



## Antimicrobial/Antibiofilm Surfaces

Guest Editor:

**Prof. Dr. Mariana Carmen  
Chifiriuc**

Faculty of Biology, Microbiology  
Department and the Research  
Institute of the University of  
Bucharest, ICUB, Bucharest,  
Romania

Deadline for manuscript  
submissions:

**closed (31 October 2021)**

### Message from the Guest Editor

Microorganisms are ubiquitous in nature, forming complex social communities called biofilms. Biofilms can coat any inert or cellular surface, with significant deleterious effects. Medical biofilms are protected from the action of antimicrobial agents by different mechanisms, often acting additively or even synergistically. In a biofilm state, the horizontal gene transfer (HGT) can easily occur, facilitating the resistance genes' spread. The presence of sub-inhibitory concentrations of antimicrobials could increase mutation, recombination, and HGT rates. In multispecies biofilms, the antibiotic-resistant commensal microorganisms could protect antibiotic-susceptible pathogens from eradication. Detachment of microorganisms from biofilms may lead to the dissemination of infection in the human host. Thus, once formed, microbial biofilms are difficult or even impossible to eradicate, justifying the efforts made to develop materials or coatings with bacterial adherence and surface colonization-repellent properties. This Special Issue is to address the current progress and challenges for developing reliable antimicrobial and antibiofilm coatings for different applications.





## Editors-in-Chief

### Prof. Dr. Wei Pan

State Key Laboratory of New  
Ceramics and Fine Processing,  
School of Materials Science &  
Engineering, Tsinghua University,  
Beijing 100084, China

### Dr. Emerson Coy

NanoBioMedical Centre, Adam  
Mickiewicz University in Poznań,  
ul. Wszechnicy Piastowskiej 3, 61-  
614 Poznań, Poland

## Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

Coatings is a well-established, peerreviewed, online journal dedicated to the vibrant field of surface science and engineering. Coatings publishes original research articles that report cutting-edge results and review papers that make the point on the hottest research topics.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q2 (*Physics, Applied*) / CiteScore - Q2 (*Surfaces, Coatings and Films*)

## Contact Us

---

Coatings Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/coatings  
coatings@mdpi.com  
X@Coatings\_MDPI