

**Title**      **Modeling of Wetting Phenomena**

**Speaker**    **Dr. Chuck Extrand**  
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USA



**Date & Time**    **Monday, November 14, 2016    4:00 p.m.**  
**Place**            **I<sup>2</sup>CNER Hall, Ito campus, Kyushu University**

### Abstract

Explorations into the origins of wetting can be traced back hundreds of years. Much of the analysis done in the last 100 years assumes that wetting phenomena are determined by molecular interactions within the interfacial area between the liquid and solid. However, there is now ample evidence that wetting is controlled by interactions in the vicinity of the contact line where the liquid and solid meet. In this talk, capillary rise experiments that demonstrate the origins of wetting are briefly discussed, then two examples are given showing how wetting phenomena can be modeled: capillary rise in heterogeneous tubes and wetting of super hydrophobic surfaces.

### About the Speaker

Dr. Chuck “C.W.” Extrand is Director of Technology Development at Colder Products Company (CPC) in St. Paul, Minnesota. Over his 20+ year industrial career, he has developed a broad range of materials-based technologies for markets such as semiconductor and life sciences. He holds fourteen U.S. patents and has published more than 100 papers in technical journals, books and conference proceedings on topics that include wetting, adhesion, contamination, fracture, friction, permeation, polymer processing and spin coating. Prior to starting his industrial career, Chuck worked in Japan at the National Institute for Materials and Chemical Research and in Paris at the Collège de France and the Ecole Normale Supérieure. He received a PhD in polymer engineering from The University of Akron and a BS in chemical engineering from the University of Minnesota.

**Host: Professor Atsushi Takahara**

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