**BEYOND CENTER ‘CANCER FORUM’ WORKSHOP**

***Electromagnetic properties of cells as a window into cancer***

**Arizona State University**

**March 19 - 21, 2012**

**Agenda**

**Sunday March 18**

6:00 – 8:00 pm Informal welcome reception, Tempe Mission Palms patio

**Monday March 19**

**Session 1: The electric life of cells: microtubules, membranes, nerves and nanotubes**

**Location: Tempe Mission Palms Hotel**

9:00 – 9:15 am Paul Davies

 Brief welcome address, outline of the subject and aims of the meeting

9:15 – 9:45 Robert Gatenby

“Electric fields and the internal organization of cells.”

9:45 – 10:30 John Gagliardi

 “Electrostatic forces and mitosis”

10:30 – 11:00 *Tea/coffee break*

11:00 – 11:45 Horacio Cantiello

 “Cytoskeletal polymers as electrodynamic devices”

11:45 – 12:30 General discussion

12:30 – 2:00 pm *Lunch*

2:00 – 2:45 Jack Tuszynski

“Tubulin electrostatics”

2:45 – 3:15 Discussion

3:15 – 4:00 Richard Rabbit

 “Some Cells Like it Hot, Briefly”

4:00 – 4:30 *Tea/coffee break*

4:30 – 5:15 Joel Kralj

“Electromagnetic information processing in neural systems”

5:15 – 6:00 General discussion

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*7:30 pm Conference dinner at House of Tricks Restaurant*

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**Tuesday March 20**

**Session 2: Controlling cells electromagnetically: a therapeutic opportunity?**

**Location: Tempe Mission Palms**

9:00 – 9:45 am Colin McCaig

“Electrically-directed cell behavior”

9:45 – 10:30 Michael Levin

 “Transmembrane voltage gradients as regulators of developmental pattern formation”

10:30 – 11:00 *Tea/coffee break*

11:00 – 11:45 Min Zhao

 “Wound healing and cell migration”

11:45 – 12:30 pm Discussion

12:30 – 2:00 *Lunch*

2:00 – 2:45 Raoul Kopelman

 “Nanophotonic Voltmeter Measures Cytosolic Electric Fields”

2:45 – 3:30 Roy Frieden

 “Information pathways in cell development”

3:30 – 4:00 Discussion

4:00 – 4:30 *Tea/coffee break*

4:30 – 5:15 John Marko

 “Electrostatic effects in biomolecules”

5:15 – 6:00 General discussion

6:00 pm *Formal meeting ends*

**Wednesday March 21: Informal overlap day**

9:00 – 10:30 am General discussion

10:30 – 11:00 *Tea/coffee break*

11:00 – 12:30 Tour of Biodesign Institute

12:30 – 2:00 pm *Lunch*

2:00 – 4:00 General discussion

6:00 – 7:30 Informal reception with “Mitochondria and Cancer” workshop participants, Tempe Mission Palms patio