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Biopharmaceutical Filtration and Separation:
As the population in the world get older, the demand for healthcare also increases dramatically. Biopharma includes products such as vaccines, blood components, proteins and gene therapy and that are very essential for meeting the health care challenges and needs. High quality filtration and separation is the heart of the biopharmaceutical process. For example, drugs and therapeutic proteins for cancer treatment, insulins etc. are made of recombinant protein secreted by mammalian cells, bacteria, yeast and insect cells. These materials are produced in bioreactors or fermenters and separation is critical to remove the biological cells from protein in the liquid secreted by the cells extracellularly. Protein can also be secreted by the cells intracellularly in which the cells have to be first lysed before separation. Often, centrifugation, microfiltration/depth filtration and ultrafiltration are involved to separate and purify therapeutic protein. This symposium addresses the challenges and opportunities in these separation and filtration processes that can improve production of drug substances and therapeutic proteins.

Biomedical Filtration and Separation:
Filtration and separation systems for biomedical equipment is key to maintaining quality, functionality and life of the devices for meeting growing healthcare needs. For liquid filtration, dialysis is critical for kidney functioning by removing waste and controlled amounts of ions and water from the blood while retaining proteins, nutrients, water, and some ions in the returned blood. Blood filtration and air filtration devices are key to meet the demands of population with circulatory and respiratory issues. Techniques such as sterilization and sanitization are important to prevent infections. This symposium highlights the next generation filtration and separation technologies that enable biomedical devices to function effectively and to their maximum potential.

Manuscript Information
Authors, who have submitted abstracts for presentation to WFC13, are given the privilege to submit a full, unpublished manuscript to the Special Edition, “WFC13”, in Separation and Purification Technology Journal (SPTJ), https://www.journals.elsevier.com/separation-and-purification-technology (ISSN: 1383-5866), Impact factor: 5.107, 5-year impact factor: 4.551. All submitted manuscripts to the Special Edition: WFC13, will be reviewed by peer reviewers and experts in the field as with the regular SPTJ. The submission period to SPTJ Special Edition, WFC13, is between June 30, 2019 and Dec. 31, 2019. The Guest Editors for the Special Edition WFC13 are Prof. Bandaru Ramarao and Prof. Wallace Leung. Upon acceptance, the manuscript will be published immediately in the SPTJ without further delay. Subsequently, all papers submitted and accepted for publication can be accessed electronically in the Special Edition WFC13 of SPTJ.