in biofilms**
5. **Rapid detection and application to biofilms bacteria**
6. **Virulence and toxins on clinical biofilms**
7. **Evolution and stress tolerance in Biofilms**
8. **Industrial and applied biofilms research**

The Organizing Committee are making every effort to make this a memorable and valuable biofilm conference.

Sincerely yours,

Birthe Kjellerup
Liang Yang
Zhenbo Xu
Organizing Committee

Organization

Organizers

South China University of Technology
Southern University of Science and Technology
AEIC Academic Exchange Information Centre

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Overseas Chinese Society for Microbiology (SinoMicro)
ESCMID Study Group for Biofilms
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Mark Shirtliff

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Founder and Honorable President

Mark Shirtliff
(1969-2018)

Dr. Mark Shirtliff was a professor at University of Maryland-Baltimore, where he held a primary appointment in the Department of Microbial Pathogenesis in the University of Maryland School of Dentistry and a secondary appointment in the Department of Microbiology and Immunology in the University of Maryland School of Medicine. Mark was also the lead inventor and co-founder of the vaccine company Serenta Biotechnology, LLC that was established in 2017. The license is based on a multivalent vaccine strategy against infections caused by *Staphylococcus aureus*. Further development of the vaccine is continued by Dr. Jan Harro in the Shirtliff-Harro Lab at UMSOD and by Birthe Kjellerup-Shirtliff as Chief Scientific Officer in Serenta LLC.

Mark Shirtliff was a leading expert in the field of biofilm in the US and internationally. His childhood in the foothills of the Canadian Rocky Mountains lead him to University of Alberta, where he graduated with a bachelor in Geo-microbiology. After this, he moved to Texas, US to continue his education. Originally Mark wanted to pursue medical school to become a medical doctor, but he quickly learned that he over time would be able to help more people by performing research thus his goal became to develop diagnostics and vaccines to prevent biofilm infections. Mark graduated with his Ph.D. in 2001 from University of Texas Medical Branch, Galvaston TX in the Department of Microbiology and Immunology. His thesis was titled "*Staphylococcus aureus*: Roles in Osteomyelitis."

During graduate school Mark was introduced to a fellow Canadian biofilm researcher Dr. Bill Costerton, who at that time was the Director of Center for Biofilm Engineering (CBE) at Montana State University in Bozeman, Montana. This was the beginning of an inspirational work relationship and friendship between Mark and Bill and a very prolific career in *Staphylococcus aureus* biofilm research for Mark - but it was way too short!

Bill convinced Mark that she should move to Bozeman, Montana and the CBE in 2001 to continue working on biofilms and was initially funded to work on drinking water biofilms in Dr. Anne Camper's lab. He quickly obtained his own funding and returned to S. aureus research that was so important for him. The years at the CBE were instrumental in developing molecular tools, having important biofilm centered discussions and to get out in the wilderness to get great ideas. In 2003, Mark moved to Maryland and entered a tenure track position at UMB- Baltimore.

Mark was actively involved in leading the biofilm field forward. His engaging and very energetic way of behaving made him easy to talk to both about biofilms, science and completely other topics. He was very interested in listening to the junior scientists and to connect with the next generation in science. Therefore, mentoring and training of the next generation of biofilm scientists was a mission that he took seriously. Over the years, Mark trained many scientists in his lab - both graduate students, post docs and visiting scientists from around the world. He also initiated many collaborations globally and many of these excellent scientists are present at ChinaBiofilms 2019. He also organized numerous biofilm workshops at international conferences such as ASM Biofilms (American Society of Microbiology), ECCMID (European Congress of Clinical Microbiology & Infectious Diseases), EuroBiofilms and of course ChinaBiofilms 2017. Over the years, Mark was the author of more than 120 peer-reviewed scientific papers and book chapters on pathogenic microorganisms. He explored the biofilm mode of growth and the chronic diseases they cause.

Mark never forgot his Canadian roots and was a proud and energetic hockey (i.e. ice hockey) fan, who would travel far distances to cheer on his favorite team Edmonton Oilers. He also loved to take his family back to the Canadian Rockies to climb on glaciers and to tell great stories from his childhood and about interesting tree-ring counting studies and field trips as a geology major in college. He also kept in touch with colleagues at the CBE, which allowed him (and his family) to spend time in Montana during the summers. This would recharge his batteries with lots of fly fishing, floats on majestic rivers and good times with friends and family.

In Mark's honor, we have started the "Mark Shirtliff Memorial Biofilm Foundation" (https://markshirtliffbiofilmfoundation.org/). Donations can be made via the website. The goal of the foundation is to support and encourage junior biofilm researchers to travel and initiate collaborations with other biofilm groups on a global scale.

The Board of Trustees include several members, who are present at ChinaBiofilms 2019: Birthe V. Kjellerup, Chair (Mark's wife), Garth D. Ehrlich, Secretary and Treasurer, Kendra Rumbaugh, Vice President, James Kaper, Zhenbo Xu and Annette Moter. Please feel free to contact any of us if you have any questions or would like to share a good story or memory about Mark.

We hope that you will participate in making Asia-Pacific Biofilms 2021 a successful follow-up to the ChinaBiofilms series conferences that Mark was an important founder for.

South China University of Technology

South China University of Technology (SCUT) is a leading educational institution in China, a public research-intensive university directly governed by the Chinese Ministry of Education. Located in Guangzhou, the center of southern China, it covers a total area of 405 hectares, consisting of three campuses: Wushan Campus, University Town Campus, and Guangzhou International Campus.

SCUT was first founded in 1952 by merging the engineering schools and departments of a number of major universities and polytechnic universities from five provinces in central and southern China. In 2016, SCUT was ranked the world's top 300 universities by the Academic Ranking of World Universities, with its Engineering at 22nd. According to Thomson Reuters' Essential Science Indicators, SCUT has chemistry, materials science, engineering, agricultural science, physics, biology and biochemistry, computer science, and environment and ecology ranked in the global top 1%.

School of Food Science and Engineering (SFSE) was established newly in November 2015 through the reorganization of the School of Light Industry and Food Science, however, its history can be dated back to 1952, the beginning of the University. A national evaluation of key discipline carried out in 2012 showed that the Food Science and Engineering in the School were ranking No.3 among Chinese universities.

Overseas Chinese Society for Microbiology

Sino-Micro is a registered non-for-profit organization formed by overseas Chinese researchers who study microbiology. Our goal is to establish a social network that will facilitate the advancement of our research programs and the development of our careers. In addition, we wish to work as a group to create a platform for enhancing scientific interactions with our colleagues in China. Current Sino-Micro members are primarily principal investigators in the USA. However, our organization is open to all overseas Chinese microbiologists.

Southern University of Science and Technology

Southern University of Science and Technology (SUSTech) is a research-oriented public university founded in Shenzhen, China's innovation center. From their inception, SUSTech has attached enormous importance to attracting high-quality talents to its faculty. Through continuing efforts to introduce world-class educators, SUSTech is proud to have over 800 faculty members on staff, and they continue to expand its faculty with amazing talent from all over the world. Many of their faculty have been honored with selection into national or regional talent programs, and SUSTech is keen to nurture and cultivate its talented staff.

AEIC Academic Exchange Information Center

AEIC Academic Exchange Information Center, also known as AEIC, is a well-developed international exchange platform co-founded by colleges, scientific research institutions and enterprises. We concentrate on global professional academic forces and devotes to the academic exchange activities such as scientific and technological information dissemination, scholars scientific research exchanges and social hotspots analysis. Now we have received big support from many colleges and research institutes. Adhering to the spirit of Professional, Focus and Concentrate, we provide an international professional exchange platform for scientific and technological academic communication to realize the transformation of academic achievements.

AEIC cooperates with many international press including Springer, Elsevier, IEEE, Taylor & Francis Group， IOP, EDP, ASME, SPIE, Academic Press, American Scientific Publishing, DEStech Publications, TTP and Atlantis Press. AEIC calls for papers from academic conferences and publishs papers for EI or CPCI index. Outstanding papers will be recommended for publication in well-known international journals such as the ones indexed by SCI, EI, etc.

Agenda

Time and date shows here refers to China Standard Time (GMT+8).
Asia: GMT+9 for JST, GMT+7 for WIT, GMT+5:30 for IST
Oceania: GMT+10 for AEST, GMT+12 for NEST
U.S. and Canada: GMT-4 for EDT, GMT-5 for CDT, GMT-6 for MDT, GMT-7 for PDT
Europe and U.K.: GMT+2 for CEST, GMT+1 for BST

May 11th Registration	
16:00-18:00	**Registration and Meeting platform test**
May 12th Workshop	
9:00-10:30	**Animal models for biofilm infections** **Modeling biofilm-associated wound infections. Kendra Rumbaugh** **Orthopedic models of biofilm infection. Janette Harro**
10:30-11:00	**Meet the speakers**
11:00-12:30	**Standard methods for biofilms** **Standardized laboratory bench top flow through and batch reactors for growing a reproducible biofilm. Darla Goeres** **Laboratory reactors for real time imaging of biofilm bacteria. Paul Stoodley**
12:30-13:00	**Meet the speakers**
14:30-16:00	**Getting your article published in Biofilm** **Tom Coenye, Birthe Kjellerup**
16:00-16:30	**Meet the speakers**
16:30-17:30	**Standardized development and detection of bacterial biofilms** **Yulong Tan, Su Ma, Zhenbo Xu**
17:30-18:00	**Meet the speakers**

May 13th Medical Microbiology

Session 1

Chairs: Birthe Kjellerup & Zhenbo Xu

9:00-9:25	**Meeting platform test**
9:25-9:35	**Opening ceremony** **Birthe Kjellerup, Zhenbo Xu**
9:35-10:00	**Experimental evolution as a tool to study biofilm biology** **Tom Coenye, Ghent University, Ghent**
10:00-10:25	**Medical devices and infection control - current challenges and opportunities** **Helmut Thissen, Monash University, Melbourne**
10:25-10:40	**Bacterial chemical signal regulation of biofilm development** **Lianhui Zhang, South China Agricultural University, Guangzhou**
10:40-10:55	**Meet the speakers**

Session 2

Chairs: Matthew Parsek & Yue Qu

10:55-11:20	***Pseudomonas aeruginosa* uses a versatile repertoire of exopolysaccharides and proteins to build biofilms** **Matthew Parsek, University of Washington, Seattle**
11:20-11:45	**Mechanical circulatory support - a major advance but with the price of serious infection risk** **David McGiffin, Monash University, Melbourne**
11:45-12:00	**A nuclear-dbf2 related (NDR) kinase exerts isoform-specific control over *Aspergillus fumigatus* pathogenic fitness** **Jarrod Fortwendel, University of Tennessee Health Science Center, Memphis**
12:00-12:15	**Intracellular glycosyl hydrolase shapes bacterial cell fate, signaling, and the biofilm development of *Pseudomonas aeruginosa*** **Luyan Ma, Institute of Microbiology of the Chinese Academy of Sciences, Beijing**
12:15-12:30	**Mouse and human cell models of *Bordetella pertussis* biofilm development** **Rajendar Deora, The Ohio State University, Columbus**
12:30-14:00	**Meet the speakers 12:30-12:45 / Networking 12:45-14:00**

Session 3 **Chair: Kimberly Kline**	
14:00-14:25	**Identification of small molecules that interfere with c-di-GMP signaling and induce dispersal of *Pseudomonas aeruginosa* biofilms** **Tim Tolker-Nielsen, University of Copenhagen, Copenhagen**
14:25-14:40	**Dissecting the mechanisms of *Entercocccus faecalis* biofilm-associated infection** **Kimberly Kline, Nanyang Technological University, Singapore**
14:40-14:55	**Application of nucleic acid-based methods to study and modulate multispecies biofilms** **Nuno Azevedo, University of Porto, Porto**
14:55-15:10	**War and Peace: Polymicrobial interactions during cystic fibrosis airway infection** **Dominique Limoli, University of Iowa, Iowa City**
15:10-15:25	**Proteogenomic determinants of biofilm-associated antimicrobial resistance in *Pseudomonas aeruginosa*** **Jeremy Webb, University of Southampton, Southampton**
15:25-15:40	**Memory and cooperativity during reversible and irreversible attachment in young biofilms** **Calvin Lee, University of California, Los Angeles**
15:40-15:55	**Meet the speakers**
Session 4 Student Presentations **Chair: Zhao Cai**	
15:55-17:05	**Application of transposon inserted mutant sequencing analysis in identifying genetic determinants of bacterial biofilms** **Jing Wang, Southern University of Science and Technology, Shenzhen** **Low concentrate of antibiotics enhance biofilm formation in *Staphylococcus aureus*** **Ziqi Liu, South China University of Technology, Guangzhou** **Molecular epidemiology analysis of *Pseudomonas aeruginosa* infections carrying *qnrVC* genes from Guangzhou, China** **Jinqiong Lin, First Affiliated Hospital of Guangzhou Medical Univ., Guangzhou** **Antibacterial self-assembled nanodrugs composed of berberine derivatives and rhamnolipids against *Helicobacter pylori* biofilms** **Xiaonan Chen, Sun Yat-Sen University, Guangzhou** **Mucus penetration enhanced lipid polymer nanoparticles improve the eradication rate of *Helicobacter pylori* biofilm** **Pengyu Li, Sun Yat-Sen University, Guangzhou** **Polymicrobial interaction between *Lactobacillus* and *Saccharomyces cerevisiae*** **Xin Lin, South China University of Technology, Guangzhou** ***C. albicans* augments *S. aureus* quorum sensing during polymicrobial infections** **Olivia Todd, University of Tennessee Health Science Center, Memphis**
17:05-18:00	**Networking**

May 14th Medical Microbiology	
Session 5	
Chair: Paul Stoodley	
9:00-9:25	**Synovial fluid induced *Staphylococcus aureus* aggregation and biofilm formation in periprosthetic joint infection (PJI)** **Paul Stoodley, The Ohio State University, Columbus**
9:25-9:50	**The role of *in vivo* biofilm migration in ventricular assist device (VAD) infections** **Anton Peleg, Monash University, Melbourne**
9:50-10:05	**Scnn1b-transgenic BALB/c mice as a model of *Pseudomonas aeruginosa* infections of the cysitc fibrosis lung** **Janette Harro, University of Maryland, Baltimore**
10:05-10:20	**The role of TNF in host immunity to *Staphylococcus aureus*** **Nathan Archer, Johns Hopkins University, Baltimore**
10:20-10:35	**Co-expression of *ECE1* and *ALS3* in *C. albicans* independent of hyphal formation is capable of damaging vaginal epithelial cells** **Zhenbo Xu, South China University of Technology, Guangzhou**
10:35-10:50	**Meet the speakers**
Session 6	
Chair: Liang Yang	
10:50-11:15	**Biofilm degradation in wound infections** **Kendra Rumbaugh, Texas Tech University Health Sciences Center, Lubbock**
11:15-11:40	**Bacterial interspecies interactions and evolution in multispecies biofilms** **Mette Burmolle, University of Copenhagen, Copenhagen**
11:40-11:55	**Impact of clinical lipid formulations on *Candida* biofilm formation and incidence of candidiasis** **Brian Peters, University of Tennessee Health Science Center, Memphis**
11:55-12:10	**Nosocomial P. aeruginosa regulates alginate biosynthesis and T6SS during adaptive and convergent evolution for coinfection in critically ill COVID-19 patients** **Liang Yang, Southern University of Science and Technology, Shenzhen**
12:10-12:25	**Cyclic di-GMP diverges to control antibiotic synthesis in *Lysobacter*** **Guoliang Qian, Nanjing Agricultural University, Nanjing**
12:25-14:00	**Meet the speakers 12:25-12:40 / Networking 12:40-14:00**

Session 7 **Chair: Yue Qu**	
14:00-14:25	**To know and not just to believe regarding biofilms and the infectious microenvironment** **Thomas Bjarnsholt, University of Copenhagen, Copenhagen**
14:25-14:40	**A critical role of biomaterial surface chemistry and environmental cues on biofilm formation of *Staphylococcus capitis*** **Yue Qu, Monash University, Melbourne**
14:40-14:55	**Non-attached biofilm aggregates in chronic infections - and how to model them *in vitro*** **Kasper Kragh, University of Copenhagen, Copenhagen**
14:55-15:10	**Sticking it to bacterial resistance using honey-inspired antimicrobial materials** **Lewis Blackman, CSIRO, Canberra**
15:10-15:25	**Prevention of oral diseases by anti-biofilm dental materials** **Lei Cheng, Sichuan University, Chengdu**
15:25-15:40	**Pleural empyema-related pathogens and biofilms** **Ke Wang, The First Affiliated Hospital of Guangxi Medical University, Nanning**
15:40-15:55	**Meet the speakers**
Session 8 **Chair: Qingbin Guo**	
15:55-16:10	**Interactions between bacteria and their dead siblings** **Xiangjun Gong, South China University of Technology, Guangzhou**
16:10-16:25	**Mixed-species biofilm formation of *L. monocytogenes* in food processing plants and its inactivation by low-energy X-ray irradiation.** **Xinyi Pang, National University of Singapore, Singapore**
16:25-16:40	**Strategies for structural characterization of EPS from biofilm** **Qingbin Guo, Tianjin University of Science and Technology, Tianjin**
16:40-16:55	**Novel drug delivery system against biofilms infections** **Haiyan Hu, Sun Yat-Sen University, Guangzhou**
16:55-17:10	**Application of photodynamic inactivation for eradicating planktonic and sessile bacteria** **Jingjing Wang, Shanghai Ocean University, Shanghai**
17:10-18:00	**Meet the speakers 17:10-17:25 / Networking 17:25-18:00**

May 15th Basic and Foodborne Microbiology

Session 9

Chair: Chuanwu Xi

9:00-9:25	**Environmental surveliene of SARS-CoV-2 to inform exposure risks** **Chuanwu Xi, University of Michigan, Ann Arbor**
9:25-9:50	**Biofilm Standard Methods: Enabling for innovation in the marketplace** **Darla Goeres, Montana State University, Bozeman**
9:50-10:05	**Bacterial sensing by histidine kinases: chemical and gas** **Wei Qian, Institute of Microbiology of the Chinese Academy of Sciences, Beijing**
10:05-10:20	**Study on the regulation of multi-factor interactions during the *Vibrio parahaemolyticus* biofilm formation** **Yong Zhao, Shanghai Ocean University, Shanghai**
10:20-10:35	**Naftifine derivatives inhibit biofilm formation of multidrug-resistant *Staphylococcus aureus* and potentiate antimicrobials** **Chunlei Shi, Shanghai Jiaotong University, Shanghai**
10:35-10:50	**Meet the speakers**

Session 10

Chair: Zhenbo Xu

10:50-11:15	**YdiV---An ongoing story begins with the biofilm** **Lichuan Gu, Shandong University, Jinan**
11:15-11:40	**Opportunities and challenges of surface plasmon resonance (SPR) on biofilms** **Chii-Wann Lin, National Taiwan University, Taipei**
11:40-11:55	**The removal mechanism of *Listeria monocytogenes* biofilm by combined effect of acidic electrolyzed water and alkaline electrolyzed water** **Jianxiong Hao, Hebei University of Science and Technology, Shijiazhuang**
11:55-12:10	**Biofilm: What can we learn from *Bacillus cereus*** **Yu Ding, Jinan University, Guangzhou**
12:10-12:25	**Mechanism of natural clays against single biofilm formation of *Staphylococcus aureus* on stainless steel surface** **Nor Ainy Mahyudin, Universiti Putra Malaysia, Serdang**
12:25-14:00	**Meet the speakers 12:25-12:40 / Networking 12:40-14:00**

Session 11 **Chair: Lei Yuan**	
14:00-14:25	**Biofilm formation and control in the dairy industry** **Steve Flint, Massey University, Palmerston North**
14:25-14:40	**Molecular mechanism of membrane disintegration and dysfunction in foodborne pathogens with ultrasonic treatment** **Mingming Guo, Zhejiang University, Hangzhou**
14:40-14:55	***Cronobacter* biofilm formation and control strategies in the food industry** **Yingwang Ye, Hefei University of Technology, Hefei**
14:55-15:10	**Influence of quorum sensing on formation of viable but nonculturable (VBNC) cells of beer-spoilage lactic acid bacteria growing in biofilms** **Yang Deng, Qingdao Agricultural University, Qingdao**
15:10-15:25	**Discovery of anti-biofilm terpenoid compounds: (+)-nootkatone as an example** **Renyou Gan, Institute of Urban Agriculture, Chengdu**
15:25-15:40	**Inhibitory effect of *Lactobacillus plantarum* metabolites against biofilm formation by *Bacillus licheniformis* isolated from milk powder products** **Lei Yuan, Yangzhou University, Yangzhou**
15:40-15:55	**Research on the role of quorum sensing in biofilm of *Leuconostoc citreum* and its application in dairy fermentation** **Rihua Xu, Inner Mongolia University, Hohhot**
15:55-16:10	**Meet the speakers**
Session 12 Student Presentation **Chair: Yingdan Zhang**	
16:10-17:15	**Monitoring the 3D morphology of growing biofilms** **Weixiong Zhang, South China University of Technology, Guangzhou** **Molecular epidemiology characteristics of 146 CRE infections in Guangzhou, China** **Chen Peng, First Affiliated Hospital of Guangzhou Medical University, Guangzhou** **Molecular epidemiology and antibiotics resistance analysis of non-typing *H. influenzae* after the introduction of the Hib vaccine in Guangzhou, China** **Shuxian Wen, First Affiliated Hospital of Guangzhou Medical Univ., Guangzhou** **SPR on biofilms: with biofilm associated genes screening in *S. aureus* as an example** **Yuting Luo, South China University of Technology, Guangzhou** **Delineating the Upc2A regulon in *Candida glabrata*** **Yu Li, St. Jude Children's Research Hospital, Memphis** **Control and impact of glycogen utilization & synthesis in *C. albicans* mediated VVC** **Jian Miao, University of Tennessee Health Science Center, Memphis** **In vitro evaluation of biofilm formation by LAB into different stress conditions** **Fedrick Mgomi, Yangzhou University, Yangzhou**
17:15-18:00	**Networking**

May 16th Applied and Environmental Microbiology

Session 13

Chair: Junyan Liu

9:00-9:25	**Biofilms in intermittent and continuous flow drinking water distribution systems** **Stefan Wuertz, Nanyang Technological University, Singapore**
9:25-9:50	**Biofilm-mineral interactions, insights from engineered biomineralization applications and the urinary tract** **Robin Gerlach, Montana State University, Bozeman**
9:50-10:05	**Synergistic metabolism and community structure in algal-bacterial counter-diffusion biofilms for treating biogas slurry** **Rongchang Wang, Tongji University, Shanghai**
10:05-10:20	**Biofilms lifestyle of *Comamonas* in the environmental context** **Bin Cao, Nanyang Technological University, Singapore**
10:20-10:35	**Electroanalysis of *Candida albicans* biofilms: a suitable real-time tool for antifungal testing** **Enrico Marsili, Nazarbayev University, Astana**
10:35-10:50	**Meet the speakers**

Session 14

Chair: Birthe Kjellerup

10:50-11:15	**The Biofilm way of thinking in bioremediation** **Birthe Kjellerup, University of Maryland, College Park**
11:15-11:40	**Industrial characterization system for biofilms on materials** **Hideyuki Kanematsu, National Institute of Technology, Tokyo**
11:40-11:55	**Motility selection contributes to collective antibiotic tolerance in bacterial swarms** **Yilin Wu, Chinese University of Hong Kong, Hong Kong**
11:55-12:10	**Conditional Privatization Stabilize Bacterial Cooperation** **Fan Jin, Shenzhen Institute of Advanced Technology, Shenzhen**
12:10-12:25	**A variant *ECE1* allele contributes to reduced pathogenicity of *Candida albicans* during vulvovaginal candidiasis** **Junyan Liu, University of Maryland, College Park**
12:25-14:00	**Meet the speakers 12:25-12:40 / Networking 12:40-14:00**

Session 15 Antimicrobial and Anti-Biofilms **Chair: Yulong Tan**	
14:00-14:25	**Antimicrobial resistance and antibiotic therapy in biofilm-related infection** **Po-Ren Hsueh, National Taiwan University Hospital, Taipei**
14:25-14:40	**New antibiofilm strategy against fungal/bacterial polymicrobial biofilms** **Yulong Tan, Qingdao Agricultural University, Qingdao**
14:40-14:55	**Study on construction of bacterially anti-adhesive surface, its mechanism and application** **Jing Lin, Guangzhou University, Guangzhou**
14:55-15:10	**New uses for old drugs-Diclazuril inhibits biofilm formation of *Staphylococcus aureus*** **Jinxin Zheng, Shenzhen Nanshan Hospital, Shenzhen**
15:10-15:25	**pH and light-responsive polycaprolactone/curcumin@ZIF-8 composite films with enhanced antibacterial activity** **Jianyu Su, South China University of Technology, Guangzhou**
15:25-15:40	**QSIs from Some TCMs and Some Non-natural QSIs** **Aiqun Jia, Hainan University, Haikou**
15:40-15:55	**Meet the speakers**
Session 16 Biofilm for application **Chair: Gamini Seneviratne**	
15:55-16:10	**Biofilm vs microbial inoculation in biofertilization** **Gamini Seneviratne, National Institute of Fundamental Studies, Sri Lanka**
16:10-16:25	**Agriculturally beneficial biofilms as inoculants for sustainable and integrated nutrient and disease management: from lab to land** **Radha Prasanna, ICAR-Indian Agricultural Research Institute, New Delhi**
16:25-16:40	**The application of biofilm biofertilizer to increase crop yield and soil fertility status** **Sudadi Sudadi, Universitas Sebelas Maret, Surakarta**
16:40-16:55	**Enhanced recovery of biophotosensitizer from microalgal biofilm by photosyn thetic electrons extraction towards photolytic removal of antibiotic in wastewater** **Jian Sun, Guangdong University of Technology, Guangzhou**
16:55-17:10	**Application of the kombucha biofilm for the development of functional beverages** **Viduranga Waisundara, Australian College of Business & Technology, Kandy**
17:10-17:25	**Fouling microorganisms in the reservoirs of the groundwater treatment system** **Litvinenko Zoia, Institute of the Water and Ecology Problems, RAS, Khabarovsk**
17:25-18:00	**Closing ceremony / Award announcement**

Keynote Speaker **May 13th 9:35-10:00**

Tom Coenye

Professor

Ghent University, Belgium.

Experimental evolution as a tool to study biofilm biology

Dr. Tom Coenye leads the Laboratory of Pharmaceutical Microbiology at Ghent University (Belgium, http://lpm.ugent.be). His research is focused on microbial biofilm formation, the evaluation of novel strategies to prevent biofilm formation and/or eradicate existing biofilms, and the molecular basis of tolerance and resistance in biofilms. He was chair of the ESCMID Study Group on Biofilms from 2017 to 2021 and is one of the founding senior-editors of the journal 'Biofilm' (https://www.journals.elsevier.com/biofilm/). For his work he received several awards and in 2019 and 2020 he was included on Clarivate's list of Highly Cited Researchers. Dr. Tom Coenye had been invited as a keynote speaker to ChinaBiofilms 2017 and 2019 in Guangzhou (China).

Invited Speaker **May 13th 10:00-10:25**

Helmut Thissen

Adjunct Professor

Monash University, Melbourne

Medical devices and infection control - current challenges and opportunities

Dr. Helmut Thissen had obtained his Ph.D. in Chemistry from RWTH Aachen University in Germany, where he also started to translate biomedical research into the clinic while working at the Interdisciplinary Centre for Clinical Research. His main interests are the interdisciplinary topics of Biomaterials, Regenerative Medicine and Biosensors, with a focus on the control of interactions between material surfaces and biomolecules, cells and tissues. He then moved to Melbourne, Australia to join the Commonwealth Scientific and Industrial Research Organization (CSIRO) in 1998, where he is now serving as a Team Leader in the Manufacturing Business Unit and working with over 40 outstanding scientists.

Invited Speaker **May 13th 10:25-10:40**

Lianhui Zhang

Professor

South China Agricultural University, Guangzhou

Bacterial chemical signal regulation of biofilm development

Lianhui Zhang is the Professor and of Microbiology and Plant pathology in South China Agricultural University, where he heads the Integrative Microbiology Research Center. His research interest is in microbial quorum sensing and pathogen-host chemical communication systems, and has published more than 150 papers with SCI citation over 8,000 times. He had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Keynote Speaker **May 13th 10:55-11:20**

Matthew Parsek

Professor

University of Washington, Seattle

Pseudomonas aeruginosa uses a versatile repertoire of exopolysaccharides and proteins to build biofilms

Dr. Matthew Parsek had obtained his B.S. in biology from the University of Illinois at Champaign-Urbana. He had obtained his Ph.D. from the lab of Ananda Chakrabarty at the University of Illinois at Chicago Medical Center. He did a post-doctoral fellowship at the University of lowa with Peter Greenberg. Dr. Parsek has been a Professor in the Department of Microbiology at the University of Washington since 2011. He is a member of the American Academy of Microbiology and was named a Kavli fellow by the National Academy of Sciences. Dr. Matthew Parsek had been invited as a keynote speaker in ChinaBiofilms 2019 in Guangzhou China.

Keynote Speaker **May 13th 11:20-11:45**

David McGiffin

Professor

Monash University, Melbourne

Mechanical circulatory support - a major advance but with the price of serious infection risk

Dr. David McGiffin graduated from the University of Queensland, trained in Cardiothoracic Surgery at The Prince Charles Hospital and then undertook a fellowship at the University of Alabama at Birmingham (UAB) in the United States as a Fulbright scholar in 1982. He returned to Australia in 1986 where he performed adult and paediatric cardiac surgery and commenced the Queensland Heart Transplant Program. In 1992, Professor McGiffin returned to UAB where he undertook adult cardiac surgery, heart and lung transplant and pulmonary endarterectomy for chronic thromboembolic pulmonary hypertension until 2013 when he returned to Melbourne as director of the department of cardiothoracic surgery and transplantation at The Alfred Hospital. He is a professor of cardiothoracic surgery at Monash University.

Invited Speaker **May 13th 11:45-12:00**

Jarrod Fortwendel

Associate Professor

University of Tennessee Health Science Center, Memphis

A nuclear-dbf2 related (NDR) kinase exerts isoform-specific control over *Aspergillus fumigatus* pathogenic fitness

Dr. Jarrod Fortwendel is an associate professor in the the University of Tennessee Health Science Center, US. The majority of Dr. Fortwendel 's work now focuses on understanding various aspects of fungal morphogenesis and how filamentous fungi maintain invasive hyphal structures under host-induced stress. Within this area, the Fortwendel laboratory has a long-standing interest in the network biology of signaling cascades regulating fungal development and virulence specifically focusing on Ras- and Ras-associated proteins. In addition, his laboratory was the first to adapt a portable, DNA-free system for CRISPR/Cas9 mediated gene mutation in Aspergillus fumigatus. This technique is making possible the rapid manipulation of A. fumigatus environmental and clinical isolates.

Invited Speaker

May 13th 12:00-12:15

Luyan Ma

Professor

Institution of Microbiology, Chinese Academy of Sciences

Beijing

Intracellular glycosyl hydrolase shapes bacterial cell fate, signaling, and the biofilm development of *Pseudomonas aeruginosa*

Dr. Luyan Ma graduated from Beijing Agricultural University and got the PhD from the same university in 1996. She got training as a postdoctoral fellow at the Institute Pasteur in Paris of France and as a visiting scholar at University of Connecticut Health Center in the United States of American (USA). She has worked in the Wake Forest University and the Ohio State University of USA before she joined the State Key Laboratory of Microbial Resources at Institute of Microbiology, Chinese Academy of Sciences. She has been awarded by the Hundred Talent Program of the Chinese Academy of Sciences for 2010. She is also a professor of Medical School, University of Chinese Academy of Sciences. The goal of her current research group is to explore and define molecular mechanisms of biofilm formation and disassembly as well as bacterial cell-cell communications in order to develop specific anti-biofilm strategies. Dr. Luyan Ma had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 13th 12:15-12:30**

Rajendar Deora

Associate Professor

The Ohio State University, Columbus

Mouse and Human cell models of Bordetella pertussis Biofilm Development

Dr. Rajendar Deora had obtained his MSc in Biochemistry from University of Calcutta–India. He received his Ph.D. in Microbiology from University of Illinois-Chicago. Currently, he is an Associate Professor in Department of Microbial Infection and Immunity and Department of Microbiology at The Ohio State University. He is also affiliated with the Department of Veterinary Biosciences, College of Veterinary Medicine at The Ohio State University.

Keynote Speaker

May 13th 14:00-14:25

Tim Tolker-Nielsen

Professor

University of Copenhagen, Copenhagen

Identification of small molecules that interfere with c-di-GMP signaling and induce dispersal of *Pseudomonas aeruginosa* biofilms

Tim Tolker-Nielsen had obtained his Master of Science degree (chemical engineering) from the Technical University of Denmark, received his Ph.D. in molecular microbiology from the Technical University of Denmark, and his M.D. from the University of Copenhagen. His research areas are chronic bacterial infections and molecular mechanisms involved in microbial biofilm formation and persistence, including regulation of extracellular matrix production, intracellular c-di-GMP-signaling pathways, cell-to-cell signaling, and antibiotic tolerance mechanisms. In addition, he is involved in the development of anti-biofilm drug candidates.

Invited Speaker **May 13th 14:25-14:40**

Kimberly Kline

Associate Professor

Nanyang Technological University, Singapore

Dissecting the mechanisms of *Entercocccus faecalis* biofilm-associated infection

Dr. Kimberly Kline is a deputy research director (Biofilm Biology), NRF fellow and associate Professor in the School of Biological Sciences from Nanyang Technological University, Singapore. She earned her PhD from Northwestern University and did her post-doc in the laboratory of Scott Hultgren at Washington University in St. Louis in collaboration with Birgitta Henriques-Normark and Staffan Normark at the Karolinska Institute in Stockholm. During that time, Kim was an American Heart Association Fellow, Carl Tryggers Fellow, and NIH K99 recipient. In 2011, Kim received and NRF Fellowship in Singapore, and in 2014 she was awarded an ICAAC Young Investigator Award by the American Society of Microbiology. In 2016, Kim received the Nanyang Teaching Award. Dr. Kimberly Kline had been invited as a invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 13th 14:40-14:55**

Nuno Azevedo
Assistant Professor
University of Porto, Porto

Application of nucleic acid-based methods to study and modulate multispecies biofilms

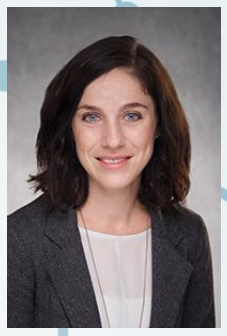
Dr. Nuno Filipe Azevedo is an Assistant Professor at the Faculty of Engineering of the University of Porto (FEUP) and a researcher at the Laboratory for Process Engineering, Environment, Biotechnology and Energy (LEPABE). His main research interests are to explore the potential of nucleic acid mimics for the rapid diagnosis and treatment of infectious agents in multispecies biofilms. He is currently leading the EU-funded project DelNAM, a project aims to develop a novel therapeutic approach to solve bacterial resistance to antibiotics through the delivery of antibacterial nucleic acid mimics into bacterial biofilms and cells within the human body. During his research career he has authored or co-authored more than 100 papers in peer-reviewed international journals, submitted 7 patents and co-edited two books. He has been invited to more than 30 oral presentations and is regularly part of the scientific advisory committee of several international conferences. Dr. Nuno Filipe Azevedo was also a co-founder of the biotech company Biomode SA, that was granted >1.5M€ in investment funds.

Invited Speaker **May 13th 14:55-15:10**

Dominique Limoli

Assistant Professor

University of Iowa, Iowa



War and Peace: Polymicrobial interactions during cystic fibrosis airway infection

Dr. Dominique Limoli had obtained her PhD in Biomedical Research, Emphasis in Microbial Pathogenesis from Ohio State University. Her research focuses on understanding interactions between microbial species during infection. Data from her lab and others reveal interspecies interactions can alter microbial metabolism, motility, antibiotic tolerance, and production of virulence factors. She seek to understand the cellular mechanisms driving these interactions in order to modulate polymicrobial community behavior and improve patient outcomes. She utilize live-cell imaging, bacterial genetics, and molecular biology approaches to interrogate polymicrobial interactions at the population and single-cell level, in both in vitro models of infection and in ex vivo patient samples.

Invited Speaker **May 13th 15:10-15:25**

Jeremy S. Webb

Professor

University of Southampton, Southampton

Proteogenomic determinants of biofilm-associated antimicrobial resistance in Pseudomonas aeruginosa

Dr. Jeremy S Webb is professor of Microbiology, and Co-Director of the National Biofilms Innovation Centre (NBIC), within the School of Biological Sciences at the University of Southampton, UK. His work is focused on the adaptive biology, antimicrobial resistance, evolution, and molecular genetics of biofilms and polymicrobial communities.

Invited Speaker **May 13th 15:25-14:40**

Calvin Lee

Postdoctoral Researcher

University of California, Los Angeles

Memory and cooperativity during reversible and irreversible attachment in young biofilms

Dr. Calvin Lee had obtained PhD in 2020 and MSc in 2019 and BSc in 2013 in Bioengineering and Biomedical Engineering from University of California, Los Angeles. He is currently a postdoctoral researcher in UCLA, and he worked as a graduate student researcher from 2013-2020. He has published some academic papers such as Multicellular Self-Organization of P. aeruginosa due to Interactions with Secreted Trails and A review of immune amplification via ligand clustering by self-assembled liquid-crystalline DNA complexes and Species-dependent hydrodynamics of flagellum-tethered bacteria in early biofilm development and so on. Dr. Calvin Lee had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Keynote Speaker **May 14th 09:00-09:25**

Paul Stoodley

Professor

The Ohio State University, Columbus

Synovial fluid induced *Staphylococcus aureus* aggregation and biofilm formation in periprosthetic joint infection (PJI).

Dr. Paul Stoodley is a professor in the Departments of Microbial Infection and Immunity and Orthopaedics at Ohio State University. He also holds an appointment at the University of Southampton. His research interests include the role of biofilm behavior in progression of infectious disease, biofilm development in environmental ecosystems, biofilm-hydrodynamic interactions, biofilm diagnostics in clinical (medical and dental) specimens and biofilm mechanics and disruption. Dr. Paul Stoodley had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Keynote Speaker **May 14th 09:25-09:50**

Anton Peleg

Professor

Monash University, Melbourne

The Role of *in vivo* Biofilm Migration in Ventricular Assist Device (VAD) Infections

Dr. Anton Peleg is professor and Director of the Department of Infectious Diseases at the Alfred Hospital and Monash University. He is also a research group leader in the Department of Microbiology, Monash University. His research spans clinical to basic research, with a focus on hospital-acquired infections, antimicrobial resistance, infections in immunocompromised hosts and understanding mechanisms of disease caused by hospital pathogens. He has a particular clinical interest in complex infections in highly vulnerable patient groups, including patients with cystic fibrosis, lung and stem cell transplant recipients, and infections in patients with burns or in intensive care.

Invited Speaker **May 14th 09:50-10:05**

Janette Harro

Assistant Professor

University of Maryland, Baltimore

Scnn1b-transgenic BALB/c mice as a model of *Pseudomonas aeruginosa* infections of the cysitc fibrosis lung

Dr. Janette Harro works as an assistant professor in University of Maryland, Baltimore, U.S. She had joined Dr. Mark Shirtliff's Lab in Department of Microbial Pathogenesis, School of Dentistry in University of Maryland firstly as a postdoctoral fellow. Her major research field include pathogenic microbial, host pathogen interactions, biofilm infections and treatment of infections using animal models. In recent years, she has published many excellent articles in top journals, such as mBio, Infection and Immunity and mSystems. Dr. Janette Harro had been invited as a speaker in ChinaBiofilms 2017 and 2019 in Guangzhou China.

Invited Speaker **May 14th 10:05-10:20**

Nathan Archer

Assistant Professor

Johns Hopkins University, Baltimore

The role of TNF in host immunity to *Staphylococcus aureus*

Dr. Nathan Archer is an assistant professor in the Department of Dermatology at the Johns Hopkins University School of Medicine. He graduated from the University of Wisconsin-Madison and he had obtained his Ph.D. in Microbiology and Immunology at the University of Maryland, Baltimore. He received his post-doctoral training in Dermatology at the Johns Hopkins University School of Medicine where he continues to study immune mechanisms of host defense against S. aureus skin infections and inflammatory skin diseases. Dr. Nathan Archer had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker

May 14th 10:20-10:35

Zhenbo Xu

Professor

South China University of Technology, Guangzhou

Co-expression of *ECE1* and *ALS3* in C. *albicans* independent of hyphal formation is capable of damaging vaginal epithelial cells

Dr. Zhenbo Xu had obtained B.S. and Ph.D. from South China University of Technology in 2005 and 2011, and worked in Dr. Mark Shirtliff's lab during 2009 to 2011. He had been awarded Top 100 National Outstanding Doctoral Dissertation in 2014. His major research field include microbial biofilm, antimicrobial resistance, polymicrobial interaction, rapid detection. Dr. Xu has published more than 90 manuscripts as first or correspondence author, with a total IF>210, citation>3,000, H-Index=40. Dr. Xu had been invited as a keynote speaker in ChinaBiofilms 2017 and as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

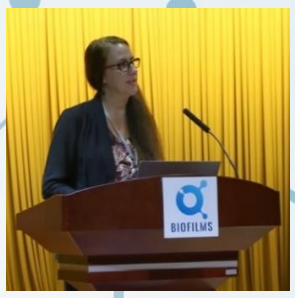
Keynote Speaker

May 14th 10:50-11:15

Kendra Rumbaugh

Professor

Texas Tech University, Lubbock



Biofilm degradation in wound infections

Dr. Kendra Rumbaugh had obtained a B.S. in Microbiology in 1996 at University of Texas. After receiving a Ph.D. in Medical Microbiology in 2001 at Texas Tech University Health Science Center (TTUHSC), Dr. Rumbaugh completed postdoctoral training at University of California at San Francisco. At present, Dr. Rumbaugh is a tenured Professor in the School of Medicine at TTUHSC, and her major research area is understanding and treating wound infections. Her leadership roles include serving as president of the Texas Branch of American Society for Microbiology. Dr. Rumbaugh had been invited as a keynote speaker in ChinaBiofilms 2017 and 2019 in Guangzhou China.

Keynote Speaker **May 14th 11:15-11:40**

Mette Burmolle

Associate Professor

University of Copenhagen, Copenhagen

Bacterial interspecies interactions and evolution in multispecies biofilms

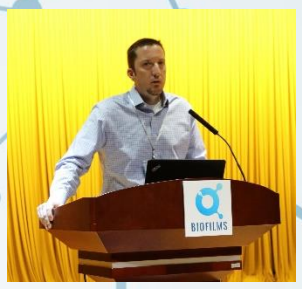
Dr. Mette Burmolle is an associate professor of Department of Biology, University of Copenhagen. Her main research interest is the interplay and interactions among bacteria of different species within diverse communities. Her current research aims at understanding the prevalence and underlying mechanism of interspecific interactions; both with respect to interaction characterization (synergism vs. antagonism), main facilitator (co-metabolism, co-aggregation etc.) and molecular mechanism.

Invited Speaker **May 14th 11:40-11:55**

Brian Peters

Associate Professor

University of Tennessee Health Science Center, Memphis



Impact of clinical lipid formulations on *Candida* biofilm formation and incidence of candidiasis

Dr. Brian Peters currently is an associate professor in College of Pharmacy, University of Tennessee Health Science Center. He also holds the First Tennessee Endowed Chair of Excellence in Clinical Pharmacy. Dr. Peters had obtained his Ph.D. in Molecular Microbiology and Immunology in 2010 from the University of Maryland. Afterwards, Dr. Peters had worked as a post-doctoral fellow at Fungal Pathogenesis in Louisiana State University Health Science Center. Dr. Brian Peters had been invited as a keynote speaker in ChinaBiofilms 2017 and 2019 in Guangzhou China.

Invited Speaker

May 14th 11:55-12:10

Liang Yang

Professor

Southern University of Science and Technology, Shenzhen

Nosocomial *P. aeruginosa* regulates alginate biosynthesis and T6SS during adaptive and convergent evolution for coinfection in critically ill COVID-19 patients

Dr. Liang Yang had obtained Ph.D. from Technical University of Denmark in 2009, and he had joined Nanyang Technological University in 2012. Dr. Yang was appointed as associated professor, as well as Assistant Chair and Deputy Research Director of the Public Health Cluster in Singapore Centre for Environment Life Science Engineering (SCELSE). In 2018, Dr. Yang had joined SUSTec as a full professor. He has published more than 160 papers (total citations >9000, H-index 46). Dr. Liang Yang had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 14th 12:10-12:25**

Guoliang Qian

Professor

Nanjing Agricultural University, Nanjing

Cyclic di-GMP diverges to control antibiotic synthesis in *Lysobacter*

Dr. Guoliang Qian had obtained Ph.D. from Nanjing Agricultural University and had worked as a doctoral supervisor in Nanjing Agricultural University. He host 3 general programs of National Natural Science Foundation from 2014-2022. He received the award of Jiangsu Outstanding Youth Fund and Young Plant Pathologists of Chinese Society of Plant Pathology, CSPP in 2019. Dr. Qian's research interests include phytopathogenic bacteriology and biological control of plant diseases.

Invited Speaker **May 14th 14:00-14:25**

Thomas Bjarnsholt

Professor

University of Copenhagen, Copenhagen

To know and not just to believe regarding biofilms and the infectious microenvironment

Dr. Thomas Bjarnsholt is professor at the Costerton biofilm Centre (SUND-UCPH), the head of Molecular Diagnostic Laboratory at Copenhagen University Hospital, Department of Clinical Microbiology (RH-KMA) and the founder of the “Biofilm Test Facility”. His research output includes 215 scientific publications (published or In Press) from 2005 to present in peer reviewed international journals and books. Bjarnsholt is interested as to how bacteria initiate biofilms in the human body and why the immune defense seems to fail both in the initial infection and later in the chronic infection.

Invited Speaker **May 14th 14:25-14:40**

Yue Qu

Adjunct Research Fellow

Monash University, Melbourne

A critical role of biomaterial surface chemistry and environmental cues on biofilm formation of Staphylococcus capitis

Dr. Yue Qu had obtained a MBBS at Wenzhou Medical University, China in 2000 and a Ph.D. in Clinical Microbiology in 2010 from RMIT University and Melbourne University, Australia. He is currently a research fellow at the Department of Infectious Diseases, the Alfred Hospital and Monash University. Dr. Qu's research focuses on medical device and biofilm related infections, with a special interest in developing novel anti-infective strategies. His research covers both bacterial and fungal pathogens, and various disease models including bloodstream infections, vaginal infections, and VAD driveline infections. Dr. Yue Qu had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 14th 14:40-14:55**

Kasper Kragh

Assistant Professor

University of Copenhagen, Copenhagen

Non-attached biofilm aggregates in chronic infections – and how to model them *in vitro*

Dr. Kasper Kragh had obtained Master in Science from University of Copenhagen and Ph.D. in health and medical science from University of Copenhagen. He now is assistant professor at Costerton Biofilm Center, University of Copenhagen. During Dr. Kasper Kragh's scientific career he have focused his attention the use of microscopy in biofilm research as well as how the phenotype of non-attached biofilm aggregates are involved and influences both pathogenesis as well as in vitro systems. Lately Dr. Kasper Kragh has worked with TnSeq to elute the genetic mechanisms behind biofilm antibiotic tolerance. From 2011 - present, he has published a total of 44 scientific peer-reviewed publications.

Invited Speaker **May 14th 14:55-15:10**

Lewis Blackman
Research Scientist
CSIRO, Melbourne

Sticking it to bacterial resistance using honey-inspired antimicrobial materials

Dr. Lewis Blackman is a Research Scientist within the Biomedical Manufacturing Program at the CSIRO in Melbourne, Australia. Lewis was awarded a Master's degree in Chemistry from the University of Southampton (2012) and a PhD focused on block copolymer self-assembly from the University of Warwick (2018). In 2017, he joined the Polymeric Biomaterials Team at CSIRO as a CERC Postdoctoral Research Fellow, where he was recently appointed as a Research Scientist. Dr. Lewis has a strong focus in translational polymer technologies and leads both commercial and academic research activities. His interests include antimicrobial materials, nanomedicine, coatings and hydrogels, stimuli-responsive polymer self-assemblies, and biohybrid materials for biomedical applications.

Invited Speaker **May 14th 15:10-15:25**

Lei Cheng
Professor
Sichuan University, Sichuan

Prevention of oral diseases by anti- biofilm dental materials

Dr. Lei Cheng is a professor and deputy director of the Department of Operative Dentistry and Endodontics, West China Hospital of Stomatology, Sichuan University. He had obtained Ph.D. from Sichuan University in 2010 under the supervision of Prof. Xuedong Zhou, and studied in Academic Center for Dentistry in Amsterdam (ACTA) for 1 year in Prof. ten Cate's lab. Subsequently, he worked as a postdoctoral fellow in the University of Maryland Baltimore School of Dentistry on anti-caries effect of nanomaterials. Now, he continued his work on oral microbiology and dental materials in Sichuan University and was appointed as professor in July 2015. Dr. Lei Cheng is skilled in oral biofilm, dental materials, oral diseases, etc. Dr. Cheng had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 14th 15:25-15:40**

Ke Wang

Professor

The First Affiliated Hospital of Guangxi Medical University, Nanning

Pleural empyema-related pathogens and biofilms

Dr. Ke Wang is a professor in the Department of Pulmonology and Critical Care Medicine at the First Affiliated Hospital of Guangxi Medical University. He is skilled in pulmonary, infection, pathogens, bacterial biofilm. Dr. Ke Wang's research interests includes biofilm-related diseases (such as pulmonary and pleural infections), host-pathogen interactions, and related animal models.

Invited Speaker

May 14th 15:55-16:10

Xiangjun Gong

Professor

South China University of Technology, Guangzhou

Interactions between bacteria and their dead siblings

Dr. Xiangjun Gong received her master degree from Department of Physics, University of Science and Technology of China and her Ph.D. from Department of Physics, The Chinese University of Hong Kong. Now she is the professor and doctoral supervisor in School of Materials Science and Engineering, South China University of Technology. Her research interests include three-dimensional optical characterization technology, molecular and microbial interface behavior. Dr. Gong had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 14th 16:10-16:25**

Xinyi Pang

Assistant Professor

National University of Singapore, Singapore

Mixed-species biofilm formation of *L. monocytogenes* in food processing plants and its inactivation by low-energy X-ray irradiation.

Dr. Pang had obtained her B.S. in 2012 and M.S. in 2014 at Northeast Agricultural University (NEAU), P. R. China, and Ph.D. in 2018 at National University of Singapore. Dr. Pang's research areas include Discovery of antimicrobial peptides from lactic acid bacteria and gene expression system; Stress response, biofilm formation and mechanisms of foodborne pathogens. She was funded as Double Create Doctor of Jiangsu Province. Dr. Pang have published more than 10 peer-reviewed scientific publications on journals such as Food Control, Food Microbiology, International Journal of Food Microbiology.

Invited Speaker **May 14th 16:25-16:40**

Qingbin Guo

Professor

Tianjin University of Science and Technology, Tianjin

Strategies for Structural Characterisation of EPS from Biofilm

Dr. Qingbin Guo had obtained Ph.D. from University of Guelph (Canada) in 2013. Since then, He had a three-year postdoctoral experience with the Department of Food Science, University of Guelph and one-year research experience as Research Associate in the Department of Grain Science and Industry, Kansas State University (USA). Dr. Qingbin Guo is currently working as a professor in college of Food Science and Engineering, Tianjin University of Science and Technology. He published over 60 peer reviewed SCI papers, 5 book chapters and 1 book. He also served as a member of editor board for 2 international journals. His research is focused on the structural, functional and nutritional relationships of carbohydrate polymers and dietary fibers.

Invited Speaker

May 14th 16:40-16:55

Haiyan Hu

Professor

Sun Yat-Sen University, Guangzhou

Novel drug delivery system against *Helicobacter pylori* biofilms

Dr. Haiyan Hu, majoring in pharmaceutics, has been working for Sun Yat-sen University, China more than for 20 years and engaged in R&D and novel drug delivery systems. She led and accomplished a few R&D projects. Among them, the class 1.1 chemical drug Androtriol injection, which she fully participated, has been clinically approved and launched phase II clinical trials. She has developed 3 research directions up to now : 1) Biofilm targeted drug delivery system; 2) Tumor targeted drug delivery system; 3) Transdermal drug delivery system. Prof. Hu published more than 30 academic papers on J Control Release, Carbohyd Polym, ACS Appl Mater Interfaces, Mol Pharmaceut, Int J Pharm, and obtained more than 10 Chinese patent authorizations, two of which obtained multinational patents including the United States and Japan Authorization.

Invited Speaker **May 14th 16:55-17:10**

Jingjing Wang

Professor

Shanghai Ocean University, Shanghai

Application of photodynamic inactivation for eradicating planktonic and sessile bacteria

Dr. Jing Jing Wang had obtained his Ph.D. degree from South China University of Technology in 2018, and is now working in Foshan University as a researcher. Dr. Wang received the funding support from CSC of China to study in University of Alberta (Canada) from 2016 to 2017. The research field of Dr. Wang is mainly focusing on controlling foodborne bacteria and their safety risk assessment, structure-activity relationship of proteins and their high-quality utilization. At present, Dr. Wang has published more than 70 academic articles, and applied for 14 patents, won 2 provincial and ministerial-level science and technology awards. In addition, Dr. Wang is now hosting or undertaking 14 research projects.

Keynote Speaker **May 15th 09:00-09:25**

Chuanwu Xi

Professor

University of Michigan, Michigan

Environmental surveliene of SARS-CoV-2 to inform exposure risks

Dr. Chuanwu Xi is a professor of Environmental Health Sciences & Global Public Health and director of Global Environmental Health program in the Department of Environmental Health Sciences. He received his Ph.D. from the Catholic University of Leuven Belgium in 2010. Dr. Xi's research focuses on biofilms, water quality and treatment, and human health. Dr. Xi has published more than 100 research articles and book chapters. Dr. Xi was a Scholar-in-Residence at US FDA and a chair and council of Division Q of American Society for Microbiology. Dr. Xi currently also serves as, a board member of the Council of Public Health Consultants of NSF International and an associate editor of mLife.

Keynote Speaker **May 15th 09:25-09:50**

Darla Goeres

Assistant Research Professor

Montana State University, Montana

Biofilm Standard Methods: Enabling for innovation in the marketplace

Dr. Goeres has over 20 years of experience researching biofilm bacteria in industrial systems. She has studied biofilms found in beer draught lines, Danish district heating distribution pipes, anaerobic biofilms in soured oil fields, biofilms in recreational water systems, and evaluated various treatment strategies for killing, removing and/or preventing biofilm formation. As a leader in developing biofilm standard methods, she is a member of ASTM subcommittee E35.15 and facilitated acceptance of the first approved standard methods for biofilm bacteria. In 2020, Dr. Goeres was appointed Research Professor, and she will develop a program to engage regulatory and industrial decision makers in the development of tools that enable innovation in biofilm science and technology.

Invited Speaker

May 15th 9:50-10:05

Wei Qian

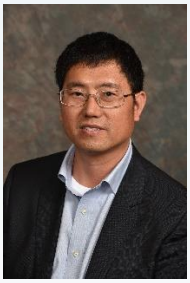
Professor

Institution of Microbiology of the Chinese Academy of Sciences, Beijing

Bacterial sensing by histidine kinases: chemical and gas

Dr. Wei Qian had obtained B.S. and M.S degrees in Yunnan University, and Ph.D. in evolutionary biology in 2000 in the Institute of Botany, Chinese Academy of Sciences. He is the Deputy-in-General of the Institute of Microbiology, CAS from 2019. His research interest is on the bacterial sensing and biochemistry of histidine kinase in regulating biofilm and virulence. Dr. Wei Qian had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 15th 10:05-10:20**



Yong Zhao

Professor

Shanghai Ocean University, Shanghai

Study on the regulation of multi-factor interactions during the *Vibrio parahaemolyticus* biofilm formation

Dr. Zhao is a professor and vice dean of College of Food Science, Shanghai Ocean University. He is a director of the Non-thermal Processing Technology Branch and Youth Working Committee, and a deputy director of the Food Safety Committee and Microbial Resistance Prevention and Control Committee of Shanghai Society for Microbiology. His research interests include molecular ecology of food microorganisms; risk assessment of food quality and safety; food quality and safety and systems biology research. He currently focuses on the rapid detection and prevention of food-borne pathogens.

Invited Speaker **May 15th 10:20-10:35**

Chunlei Shi

Professor

Shanghai Jiaotong University, Shanghai

Naftifine derivatives inhibit biofilm formation of multidrug-resistant Staphylococcus aureus and potentiate antimicrobials

Dr. Shi had obtained her B.S. on Food Science at Huazhong Agricultural University in 1999, and her Ph.D. on Biotechnology at Shanghai Jiao Tong University in 2006. Since then, she has worked in Department of Food Sci & Tech, Shanghai Jiao Tong University. And she was offered a position of Professor in Food Science in 2016. She has been a visiting postdoc at Martin Wiedmann's lab of Department of Food Science, Cornell University from 2011 to 2012, working on the molecular methods for serovar determination of Salmonella. Her research interests focus on the prevalence, persistence and antimicrobial resistance of foodborne pathogenic bacteria on food chain from farm to table. She has presided over twenty research projects, including 4 from National Science Foundation of China, 1 from National Key R&D Program of China, 1 from National Sci & Tech Pillar Program and several from Science and Technology Commission of Shanghai Municipality. She has published 113 papers (70 papers were SCI indexed), and participated in compiling 5 books. She has also taken part in applying 26 patents and 16 patents have been issued. She received the First Prize of "Excellent Young Teacher Reserved Talent" of SJTU in 2009, the Second Prize of Inspection by Science and Technology of General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China in 2012, the Second Prize of Progress in Sci & Tech of Shanghai Pudong District in 2014, and the Third Prize of Progress in Sci & Tech of China General Chamber of Commerce in 2019.

Invited Speaker **May 15th 10:50-11:15**

Lichuan Gu

Professor

Shandong University, Jinan

YdiV---An ongoing story begins with the biofilm

Affiliated with State Key lab of Microbial Technology of Shandong University. Dr. Lichuan Gu leads a research group. The purpose of research in Dr. Gu's lab is to understand the molecular mechanism of bacterium biofilm formation and drug resistance by using structural biology, biochemistry or microbiology techniques. In the last few years, using Pseudomonas aeruginosa as a model system we have systematically characterized many proeins involved in regulation of biofilm development. Most of these proteins are enzymes which synthesize or degrade the central second messenger c-di-NMPs or their receptors. The most significant discoveries include: 1)BrlR from Pseudomonas aeruginosa is a receptor for both cyclic di-GMP and pyocyanin which regulatesmulti-drugefflux pump expression. (Nature comm. 2018). 2)PslG, a self-produced glycosyl hydrolase triggers biofilm disassembly by disrupting exopolysaccharide matrix.. This finding provides a new method to treat biofilm infection with high drug resistence (Cell Research. 2015).Dr. Gu had been invited as a invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 15th 11:15-11:40**

Chii-Wann Lin

Professor

National Taiwan University, Taipei

Opportunities and challenges of surface plasmon resonance (SPR) on biofilms

Dr. Chii-Wann Lin had obtained B.S. degree from the Department of Electrical Engineering, National Cheng Kung University, Tainan City, the M.S. degree from the Graduate Institute of Biomedical Engineering, National Yang Ming University, Taipei, and the Ph.D. degree from Case Western Reserve University, Cleveland, OH, in 1984, 1986, and 1993, respectively. He is now Vice President and General Director in Biomedical Technology and Device Research Laboratories, Director of NTU-ITRI Nano Center, a Professor in the Graduate Institute of Biomedical Engineering and holds joint appointments in the Department of Electrical Engineering and Institute of Applied Mechanics, from National Taiwan University. His research interests include biomedical micro sensors, optical biochip, surface plasmon resonance, bioplasmonics, nanomedicine, and personal e-health system. Dr. Lin had been invited as a keynote speaker in ChinaBiofilms 2017 and as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 15th 11:40-11:55**

Jianxiong Hao

Professor

Hebei University of Science and Technology, Hebei

The removal mechanism of *Listeria monocytogenes* biofilm by combined effect of acidic electrolyzed water and alkaline electrolyzed water

Dr. Hao is a professor of Department of Food Science in Hebei University of Science and Technology. He had obtained Ph.D. from China Agriculture University in 2011. The main research areas include storage and processing of fruits and vegetables, food safety. Dr. Hao has presided over and participated in 2 National Natural Science Foundation of China, 2 Twelfth Five-Year Support Projects of the Ministry of Science and Technology, 3 provincial natural science projects, and has published more than 50 papers, including 13 SCI papers, and obtained 2 national authorized invention patents.

Invited Speaker **May 15th 11:55-12:10**

Yu Ding

Professor

Jinan University, Guangzhou

Biofilm: What can we learn from Bacillus cereus

Dr. Yu Ding is a professor in Department of Food Science and Technology, College of Science & Engineering, Jinan University. He had obtained his Ph.D. degree at the Chinese University of Hong Kong. He enrolled into the National Talent Support Program, and is the PI of National Key R & D Program of China. He is a member of the Third Youth Committee of Chinese Institute of Food Science and Technology and Vice Secretary General of Guangdong Edible Fungi Association. The main research directions of Dr. Ding are food microbiological safety, plant derived functional food, etc.

Invited Speaker **May 15th 12:10-12:25**

Nor Ainy Mahyudin

Associate Professor

Universiti Putra Malaysia, Malaysia

Mechanism of natural clays against single biofilm formation of Staphylococcus aureus on stainless steel surface

Nor Ainy Mahyudin is currently providing services as associate professor in Faculty of Food Science and Technology, Universiti Putra Malaysia. She had obtained her Ph.D. in Microbiology from University of Canterbury, New Zealand. Dr. Nor Ainy Mahyudin has published numerous publications in various national and international peer-reviewed journals and presented scientific papers across the world. According to Google Scholar statistics, her papers have been cited more than 950 times and have an H-index of 17. Dr. Nor Ainy Mahyudin clinical and scientific research interests include Food Safety and Quality.

Keynote Speaker

May 15th 14:00-14:25

Steve Flint

Professor

Massey University, New Zealand.

Biofilm formation and control in the dairy industry

Dr. Steve Flint is a Professor in Food Safety and Microbiology and Team Leader Food Bioscience, Massey University. Dr. Steve Flint came to Massey University after 20 years with Fonterra (New Zealand's largest dairy manufacturer) as a food microbiologist. Steve teaches food microbiology and safety, leads a team of 10 Ph.D. research students, and does consultancy work for food manufacturers. Steve's primary research interest is in biofilms and spore-forming bacteria, with a focus on the dairy industry. However, he also has various projects in food safety. His research team won the Massey University Research Team award in 2018. Steve is a Fellow of the New Zealand Institute of Food Science and Technology, a former president of the New Zealand Microbiological Society, New Zealand Representative for the American Society for Microbiology, a Certified Food Scientist with the Institute of Food Technology and a member of the International Association of Food Protection. He has more than 150 publications in the scientific literature and over 180 presentations at national and international scientific conferences.

Invited Speakers

May 15th 14:25-14:40

Mingming Guo

Professor

Zhejiang University, Hangzhou

Molecular mechanism of membrane disintegration and dysfunction in foodborne pathogens with ultrasonic treatment

Dr. Mingming Guo is a ZJU-100 Professor in the College of Biosystems Engineering and Food Science at Zhejiang University. Her research focuses on Nonthermal processing, Food safety, antimicrobial mechanism, active packaging, as well as development of antimicrobial package materials. Dr. Guo has involved in several research projects through the past 4 years both in USA and China, such as National Key R&D Program of China, National Natural Science Foundation of China, Natural Science Foundation of Zhejiang Province, etc. Dr. Guo has published more than 30 peer-reviewed journal articles since 2017. She serves as journal reviewer for many prestigious journals such as LWT-Food science and Technology, Food Chemistry, Food Hydrocolloids, etc. She also serves as Young Editor of Packaging Engineering. She is member of IFT, ACS and IAFP.

Invited Speaker **May 15th 14:40-14:55**

Yingwang Ye

Professor

Hefei University of Technology, Hefei

Cronobacter biofilm formation and control strategies in the food industry

Dr. Yingwang Ye is a professor in the School of Food & Biological Engineering at Hefei University of Technology. Dr. Ye had graduated from the Graduate School of Chinese Academy of Sciences, majoring in food safety detection and control. Prof. Ye has always focused on study about the Biology and Food Science. He mainly contributed to the functional analysis of active material, detection, typing, biofilm formation, and virulence of Foodborne pathogens. He is a member of several scientific organizations and editorial boards in the field of microbiology and Food Science. He has authored more than 50 articles including research and review articles.

Invited Speaker **May 15th 14:55-15:10**

Yang Deng

Associate Professor

Qingdao Agricultural University, Qingdao

Influence of quorum sensing on formation of viable but nonculturable cells of beer-spoilage lactic acid bacteria growing in biofilms

Dr. Yang Deng is an associate professor in Qingdao Agricultural University. He had obtained Ph.D. from Nanjing Agricultural College in 2012. Dr. Deng had worked as a postdoctoral fellow in South China University of Technology from 2012 to 2015. His major research field include food microbiology, bacterial biofilm and VBNC study. He is the Director of Scientific Research Department of Qingdao Institute of Special Foodstuffs, guest editor of the international SCI journal Frontiers in Microbiology, reviewer of the National Natural Science Foundation of China, and reviewer of Critical Reviews in Food Science and Nutrition, Journal of Agricultural and Food Chemistry etc. Dr. Deng had been invited as an invited speaker in ChinaBiofilms 2017 and ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker

May 15th 15:10-15:25

Renyou Gan

Assistant professor

Institute of Urban Agriculture, CAAS, Chengdu

Discovery of anti-biofilm terpenoid compounds: (+)-nootkatone as an example

Dr. Renyou Gan received his Ph.D. in molecular endocrinology from The University of Hong Kong in 2016. He is the Chief Scientist of the Institute of Urban Agriculture, Chinese Academy of Agricultural Sciences. His research interests include gut microbiota, molecular nutrition, and traditional Chinese medicine. He has published more than 110 SCI papers, and his papers have been cited more than 5,500 times, and have an H-index of 33. He serves on the editorial boards of international English-language journals such as Frontiers in Microbiology (SCI journal) and Frontiers in Nutrition (SCI journal), and is a reviewer for more than 50 SCI journals.

Invited Speaker **May 15th 15:25-15:40**

Lei Yuan

Lecturer

Yangzhou University, Yangzhou

Inhibitory effect of *Lactobacillus plantarum* metabolites against biofilm formation by *Bacillus licheniformis* isolated from milk powder products

Dr. Lei Yuan had obtained his Ph.D. in Zhejiang University and University of Copenhagen (Joint Doctoral Training) in 2020. He is being a lecturer, in School of Food Science and Engineering, Yangzhou University since 2020. His major research directions are ecological diversity of microorganisms in food, influence of microorganisms on food quality and safety and formation mechanism of bacterial biofilm in food industry and prevention and control measures. Dr. Yuan Lei serves as the executive editor of SCI journal Quality Assurance and Safety of Crops & Foods. Serving as a reviewer for several SCI journals including LWT-Food Science and technology, Food Research International, Food Control, International Dairy Journal, Biofouling, Applied and Environmental Microbiology, Journal of Food Safety etc.

Invited Speaker **May 15th 15:40-15:55**

Rihua Xu

Assistant Professor

Inner Mongolia University, Hohhot

Research on the role of quorum sensing in biofilm of *Leuconostoc citreum* and its application in dairy fermentation

Rihua Xu is an Assistant Professor in the School of Life Science at the Inner Mongolia University, Hohhot, China. She graduated from the China Agricultural University and obtained her PhD in Food Biotechnology. Her major research field include food microbiology, food safety and dairy processing. Recently, she has a particular interest in the biofilm and quorum sensing of probiotics.

Keynote Speaker **May 16h 09:00-09:25**

Stefan Wuertz

Professor

Nanyang Technological University, Singapore

Biofilms in intermittent and continuous flow drinking water distribution systems.

Dr. Stefan Wuertz teaches and performs research at the interface of microbiology and environmental engineering. His research focuses on the structure and function of microbial communities in engineered water and wastewater treatment systems and the fate and transport of pathogens in the environment. To this end his research team creates novel and multi-scale interactive engineering platforms for multiple purposes, such as the production of single cell protein from waste streams as a feed source and biological nutrient removal in used water treatment systems.

Keynote Speaker **May 16th 9:25-9:50**

Robin Gerlach

Professor

Montana State University-Bozeman, Boltzmann

Biofilm-mineral interactions, insights from engineered biomineralization applications and the urinary tract

Dr. Gerlach is affiliated with the Center for Biofilm Engineering, a graduated National Science Foundation Engineering Research Center, the Thermal Biology Institute, a multidisciplinary team of scientists studying the unique thermal environment within Yellowstone National Park, as well as the Molecular BioSciences Program at MSU. Dr. Gerlach is also the director of the Environmental and Biofilm Mass Spectrometry Facility in the College of Engineering.

Invited Speaker

May 16th 9:50-10:05

Rongchang Wang

Associate Professor

Tongji University, Shanghai

Synergistic metabolism and community structure in algal-bacterial counter-diffusion biofilms for treating biogas slurry

Dr. Wang had obtained his Ph.D. degree from Tsinghua University in 2005. Since then, he was employed by Tongji University and has been actively engaging in education and research on water pollution control and water reuse, specifically within development of novel bioreactors for wastewater treatment and reuse, such as some membrane bioreactors and biofilm reactors, and their design and implementation in urban and rural areas in China. He is currently a management board member of IWA Specialist Group on Biofilms. He was also a board member of IWA China Young Water Professionals National Committee.

Invited Speaker **May 16th 10:05-10:20**

Bin Cao

Associate Professor

Nanyang Technological University, Singapore

Biofilms lifestyle of *Comamonas* in the environmental context

Dr. Bin Cao is an associate Professor of School of Civil and Environmental Engineering, and Singapore Centre for Environmental Life Sciences Engineering at the Nanyang Technological University, Singapore. Dr. Cao's research is at the interface between microbiology and engineering, focusing on environmental microbial biofilm biotechnology. He is interested in understanding and harnessing the power of biofilms in natural and engineered bioprocesses with an ultimate goal of engineering controllable biofilms for biotechnological applications. Dr. Cao had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou, China.

Invited Speaker

May 16th 10:20-10:35

Enrico Marsili

Associate Professor

Nazarbayev University, Astana

Electroanalysis of *Candida albicans* biofilms: a suitable real-time tool for antifungal testing

Dr. Marsili has over 17 years of experience in biofilms, bioprocesses, and electrochemistry. He has worked at Montana State University and University of Minnesota. In 2012, he joined the Singapore Centre for Environmental Life Sciences Engineering (SCELSE). Currently, Dr Marsili is an associate professor at Department of Chemical and Materials Engineering, Nazarbayev University, Kazakhstan. He focuses on bioelectrochemical characterization of medical biofilms and microbially influenced corrosion. Dr. Marsili had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou, China.

Keynote Speaker

May 16th 10:50-11:15

Birthe Kjellerup

Associate Professor

University of Maryland, Baltimore

The Biofilm way of thinking in bioremediation

Dr. Kjellerup obtained her M.S. in 1997 and Ph.D. in 2004 at Aalborg University, Denmark. During her graduate studies, she was trained at Center for Biofilm Engineering (CBE) in Montana, and this collaboration has continued. Dr. Kjellerup was a postdoctoral fellow at Center of Marine Biotechnology in Baltimore, where she continued her work on bioremediation and environmental biofilms until 2009, when she became an assistant Professor at Goucher College, Baltimore. In January, 2015, Dr. Kjellerup accepted her current position at University of Maryland at College Park, and has become an associate professor since 2019. Dr. Kjellerup is one of the Senior Editors for the journal 'Biofilm' (https://www.journals.elsevier.com/biofilm/) and had been invited as a keynote speaker to ChinaBiofilms 2019 in Guangzhou (China).

Keynote Speaker **May 16th 11:15-11:40**

Hideyuki Kanematsu

Appointed Professor

National Institute of Technology, Tokyo

Industrial Characterization System for Biofilms on Materials

Dr. Hideyuki Kanematsu is particularly interested in biofilms on materials'surfaces as materials scientist. He was awarded the Minister of Education, Culture, Sports, Science and Technology Award for his Outstanding Career and is an NASF Scientific Achievement Award Winner. Since November 2020, he worked as a guest professor for Nagoya University of Tokai National Higher Education and Research System. At the end of March 2021, he retired from NIT (KOSEN), Suzuka College, and became a Professor Emeritus of NIT, Suzuka College at the beginning of April 2021. At the same time, he became a Specially Appointed Professor to continue the GEAR 5.0 Materials Science project as the unit leader. Now his concern for the research activity is how to measure and also control the infectious capability of materials' surfaces.

Invited Speaker **May 16th 11:40-11:55**

Yilin Wu

Associate Professor

Chinese University of Hong Kong, Hong Kong

Motility selection contributes to collective antibiotic tolerance in bacterial swarms

Dr. Wu had obtained his B.S. in Physics from the University of Science and Technology of China in 2004 and Ph.D. in Physics from University of Notre Dame in 2009. After postdoctoral research at Rowland Institute of Harvard University, he has been a faculty member in the Department of Physics of the Chinese University of Hong Kong as Assistant Professor (2012-2016) and Associate Professor (2018-present). His research interest is in biophysics and quantitative biology, with a focus on the motion and self-organization of microbial systems ranging from single cells to microbial communities, such as bacterial swarms and biofilms. Dr. Wu had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 16h 11:55-12:10**

Fan Jin

Professor

Shenzhen Institute of Advanced Technology, Shenzhen

Conditional Privatization Stabilize Bacterial Cooperation

Dr. Jin has been a professor at the Shenzhen Institute of Advanced Technology since 2019. He had postdoctoral training at the Department of Bioengineering of University of California Los Angeles. He completed his Ph.D. in the physical chemistry and the polymer physics at the Chinese University of Hong Kong. He has focused on the development of image-based high throughput techniques that can be applied in microbiology and synthetic biology, he has contributed on the understanding of microbial motilities and biofilms formation. His research group is highly interested in the combination of optogenetics manipulation and adaptive microscopy to develop new tools that can be used to select single cells in a high throughput manner.

Invited Speaker **May 16h 12:10-12:25**

Junyan Liu
Post-Doctoral Fellow
University of Maryland, College Park

A variant *ECE1* allele contributes to reduced pathogenicity of *Candida albicans* during vulvovaginal candidiasis

Dr. Junyan Liu is a research associate and postdoctoral fellow in University of Maryland, college park, USA. She has received her Ph.D. degree from South China University of Technology and has been a joint Ph.D. student in the University of Tennessee. She has published 35 SCI papers as first or correspondence author, with 2 ESI high citation papers, total IF>100, and total citation>1000. She has awarded the Chinese government scholarship, the ICKSH 2019 & 60th Annual Meeting travel grant, and National scholarship (twice). Journals including <Frontiers in Microbiology>, <Food Microbiology>, and <International Journal of Food Microbiology> (IF>4) have invited Dr. Liu as reviewers. Dr. Liu had been invited as a speaker in ChinaBiofilms 2017 and ChinaBiofilms 2019 in Guangzhou China.

Keynote Speaker

May 16th 14:00-14:25

Po-Ren Hsueh

Professor

National Taiwan University Hospital, Taiwan

Antimicrobial resistance and antibiotic therapy in biofilm-related infection

Dr. Hsueh is Professor in the Departments of Laboratory Medicine and Internal Medicine at National Taiwan University College of Medicine. Prof. Hsueh is now the Editor-in-Chief of Journal of Microbiology, Immunology, and Infection (JMII), Section Editor of International Journal Antimicrobial Agents (IJAA) and Funding editor of Journal of Global Antimicrobial Resistance (JGAR). His main research interests include epidemiology and mechanisms of antimicrobial resistance, including bacteria, mycobacteria, and fungi, molecular epidemiology of emerging pathogens, molecular diagnosis of infectious agents, and infection control. He has published more than 800 original and review articles. Dr. Hseuh had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 16th 14:25-14:40**

Yulong Tan

Professor

Qingdao Agricultural University, Qingdao

New antibiofilm strategy against fungal/bacterial polymicrobial biofilms

Dr. Yulong Tan worked for Katholieke Universiteit Leuven (2013-2014), Medical University of Vienna (2015-2018), University of Natural Resources and Life Sciences (2019-2020). Since 2021, he is a professor at Qingdao Agricultural University. His research interest is fungal/bacterial polymicrobial infection and anti-infection efficacy of compound and biomaterial. Dr. Tan was awarded 2019 Top 10 leading Chinese Talents for Science and Technology in Europe and 2020 Young Taishan Scholar.

Workshop

Su Ma

Senior Scientific Research Fellow

BOKU-University of Natural Resources and Life Sciences, Vienna

Dr. Su Ma is a senior scientific research fellow from BOKU-University of Natural Resources and Life Sciences, Vienna. Her work focuses on biochemical characterization of enzymes and enzyme applications in medcine and food fields.

Invited Speaker **May 16th 14:40-14:55**

Jing Lin

Associate Professor

Guangzhou University, Guangzhou

Study on construction of bacterially anti-adhesive surface，its mechanism and application

Dr. Lin, Ph.D./Associate Professor/M.A.Supervisor, the Laboratory Director, High-Level Talents in Guangzhou, Member of the General Council of the National Materials New Technology Development Research Institute and Industry Association of China Energy Technology, Enterprise science and Technology Commissioner in Guangdong Province Members and Technical Guiders of Alliance of Industry Technology Innovation Strategic, Executive Editor-in chief in journal of ES Materials & Manufacturing, has long been dedicated to the research and development of antibacterial and materials with anti-bacterial adhesion function; has hosted more than 10 national-level and provincial-level projects; has published more than 60 top SCI Papers, 10 ESI Highly Cited Papers, and 4 Hot Papers at home and abroad; and has gained 9 national invention patents. Dr. Lin had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 16th 14:55-15:10**

Jinxin Zheng

Chief physician

Shenzhen Nanshan Hospital, Shenzhen

New uses for old drugs-Diclazuril inhibits biofilm formation of *Staphylococcus aureus*

Dr. Jinxin Zheng is currently chief physician at Department of Infectious Diseases and the Key Lab of Endogenous Infection, Shenzhen Nanshan People's Hospital and The 6th Affiliated Hospital of Shenzhen University Health Science Center, China. He was a postdoctoral research fellow at Key Laboratory of Medical Molecular Virology of Ministries of Education and Health, Shanghai Medical College of Fudan University from 07/2017/- 12/2019 and visiting scholar at Department of Environmental Health Science, Public Health School, University of Michigan from 01/2020- 10/2020.

Invited Speaker **May 16th 15:10-15:25**

Jianyu Su

Professor

South China University of Technology, Guangzhou

pH and Light-Responsive Polycaprolactone/Curcumin@ZIF-8 Composite Films with Enhanced Antibacterial Activity

Dr. Jianyu Su's field of research is analysis of food components from functional foods; extraction and purification of bioactive natural products from botanical food sources; combinations of bioactive natural products with other dietary chemopreventive agents for antibacterial biofilms. His current research projects include development of new antibacterial and antiviral products of borneol nanometer., the National Key Research and Development Program "Science and Technology Power 2020" Special Project, as Investigator; study on efficient utilization of natural plant fragrance resources and demonstration of preparation, the Guangzhou Science and Technology Plan Project, as Investigator. Dr. Su had been invited an invited speaker in China Biofilms 2019 in Guangzhou China.

Invited Speaker **May 16th 15:25-15:40**

Aiqun Jia

Professor

Hainan University, Hainan

QSIs from Some TCMs and Some Non-natural QSIs

Dr. Jia is currently professor of School of Life and Pharmaceutical Sciences of Hainan University. His research interest is in the research and development of important physiologically active natural products. Before April 2019, he has published more than 80 SCI papers in academic journals such as Angewandte Chemie, Chemical Communications, Journal of Agriculture and Food Chemistry (ACS), Food Chemistry, Scientific Reports and 25 papers (including reports) exchanged at academic conferences at home and abroad. He also applied for 6 Chinese patents.

Invited Speaker **May 16th 15:55-16:10**

Gamini Seneviratne

Professor

National Institute of Fundamental Studies, Sri Lanka

Biofilm vs microbial inoculation in biofertilization

Dr. Gamini Seneviratne currently works as a Senior Research Professor at NIFS. He obtained his B.Sc from the University of Peradeniya, Faculty of Science in 1984 and his PhD in Botany in 1993 from the University of Peradeniya, Sri Lanka. Dr. Seneviratne was listed as a top researcher in Sri Lanka by the University Grant Commission (UGC). According to a report of the National Research Council (NRC), Sri Lanka, Dr. Seneviratne was the second most productive scientist in the country in 2002 and 2003 and fifth most productive scientist out of about 1,800 scientists for the period 1991-2006. His current research interests include soil carbon sequestration in tropical ecosystems, development of biofilms for plant growth improvement and medical and environmental applications. Dr. Seneviratne had been invited as a speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 16th 16:10-16:25**

Radha Prasanna

Professor

ICAR-Indian Agricultural Research Institute, New Delhi

Agriculturally beneficial biofilms as inoculants for sustainable and integrated nutrient and disease management: from lab to land

Dr. Prasanna had obtained her M.Sc. and Ph.D. at Indian Agricultural Research Institute (IARI), and has made pioneering contributions towards exploring cyanobacteria for their multifaceted abilities as plant growth promoting and biocontrol agents, followed by developing technologies for their widespread utilization in several crops. Her field of specialization is plant-microbe interactions and microbial inoculants. She was awarded Fellowship of the Academy of Microbiological Sciences (FAMSc) in 2019 and ICAR Panjabrao Deshmukh Outstanding Woman Scientist Award (201

Invited Speaker **May 16th 16:25-16:40**

Sudadi Sudadi

Lecturer

Sebelas Maret University, Surakarta

The application of biofilm biofertilizer to increase crop yield and soil fertility status

Dr. Sudadi had obtained his B.Sc. in Soil Microbiology and M.Sc. and Ph.D. in Soil Science at Gadjah Mada University, Indonesia. Dr. Sudadi has 6 researchs on Biofilm Biofertilizer since 2015. Dr. Sudadi has numerous publications on different international journals and has presented at academic conferences at home and abroad. Dr. Sudadi's research interest now is mainly focus on Biofilm Biofertilizer.

Invited Speaker **May 16th 16:40-16:55**

Jian Sun

Professor

Guangdong University of Technology, Guangzhou

Enhanced recovery of biophotosensitizer from microalgal biofilm by photosynthetic electrons extraction towards photolytic removal of antibiotic in wastewater

Dr. Jian Sun had obtained Ph.D. in South China University of Technology in 2010, during which he had spent 1 year in University of Minnesota from 2008 to 2009. Dr. Sun had engaged in postdoctoral research in mobile in South China University of Technology from 2011 to 2014 and was appointed as Associate Professor. He has been working in Guangdong University of Technology since 2014, and his major research field includes targeted conversion and resource utilization of environmental pollutants based on bioelectrochemistry; environmental biotechnology; water pollution control. Dr. Sun had been invited as an invited speaker in ChinaBiofilms 2017/2019 in Guangzhou China.

Invited Speaker **May 16th 16:55-17:10**

Viduranga Waisundara

Assistant Professor

Australian Institute of Business and Technology–Kandy Campus, Sri Lanka

Application of the Kombucha Biofilm for the Development of Functional Beverages

Dr. Viduranga Waisundara had obtained her Ph.D. in Food Science and Technology from the Department of Chemistry, the National University of Singapore in 2010. From July 2009 to March 2013, she was a lecturer at Temasek Polytechnic, Singapore, after which she relocated to her motherland of Sri Lanka. There she spearheaded the Functional Food Product Development Project at the National Institute of Fundamental Studies from April 2013 to October 2016. Dr. Waisundara was a senior lecturer on a temporary basis at the Department of Food Technology, Faculty of Technology, Rajarata University of Sri Lanka. She is currently the Deputy Principal of the Australian College of Business and Technology–Kandy Campus, in Kandy, Sri Lanka. She is also the present Global Harmonization Initiative (GHI) Ambassador to Sri Lanka. Dr. Waisundara had been invited as an invited speaker in ChinaBiofilms 2019 in Guangzhou China.

Invited Speaker **May 16th 17:10-17:25**

Litvinenko Zoia

Researcher

Institute of the Water and Ecology Problems, RAS, Khabarovsk

Fouling microorganisms in the reservoirs of the groundwater treatment system

Litvinenko Zoia is researcher of the Laboratory of Hydrology and Hydrogeology, Institute of the water and ecology problems, Far Eastern Branch, Russian Academy of Sciences. She received her Ph. D. in Biology from the IWEP FEB RAS, Khabarovsk, Russia. She is also affiliated with Natural Sciences Department at the Far Eastern State Transport University as Assistant Professor. Her research field includes the biogeochemical processes in water systems and biofilm formation in groundwater treatment system.

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