A Workshop on Friction:
A Grand Challenge at the Interface of Solid and Fluid Mechanics
Hotel Suisse & Majestic, Montreux, Switzerland

Agenda and Schedule

Day 1 (3/13/2008)
From 3:00pm  Check-in -----------------------------------------------

6:00pm – 7:00pm  Welcome (Hotel Bar)
7:00pm – 8:30pm  Dinner (Hotel Suisse & Majestic, main dining room) ---------------

Day 2 (3/14/2008)
From 7:00am  Continental Breakfast (Hotel restaurant) -------------------------------

8:30am – 10:30am  Session I (Meeting room: Salon or)
Chairs/Scribes: Katepalli Sreenivasan, Jerzy Blawdziewicz

8:30am – 8:50am  Beverley McKeon, Adnan Akay, William Schultz
Welcome, Introduction, Charge to the Workshop

8:50am – 9:00am  John McCoy (Catholic University of America)
Introduction to the Hypothesis

9:00am – 9:15am  Group Introductions and Backgrounds

9:15am – 9:40am  Alexander Smits (Princeton University)
Scaling for flow over smooth and rough surfaces

9:40am – 10:05am  George Adams (Northeastern University)
Self-excited instabilities in the sliding of two elastic bodies with a constant friction coefficient

10:05am – 10:30am  Roger Simpson (Virginia Tech)
Some thoughts and experience on friction at a solid/fluid interface

10:30am – 10:50am  Break -----------------------------------------------
10:50am – 12:30pm  Session II  
Chairs/Scribes: Katepalli Sreenivasan, Jerzy Blawdziewicz

10:50am – 11:15am  Laurent Baillet (LGIT - UJF University of Grenoble)  
*Dynamic rupture and instabilities in a frictional interface*

11:15am – 11:25am  Beverley McKeon (California Institute of Technology)  
*Charge to break-out groups in fluid mechanics and solid mechanics*

11:25pm – 12:30pm  *Discussion in break-out groups: What is the state-of-the-art in friction?*

12:30pm – 2:00pm  Lunch

2:00pm – 3:30pm  Session III  
Chairs/Scribes: George Mavroeidis, Roger Simpson

2:00pm – 2:20pm  *Summaries of break-out discussion*

2:20pm – 2:40pm  Adnan Akay (National Science Foundation)  
*Discussion: Summary of commonality*

2:40pm – 3:05pm  Ivan Marusic (University of Melbourne)  
*Fluid response to skin friction in turbulent boundary layers*

3:05pm – 3:30pm  Antonio Carcaterra (University of Rome “La Sapienza”)  
*Some thoughts on an interpretative model of friction based on energy removal from interface regions*

3:30pm – 3:45pm  Break

3:45pm – 5:30pm  Session IV  
Chairs/Scribes: William Schultz, Antonio Carcaterra

3:45pm – 4:25pm  *Conference call with Dan Joseph (University of Minnesota)*

4:25pm – 5:30pm  Katepalli Sreenivasan (The Abdus Salam International Centre for Theoretical Physics)  
*Discussion: Is there sufficient commonality to advance the hypothesis?*

5:30pm – 6:30pm  Conclusion; Break

6:30pm – 8:00pm  Dinner (*Assemble in Hotel lobby for departure*)
**Day 3 (3/15/2008)**

From 7:00am  Continental Breakfast (*Hotel restaurant*)  -----------------------------

**9:00am – 10:30am  Session V (Meeting room: Salon or)**
Chairs/Scribes: Laurent Baillet, Javier Jimenez

9:00am – 9:05am  *Administrative*
9:05am – 9:15am  John McCoy (The Catholic University of America)*
*Summary of discussions and charge for the day*
9:15am – 9:40am  *Discussion: Refinement of hypothesis*
9:40am – 10:05am  Javier Jimenez (School of Aeronautics)*
*Computational evidence for the stress-carrying structures in the logarithmic layer*
10:05am – 10:30am  Jerzy Blawzdziejewicz (Yale University)*
*Friction in Microchannel Flows*

10:30am – 10:50am  Break  -----------------------------------------------

**10:50am – 12:30pm  Session VI**
Chairs/Scribes: George Adams, Lex Smits

10:50am – 11:15am  Karen Flack (United States Naval Academy)*
*The development of roughness scaling parameters*
11:15am – 11:40am  George Mavroeidis (Catholic University of America)*
*Friction Problems in Earthquake Source*
11:40am – 11:50am  Charge to small break-out groups: find common ground and ideas for collaborative work
11:50am – 12:30pm  Discussion in break-out groups: Exchange of ideas, preparation of discussion pts

12:30pm – 2:00pm  Lunch  -----------------------------------------------

**2:00pm – 3:45pm  Session VII**
Chairs/Scribes: Adnan Akay, Ivan Marusic

2:00pm – 2:30pm  Reconvene: Discussion in break-out groups, cont.
2:30pm – 3:00pm  Summary of break-out discussions
3:00pm – 3:45pm  Discussion: Summary of commonality of the problem of friction, cont.

3:45pm – 4:00pm  Break  -----------------------------------------------
4:00pm – 5:30pm  **Session VIII**  
Chairs/Scribes: John McCoy, Karen Flack

4:00pm – 4:45pm  William Schultz (National Science Foundation)  
*Discussion: Redefinition of working hypothesis into the “result” of the workshop, cont.*

4:45pm – 5:30pm  *Discussion: What is the way forward, including possible funding avenues?*

5:30pm – 6:30pm  Conclusion; Break .........................................................

6:30pm – 8:30pm  Dinner (*Assemble in Hotel lobby for departure*) ...........................

---

**Day 4 (3/16/2008)**

From 7:00am  Continental Breakfast ..........................................................

12:00pm  **Depart** (Check-out deadline)