Blood-biomaterial interactions are complex and remain poorly understood despite decades of research. All of the materials in current clinical use activate host defense responses, thrombotic events and inflammatory processes, without allowing for a physiological wound healing response. Questions surround the activation mechanisms as well as our ability to quantify the extent, to which these responses are activated.

Studies demonstrating the predictive value of in vitro hemocompatibility testing are also sorely needed, as are approaches aimed at understanding how intercellular communication is disrupted by the foreign materials. Therefore, we invite technical papers containing essentially new results pertaining to the various aspects of blood-biomaterial interactions, including —

- Studies focusing on the interaction of blood plasma proteins (e.g. adsorption, conformation) and cells with biomaterials (e.g. platelet-, leukocyte adhesion and activation, haemolysis, complement activation, etc.)
- Standardization and systematization in the in vitro studies of blood-biomaterial interactions.
- Comparison between in vitro and in vivo measurements (including aspects of inter-species differences).
- Clinical aspects of material performance.
- Design, characterization, and biological evaluation of new materials for blood-contacting applications/medical devices (e.g. in comparison to currently available and applied biomaterials).
- Basic surface analytical studies relevant to the field, especially focusing on new techniques (super-resolution microscopy, second harmonic generation spectroscopy, Raman, etc.), including surface analysis of explanted devices/implants.

Other relevant topics are welcome. Those interested in submitting relevant review articles should contact the editors with ideas.


Guest Editors:
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