EHzürich

ETH CHEMICAL ENGINEERING MEDAL Tuesday, 8 October 2019, 5 pm, HCI G 3 award ceremony and talk

In recognition of her outstanding achievements in chemical and biomedical engineering

Prof. Dr. Paula T. Hammond

Koch Professor of Engineering, Department Head of Chemical Engineering, Koch Institute of Integrative Cancer Research Massachusetts Institute of Technology

will be awarded the 2019 ETH Zurich Chemical Engineering Medal by the rector of ETH Zurich, Prof. Dr. Sarah Springman

After the ceremony, the awardee will give a talk on



ASSEMBLING MATERIALS CHARGE-BY-CHARGE FOR TARGETED TISSUE DELIVERY

Electrostatics can be used to drive the assembly of thin films and nanomaterials with structure that allows the design of delivery systems that enable not only control of release, but sequence of release of therapeutics to achieve delivery from surfaces. We have adapted this approach to engineer a range of nanomaterials systems in which the net charge is balanced with steric repulsion and more specific binding interactions at the nanoparticle interface to enable targeting of specific cell types. We have adapted these systems to enable targeting of specific tumor types, from ovarian cancer to glioblastoma, and used assembly methods as a means of creating synergistic combinations that can be highly effective in such treatments.



Professor Paula T. Hammond is a member of MIT's Koch Institute for Integrative Cancer Research, the MIT Energy Initiative, and a founding member of the MIT Institute for Soldier Nanotechnology. Her research in nanomedicine encompasses the development of new biomaterials to enable drug delivery from surfaces with spatio-temporal control. She also investigates novel responsive polymer architectures for targeted nanoparticle drug and gene delivery, and has developed self-assembled materials systems for electrochemical energy devices. Professor Paula Hammond was elected into the National Academy of Engineering, the National Academy of Medicine, and into the 2013 Class of the American Academy of Arts and Sciences. Professor Hammond won numerous awards and has published over 320 papers, and over 20 patent

applications. She is the co-founder and member of the Scientific Advisory Board of LayerBio, Inc. and a member of the Scientific Advisory Board of Moderna Therapeutics.



nstitute for Chemica Ind Bioengineering DCHAB Department of Chemistry and Applied Biosciences