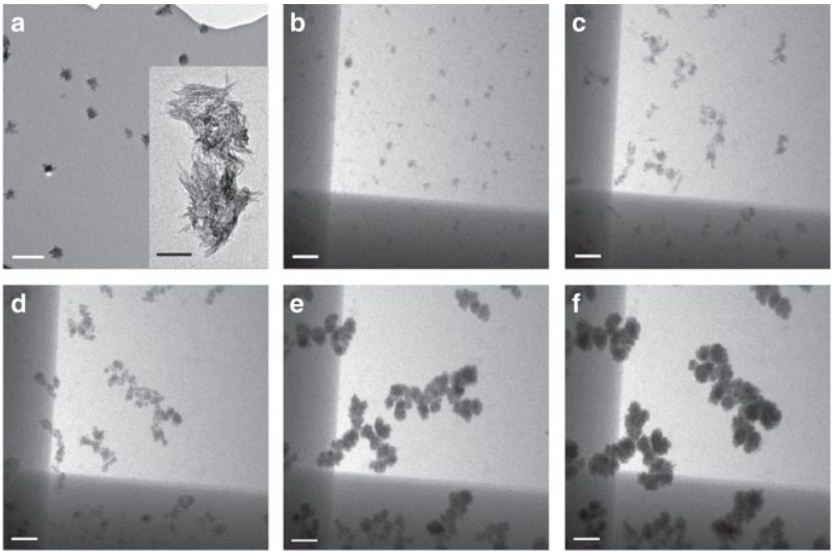
Welcome to the next seminar within our seminar series on *Biomaterials and Regenerative Medicine* at the *Department of Biomaterials, Sahlgrenska Academy at University of Gothenburg*.

Biomineralization of calcium phosphate revealed by in situ liquid-phase electron microscopy (From: Wang X et al., *Commun Chem*. 2018)



"**Correlative Electron and Ion Microscopy to Probe Osseointegration and Biomineralization**"

Prof. Kathryn Grandfield
Department of Materials Science and Engineering,
School of Biomedical Engineering, McMaster University, Hamilton, ON, Canada

Wednesday, 17 March 2021 (15:00–16:00 CET)

Join via Zoom:https://gu-se.zoom.us/j/63410280562

Summary: Uncovering the mechanisms of biomaterial-tissue interactions is complicated by the complex and 3D hierarchical structure of bone. Our work explores the structure, formation, and attachment of bone to biomaterials with advanced microscopy approaches. This talk will introduce a range of correlative, 3D, and real-time high-resolution approaches to probe both biomineralization and osseointegration by electron tomography, focused ion beam microscopy, *in situ* liquid TEM, or atom probe tomography. These correlative microscopies provide a foundation for understanding the structure and chemical nature of inorganic and organic hierarchical materials, including shedding light on the titanium-bone interface, collagen-mineral arrangement, and new approaches for visualizing osteocyte networks in bone.

About the speaker: Dr. Kathryn Grandfield is an Associate Professor in the Department of Materials Science & Engineering and School of Biomedical Engineering at McMaster University and a Canada Research Chair in Microscopy of Biomaterials and Biointerfaces. Her research interests include development of

biomaterials and correlative multi-scale microscopies for biointerfaces and mineralized tissues. Before joining McMaster in 2013, she completed a postdoctoral fellowship in the Department of Preventative and Restorative Dental Sciences at the University of California, San Francisco. She received her PhD in Engineering Sciences from Uppsala University, Sweden, and Bachelors of Engineering and Masters of Applied Science from McMaster University. She is the recipient of the 2017 Petro Canada Young Innovator Award, a 2018 Early Researcher Award from the Ontario Research Fund, and the 2019 McMaster Faculty of Engineering Teaching Excellence Award. She has served on the board of the Canadian Biomaterials Society and as inaugural Director of User Operations for the Canadian Centre for Electron Microscopy. She is currently Vice-President of the Microscopical Society of Canada.

For further information regarding the event, please contact:

Furqan A. Shah (furqan.ali.shah@biomaterials.gu.se)
Postdoctoral researcher
Department of Biomaterials, Sahlgrenska Academy at University of Gothenburg
Box 412, SE-405 30, Göteborg, Sweden
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