Contribution ID : **258** Type : **Invited Oral**

Anti-fouling and Slippery Properties of Lubricant-Infused Surfaces

Tuesday, 14 August 2018 14:30 (45)

My group's research focuses on controlling the nano- and micro-scale structure and chemistry of surfaces to produce advanced functional behaviour. In this talk I will describe a family of bio-inspired surfaces - slippery lubricant-infused porous surfaces - that have the potential to decrease our energy needs by contributing drag-reducing,1 self-cleaning,2 and anti-fouling properties.3 In all cases, our aim is to achieve functional coatings using approaches that are simple to realise and potentially scalable.

References:
1. Lee, T.; Charrault, E.; Neto, C., Adv. Colloid Interface Sci. 2014, 210, 21-38.
2. Scarratt, L. R. J.; Hoatson, B. S.; Wood, E. S.; Hawkett, B. S.; Neto, C., ACS Appl. Mater. Interfaces 2016, 8, (10), 6743-6750.
3. Ware, C. S.; Smith-Palmer, T.; Peppou-Chapman, S.; Scarratt, L. R. J.; Humphries, E. M.; Balzer, D.; Neto, C., ACS Appl. Mater. Interfaces 2018, DOI: 10.1021/acsami.7b14736.

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Session Classification : Speaker Sessions and Seminars

Track Classification : Surface Engineering