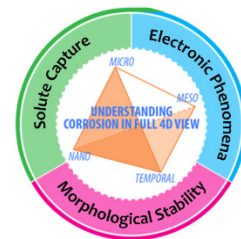# *Corrosion in 4D: The Future*

The Hive (Room 2350), Ford Motor Company Engineering Design Center
(2133 Sheridan Rd).

Thursday 17th March

9:30-10:30   Registration and Breakfast

10:30-11:00   L. D. Marks *Corrosion in 4D: The Future*

11:00-11:40   J. Scully *Formation and Long-Time Exposure Aging of Oxides on Ni-Cr and Ni-Cr-X (Mo, W) Alloys in Acidic Chloride Solutions and Ramifications Towards Local Corrosion Resistance*

11:40-12:20   P. Voorhees *Solute and Vacancy Capture During Oxidation: Theory and Experiment*

12:20-1:30   Lunch: Cohen Commons (Room L482), the Technological Institute (2145 Sheridan Road)

1:30-2:10   K. Wahl *Tribocorrosion processes in sliding contacts to stainless steel*

2:10-2:50   P. Reinke *Initial Steps in Alloy Oxidation for Ni-Cr, Ni-Cr-Mo, and Ni-Cr-W alloys*

2:50-3:30   A. Samin *An analysis on the bulk and surface oxidation of refractory alloys using Density Functional Theory and Monte Carlo calculations*

3:30-5:00   Coffee & Posters

6:30   Conference Dinner at Farmhouse Evanston (703 Church St.)

Friday 18th March

8:00-9:00   Registration and Breakfast

9:00-9:40   P. Marcus *Passive Films on NiCr and NiCrMo Alloys: Thickness, Composition, Stratification, Ion Transport*

9:40-10:20   J. Perepezko *Initial Oxidation in Ni-Cr Alloys and Enhanced Oxidation Resistance in Mo-Si-B Alloys*

10:20-11:00   Coffee

11:00-11:40   C. Wren *Nonlinear Dynamics of Corrosion: Why Butler-Volmer Kinetics and Equivalent Electric Circuit Analysis Fail*

11:40-12:20   B-C Zhou *Modeling preferential dissolution in corrosion of multi-principal element alloys using non-equilibrium thermodynamics*

12:20-1:30   Lunch: Cohen Commons (Room L482), the Technological Institute (2145 Sheridan Road)

1:30-1:50   J. Zhang *Morphological stability of electrostrictive thin films*

1:50-2:10   E. Romanovskaia *Exposure Aging of Oxides on Multi-Principal Element Alloys and Ramifications Towards Local Corrosion Resistance*

2:10-2:30   J. Cavin *Flexoelectricity and Morphological Stability in Nickel-based Alloys*

2:30-2:45   L. D. Marks *Concluding Remarks*

2:45-3:00   D. Shifler *Concluding Remarks*