

Peking University Bioaerosol Laboratory Bulletin (PKU-BLB) Volume 10, Issue 1

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Bioaerosol sampler developed and commercialized by our laboratory was utilized for monitoring SARS-CoV-2 aerosol for Beijing Olympic Winter Games

Beijing Winter Olympic Game Committee sent an official acknowledgement letter to Peking University for Prof Yao's work and effort for a successful game!

北京2022年冬奥会和冬残奥会组织委员会

感谢信

北京大学：

北京2022年冬奥会和冬残奥会圆满落下帷幕，中国为世界呈现了一届“精彩、非凡、卓越”的奥运盛会，向世界展示了中国活力！

贵单位环境学院要茂盛同志研发的生物气溶胶采样器在北京冬奥的测试赛、正式赛中的新冠肺炎疫情防控中得到了应用，使得冬奥组委会能够在奥运场馆执行新冠病毒气溶胶监测，实现了实时环境预警。贵单位为北京冬奥的顺利开展提供了新冠肺炎疫情防控保障，再次感谢贵单位对北京冬奥的成功举办做出的贡献！

祝贵单位在参与冬奥中，共享冬奥成果，一起向未来。

北京冬奥组委疫情防控办公室
(运动会部代章)
2022年8月16日



Dr. Yao was invited to write a review on airborne SARS-CoV-2 transmission and control for Eco-Environment & Health journal.

北京大学生物气溶胶实验室

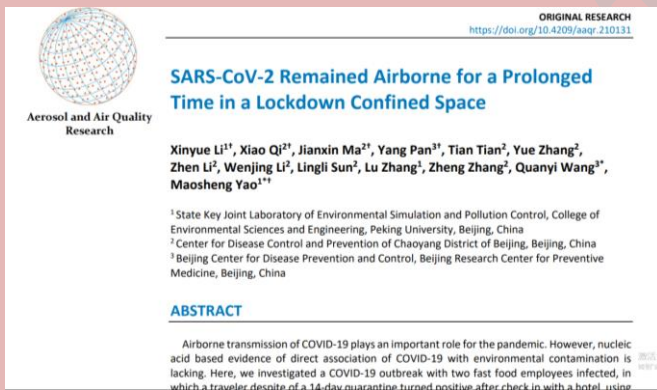
Beijing, China

Scientific Publications

1. Dr. Yao was invited to write a review about airborne SARs-CoV-2 transmission and control for Eco-Environment & Health journal. We have found direct link of aerosol transmission of SARs-CoV-2 with COVID-19 infection.



2. We investigated a COVID-19 outbreak in a chain hotel in Beijing, and we have identified the outbreak link with environmental transmission of SARS-CoV-2. The results were published in Aerosol & Air Quality Research.



The results were also featured by Xinhua News.

冬季新冠环境传播风险高, 如何应对? 专家支招

2022-01-18 15:17:40
浏览量: 115.4万
来源: 新华社

科技

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【原标题】科普: 冬季新冠病毒环境传播风险大 专家支招如何做好防护

新华社北京1月18日电 (记者彭茜) 由于冬季人们多在室内活动, 吸入病毒气溶胶和接触被污染的物体感染病毒的风险随之增加, 专家建议民众针对冬季新冠病毒环境传播注意增强防护。

北京大学环境科学与工程学院生物气溶胶实验室负责人、打开APP 告诉记者, 环境传播是指健康人与新冠感染者之间“时空”上没有直接交集, 而是通过吸入感染者排放

质量研究》杂志的研究分析了一起环境传播导致疫情暴发的实例。此前关于新冠病毒环境传播的研究大多仅限于流行病学调查, 要茂盛团队联合北京市朝阳区疾病预防控制中心、北京市疾病预防控制中心团队, 针对某酒店暴发疫情的原因进行多手段调查, 发现了环境传播新冠病毒的确凿依据。团队利用涵盖空气、地表、物体表面等的环境监测数据, 结合视频监控、流行病学调查和基因测序数据分析得出结论, 该酒店疫情暴发主要因环境传播造成。

要茂盛说, 该酒店的零号患者 (一名海外旅客) 与被感染的两名酒店隔壁的快餐店员工在时空上不存在交集, 没有直接的物理接触, 但经全基因组测序发现他们感染的新冠病毒高度同源。分析研究发现, 酒店保洁人员清扫酒店房, 将海外旅客携带的新冠病毒传送到其他地方, 快餐店员工在完全无交集、楼梯间等环境通过呼吸或物体

Other Selected Scientific Activities

1. Prof Gedi Mainelis from Rutgers University was invited to give a presentation entitled “Chasing after bioaerosol particles, including airborne SARS-CoV-2”.

The image is a seminar announcement. At the top, it says 'College of Environmental Sciences and Engineering Peking University'. Below that, it says '北京大学环境模拟与污染控制国家重点联合实验室学术报告会' (Seminar of State Key Joint Laboratory of Environmental Simulation and Pollution Control (Peking University)). The title of the seminar is 'Chasing after bioaerosol particles, including airborne SARS-CoV-2'. The reporter is 'Gediminas “Gedi” Mainelis' from Rutgers University. The time is '9:00-10:30AM, 1月28日' and the location is '网络Zoom'. The Zoom ID is 'ID 965 4266 0064 Pass 653611'. The host is '要茂盛 教授'. Below the text, there is a portrait of Prof. Gedi Mainelis. The text below the portrait says 'Dr. Gediminas “Gedi” Mainelis is a Professor in the Department of Environmental Sciences at Rutgers, the State University of New Jersey, USA. He obtained his Ph.D. in Environmental Health from the University of Cincinnati, Ohio, USA. His research focuses on various aspects of bioaerosol science, including sampling and analysis methods, exposure assessment, and airborne microbiome. Over the past years, his research expanded to investigate exposures to manufactured nanoparticles and explore indoor air issues. Several of his current projects focus on COVID-19 issues. His research efforts have resulted in more than one hundred and ten peer-reviewed publications, book chapters, and several patents. In addition, multiple papers from his group have been included in most downloaded article lists of various peer-reviewed journals. Dr. Mainelis has served as Chair of the Bioaerosols and Health-Related Aerosol working groups of the American Association for Aerosol Research (AAAR). He is currently an editor (associate) of the Aerosol and Air Quality Research journal. Prof. Mainelis is a recipient of the Research Excellence Award from Rutgers University and the Lyman A. Ripperton Environmental Educator Award presented by the A&WMA. Abstract: The Mainelis lab at Rutgers University has been developing and applying novel tools to investigate exposures to various health-relevant aerosols, including airborne particles of biological origin. This seminar will discuss some of these research efforts. Investigation of biological aerosols has been an active research area in the US. As part of our effort to better understand the spread of the SARS-CoV-2 virus and develop and/or confirm control measures, we performed a study in infected people's homes. The seminar will discuss the results of this study and whether the use of an air cleaner helped reduce the presence of SARS-CoV-2 RNA in the air of primary and secondary rooms. As part of other bioaerosol research efforts, the Mainelis lab has been developing tools and methods that effectively capture biological aerosols and allow their efficient preservation for later analysis. One of the developments includes Rutgers Electrostatic Passive Sampler (REPS), which utilizes unique properties of permanently polarized ferroelectric polymers and unique configuration to collect airborne microbial agents without the need for any external power sources and air movers. The seminar will discuss the device's principles and application to collect total and culturable bioaerosols in indoor and outdoor studies and its application to study microbial diversity in the air.'

2. The bioaerosol sampler developed by our laboratory was utilized by Beijing Olympic Winter Games for monitoring SARS-CoV-2 aerosol.

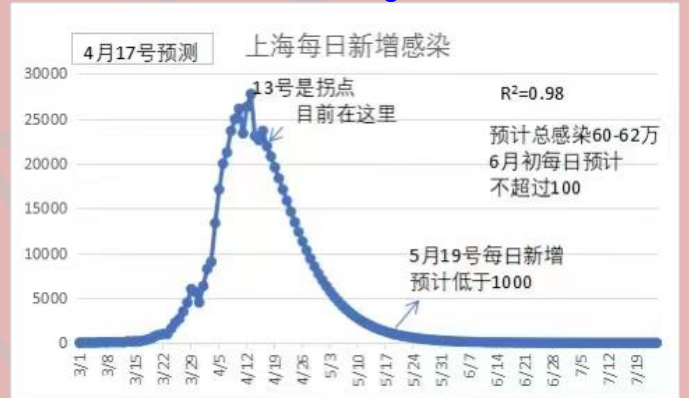


Global Times features the sampler.



Exhaled Breath COVID-19 Analyzer

4. Dr. Yao has predicted the COVID-19 outbreak trend in Shanghai.



It was featured by Global Times at <https://www.globaltimes.cn/page/202204/1259879.shtml>



The sampler was exhibited at Beijing Olympic Winter Games Scientific Technology Exhibition House.

3. The exhaled breath COVID-19 analyzer developed by our laboratory was tested with COVID-19 by Jiangsu Center for Disease Prevention & Control.

Our next issue is expected to be in August 2022 & we look forward to exciting news from our group. For other information, please visit our laboratory web site: www.yaopkulab.com. All contents contained in this document are copyrighted and explained by PKU Bioaerosol Laboratory.