



Program of the NC-AFM 2009 Satellite Workshop on
Casimir Forces and Their Measurement

Monday, August 10, 2009

8:50-9:00

Opening Remarks

Introduction

9:00-9:30 (*invited*)

Rudi Podgornik (University of Ljubljana, Slovenia)

Non-retarded and retarded interactions between dielectric cylinders

9:30-9:55

Noah Graham (Middlebury College, USA)

Casimir Forces from Scattering Theory

9:55-10:20

Kimball Milton (University of Oklahoma, USA)

Multiple Scattering Casimir Force Calculations between Layered and Corrugated Materials

Coffee break

10:50-11:15

Raul Esquivel-Sirvent (Universidad Nacional Autónoma, Mexico)

Drude corrections to Casimir force calculations in liquids

11:15-11:40

Diego Dalvit (Los Alamos National Laboratory, USA)

Dispersive Casimir interactions between atoms and surfaces

11:40-12:05

Rick Rajter (MIT, USA)

Van der Waals with a twist: how nanotube chirality impacts interaction strength

12:05-12:30

Maarten de Boer (Sandia National Laboratories, USA)

Using Casimir and capillary forces to model adhesion of MEMS cantilevers



Lunch break

14:30-14:55

Hong Tang (Yale University, USA)

Measuring "Virtual Photon" Forces with "Real Photon" Forces

14:55-15:20

Alessandro Siria (CNRS and University of Joseph Fourier, France)

Near-field radiative heat transfer

15:20-15:45

Arvind Narayanaswamy (Columbia University)

Near-field radiative transfer measurements and implications for Casimir force measurements

Coffee break

16:15-16:40

Sven de Man (VU University Amsterdam, Netherlands)

Tricks and facts in a high precision measurement of the Casimir force with transparent conductors

16:40-17:05

Gauthier Torricelli (University of Leicester, UK)

Measurements of the Casimir force gradient by AFM for Different Materials

17:05-17:30

Ho Bun Chan (University of Florida, USA)

Measuring the topological dependence of the Casimir force on nanostructured silicon surfaces

17:30-17:55

Peter van Zwol (University of Groningen, Netherlands)

Short range Casimir force measurements under ambient conditions and liquid environments

17:55-18:20

Woo-Joong Kim (Yale University, USA)

Contact potential difference in a Casimir force measurement: How do we deal with it?

Welcome Reception with Dinner (18:30-20:30)



Tuesday, August 10, 2009

(Joint Sessions with NC-AFM 2009 Conference)

9:00-9:20

Opening Remarks

Introduction

9:20-9:40

Takeshi Fukuma (Kanazawa University, Japan)

3D Scanning Force Microscopy at Solid/Liquid Interface

9:40-10:00

Hitoshi Asakawa (Kanazawa University, Japan)

Anisotropic Hydration of Biological Molecules Visualized by Three-Dimensional Scanning Force Microscopy

10:00-10:20

Noriaki Oyabu (Kyoto University, Japan)

Experimental and Theoretical Studies on 3D Hydration Structures on Muscovite Mica Surfaces in Aqueous Solution

10:20-10:40

Masaru Tsukada (Tohoku University, Japan)

Theory of Tip-Sample Interaction Force Mediated by Water

Coffee break

11:20-11:40

Daniel Ebeling (University of Münster, Germany)

Dynamic Force Spectroscopy of Single Chain-like Molecules

11:40-12:00

Andre Schirmeisen (University of Münster, Germany)

Spatial force fields above a single atom defect

12:00-12:20

Yoshiaki Sugimoto (Osaka University, Japan)

Simultaneous measurement of force and tunneling current

12:20-12:40

Yasuhiro Sugawara (Osaka University, Japan)

Atom Manipulation on Cu(110)-O Surface with LT-AFM



Lunch break

14:30-15:10 (*invited*)

Adrian Parsegian (NIH, USA)

Water, Ions, Membranes, Real Metals, Finite Temperature: Is there ever a pure Casimir force?

15:10-15:30

Hendrik Hölscher (Karlsruhe Research Center, Germany)

The Effective Quality Factor in Dynamic Force Microscopes with Fabry-Perot Interferometer Detection

15:30-15:50

Thilo Glatzel (University of Basel, Switzerland)

Short and medium range electrostatic forces analyzed by Kelvin probe force microscopy

Poster Session (15:50-18:00)