

## Special Issue

# Application of Layer-by-Layer Self-Assembled Nanocoating for Drug Delivery

### Message from the Guest Editors

This Special Issue will focus on the application of nanoshells based on layer-by-layer adsorption of oppositely charged macromolecules onto a substrate and their application in drug delivery and targeting. The basis of the method involves resaturation of polyanion adsorption, resulting in reversal of the terminal surface charge of the film after deposition of each layer. By manipulating both the ratio of wall to core and the wall composition, the shells can be precisely tuned. No covalent binding is involved in shell formation, which allows the drug or macromolecules to remain intact. Empty nanocapsules can also be prepared after thin-film coatings are formed on colloidal cores that can be dissolved. These empty capsules can be loaded with a drug via diffusion. Controlled release of the capsule interior may be achieved with pH or temperature change, or through external physical influences such as IR laser impulses or alternate magnetic fields. Different templates such as organic and inorganic colloid particles, protein aggregates, and drug nanocrystals, with sizes ranging from a few nanometers to tens of microns, can be coated with these nanoorganized multilayer films.

### Guest Editors

Prof. Dr. Melgardt de Villiers

School of Pharmacy, University of Wisconsin Madison, Madison, WI 53706, USA

Dr. Daniel P. Otto

Laboratory for Analytical Services, Research Focus Area for Chemical Resource Beneficiation, North-West University, Potchefstroom, South Africa

### Deadline for manuscript submissions

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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[pharmaceutics@mdpi.com](mailto:pharmaceutics@mdpi.com)

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Prof. Dr. Patrick J. Sinko  
Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, William Levine Hall, Room 225C, 160 Frelinghuysen Road, Piscataway, NJ 08854-8020, USA

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