



# International Symposium on Hydration and ATP Energy

Hotel Iwanumaya, Akiu, Sendai, Japan

[http://www.iwanumaya.co.jp/e\\_web/](http://www.iwanumaya.co.jp/e_web/)

March 8 (Mon) – 10 (Wen), 2010

Grant-in-Aid for Scientific Research on Innovative Areas

The Ministry of Education, Culture, Sports, Science and Technology (MEXT)

<http://www.material.tohoku.ac.jp/atpwater/index.htm>

Organizing and Program Committee

Makoto Suzuki (Project Leader, Tohoku University) : Chair

Masahiro Kinoshita (Kyoto University)

Nobuyuki Matubayasi (Kyoto University)

Minoru Sakurai (Tokyo Institute of Technology)

Eiro Muneyuki (Chuo University)

Ryo Akiyama (Kyushu University)

Yoshihiro Sambongi (Hiroshima University)

Takuya Takahashi (Ritsumeikan University)

Mitsuhiro Iwaki (Osaka University)

Nobuo Niimura (Ibaraki University)

## March 8

Chairperson Masahiro Kinoshita (Kyoto University)

14:30-15:00 Makoto Suzuki (Tohoku University)

Opening Address and Outline of the Project,

15:00-15:30 Minoru Sakurai (Tokyo Institute of Technology)

Brief review and the present understanding of ATP hydrolysis energy

Break

Chairperson Makoto Suzuki (Tohoku University)

15:50-16:40 Shun-ichi Kidokoro (Nagaoka University of Technology)

Calorimetric evaluation of ATP hydrolysis and protein-nucleotide interaction



16:40-17:30 Randy Stockbridge (University of North Carolina)

Catalysis of phosphoryl group transfer: insights from ATP kinases and phosphate monoester hydrolysis

<<Information for the poster presentation & Poster placement >>

19:00-21:00 Scientific Information Exchange with Dinner

### **March 9**

Chairperson Nobuyuki Matubayasi (Kyoto University)

9:00-9:50 Maxim Fedorov (Max Planck Institute)

Specific Ion Interactions with Biomacromolecules in Water

9:50-10:40 Hideaki Takahasi (Osaka University)

Free energy calculations for chemical reactions in biological systems by a quantum chemical method combined with a theory of solutions

Break

Chairperson Nobuo Niimura (Ibaraki University)

11:00-11:50 Giuseppe Zaccai (Inst. Laue Langevin)

Experimental studies of the hydration dependence of protein dynamics with relation to biological function and activity

Lunch

Chairperson Eiro Muneyuki (Chuo University)

13:00-13:50 Mitsunori Ikeguchi

Theoretical study on rotation mechanism of molecular motor F1-ATPase

13:50-14:40 Masahiro Kinoshita (Kyoto University)

Crucial importance of translational entropy of water in biological systems

14:40- 16:00 Poster Session I

Chairperson Makoto Suzuki (Tohoku University)

16:10-16:40 Masahiro Sokabe (Nagoya University)

