

Hiroyuki Noji, The University of Tokyo



I. Short Biography

Professor Hiroyuki Noji, a Professor at the Department of Applied Chemistry, The University of Tokyo, is a Single-Molecule Biophysicist. He has been studying the chemomechanical coupling mechanism of F_0F_1 ATP synthase by the use of single-molecule techniques. He is also known as an inventor of the femtoliter chamber array system for Single-Molecule Enzymatic assays that is currently applied in single-molecule digital ELISA. Professor Noji was trained under the supervision of Prof. Masasuke Yoshida and received his Ph.D from Tokyo Institute of Technology in 1997. After a postdoctoral Fellowship in the laboratory of Prof. Kazuhiko Kinoshita, Jr., he was appointed as an Associate Professor at the Institute of Industrial Science, The University of Tokyo in 2001. In 2005, he moved to the Institute of Scientific and Industrial Research, Osaka University as a full professor. Since 2010, he is a Professor of Department of Applied Chemistry, The University of Tokyo.

II. Curriculum Vitae

1. Name Hiroyuki Noji (Born in 1969)
2. University Education
PhD, the Department of Electronic Chemistry, Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology, December 1997
3. Scientific Positions
 - Post doctoral researcher, CREST team 13, JST (1998-2000)
 - Researcher, PRESTO, JST (2000-2001)
 - Associate Professor, Institute of Industrial Science, The University of Tokyo (2001-2005)
 - Professor, Institute of Scientific and Industrial Research, Osaka University (2005-2010)
 - Professor, Department of Applied Chemistry, the University of Tokyo (2010-present)

4. Scientific contributions (Original Papers; 110, Citation; 6918, H-index; 38 @23th June, 2015)

- Single-molecule analysis of artificial molecular machine (*AngewChem* 2014)
- Arrayed Lipid Bilayer Chamber (*Nature Communication* 2014)
- High-speed AFM imaging of torque-generating unit of F₁-ATPase (*Science* 2011)
- Elucidation of reaction scheme of F₁-ATPase (*Cell* 2007, *Nature Chemical Biology* 2010 & 2012)
- Development of femtoliter reaction chamber array for single molecule analysis (*Nature Biotechnology* 2005, *Lab on a chip* 2010, 2011a, 2011b)
- Demonstration of high ATP synthesis efficiency of F₁-ATPase (*Nature* 2004, *Nature* 2005)
- Analysis of Step and Substep rotation of F₁-ATPase (*Cell* 1998, *Nature* 2001)
- Demonstration of rotation of F₁-ATPase (*Nature* 1997)

5. Awards (Grant awards are not included)

- **Yomiuri Gold Medal Prize**, Yomiuri foundation 2015
- **Nakatani Incentive Prize**, Nakatani foundation 2015
- **Inoue Science Research Award**, Inoue Foundation for Science 2013
- **Yamazaki Teiichi Prize**, Foundation for Promotion of Material Science and Technology 2013
- **JSPS Prize**, Japan Society for the Promotion of Science 2006
- **Tejima Prize for Doctoral Dissertation Award**, Tejima Seiichi Commemorative Foundation 1999
- **Grand Prize**, Amersham Pharmacia Biotech & Science Prize for Young Scientists 1998

6. International Symposium Organization (chair of organizing committee)

- Tokyo ATPase Workshop, Tokyo (Japan), 2-3 June 2014
- International Symposium “Innovative Nanoscience of Supermolecular Motor Proteins working in Biomembranes”, Kyoto (Japan), 7-9 Sept. 2009
- International Symposium of Post-Silicon Materials and Devices Research Alliance Project, Osaka (Japan), 5-6 Spet. 2009
- The 17th CDB Symposium “Towards Synthesis of Cell”, Kobe (Japan) 14-15 Oct. 2008
- 10th Sanken International Symposium on Nanoscience and Nanotechnology 2006, Osaka (Japan), 19-20 Sept. 2006

7. Other Contributions

- Journal Editorial Board
 - ◇ Editorial Board of Journal ‘Biophysical Reviews’, International Union of Pure and

- Applied Biophysics (IUPAB) (2015-present)
- ◇ Editorial Advisory Board of Journal ‘Protein Science’, the Protein Society (USA), 2009-present (2009-present)
 - ◇ Editorial Board of Journal ‘Biophysical Society’, the Biophysical Society (USA), 2013-present (2013-present)
 - ◇ Editorial Board of Journal ‘Biophysics’, the Biophysical Society of Japan (Japan), 2013-present (2013-present)
- Council Member
- ◇ Council member, International Union of Pure and Applied Biophysics (IUPAB) (2014-present)
 - ◇ Council member, Asian Biophysics Association (ABA) (2013-present)
 - ◇ Council member, Biophysical Society of Japan, 2006-2007, 2010-2013, 2015-present
 - ◇ Council member, Protein Society (US), 2015-present
 - ◇ Council member, Protein Society of Japan, 2006-2007, 2014-present
 - ◇ Committee member, Nanobio task force, nanotechnology·material science project, Council for Science and Technology, Cabinet office, Government of Japan, 2008-2009
- Project leader
- ◇ Project leader, “Digital counting of biomolecules”, CREST JST, 2010-2015
 - ◇ Project leader, “Nanobiotechnology for membrane proteins”, Bio-oriented Technology Research Advancement Institute (BRAIN), 2002-2007
 - ◇ Project leader, “Innovative nanobioscience”, Grant-in-Aid for Scientific Research on Priority Areas, The Ministry of Education, Culture, Sports, Science and Technology (MEXT), 2007-2011