

Press Release

Source: International Public Relations, University of Electro-Communications, Tokyo.

For immediate release: 28 September 2016

Subject: *University of Electro-Communications* research: **Medical deep tissue infrared optical imaging**

(Tokyo, 28 September 2016) *University of Electro-Communications, Tokyo* publishes the September 2016 issue of the *UEC e-Bulletin* that includes a feature article on research by Shojiro Maki on innovative near infrared bioluminescent probes for deep tissue medical imaging.

<http://www.ru.uec.ac.jp/>

The September 2016 issue of the *UEC e-Bulletin* includes **research highlights** from high impact publications on 'Quantum computing and trapping single atoms in a uniform fashion', Ken'ichi Nakagawa; 'Physiology and cell pH regulation revealed', Yutaka Kano; 'Neurology with a closer look at walking control,' Tetsuro Funato; and 'Space physics confirming the structure and shape of polar cap patches', Keisuke Hosokawa.

**News and Events** updates are 'Oscar H. Ibarra, an eminent academic from UC Santa Barbara, visits UEC', and a 'seminar by Dorota Gryko from the Institute of Organic Chemistry Polish Academy of Sciences at UEC'.

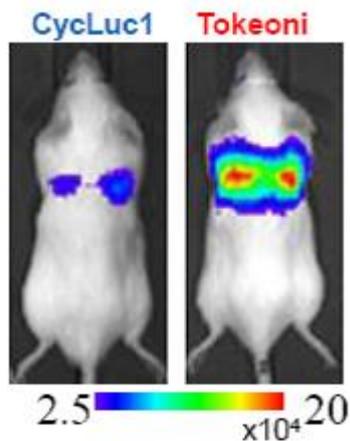
Finally, this issue's '**Letter from Alumni**' is from Ihsen Aziz Ouedraogo, Social ICT Business Division, ICT Policy and Strategy Research Group, Mitsubishi Research Institute, Inc.

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**Feature**

Medical optical imaging: Innovative near infrared bioluminescent probes for deep tissue imaging

<http://www.ru.uec.ac.jp/e-bulletin/feature/2016/medical-optical-imaging.html>



Advances in medical research have changed society through the ages. For example, the discovery and mass production of antibiotics revolutionized the treatment of tuberculosis and other diseases so-called incurable diseases. But what does the future hold in medical research and technology? Scientific reports indicate that advances in iPS research and related regenerative medicine will change our approach to treatment of intractable diseases such as ALS, and other global challenges including cancer, Ebola, SARS, and infectious diseases such as avian influenza.

### Research Highlights

Quantum computing: Trapping single atoms in a uniform fashion

<http://www.ru.uec.ac.jp/e-bulletin/research-highlights/2016/quantum-computing.html>

Physiology: Cell pH regulation revealed

<http://www.ru.uec.ac.jp/e-bulletin/research-highlights/2016/physiology.html>

Neurology: A closer look at walking control

<http://www.ru.uec.ac.jp/e-bulletin/research-highlights/2016/neurology.html>

Space physics: Confirming the structure and shape of polar cap patches

<http://www.ru.uec.ac.jp/e-bulletin/research-highlights/2016/space-physics.html>

### Topics

Designing high performance network communications

<http://www.ru.uec.ac.jp/e-bulletin/topics/2016/designing-high-performance-network-communications.html>

Design and analysis of information and stochastic systems

<http://www.ru.uec.ac.jp/e-bulletin/topics/2016/design-and-analysis-of-information-and-stochastic-systems.html>

### **Letter from Alumni**

<http://www.ru.uec.ac.jp/e-bulletin/topics/2016/letter-from-alumni-11.html>

Ihsen Aziz Ouedraogo

Social ICT Business Division, ICT Policy and Strategy Research Group, Mitsubishi Research Institute, Inc.

### **News and Events**

Oscar H. Ibarra, an eminent academic from UC Santa Barbara, visits UEC, Tokyo

<http://www.ru.uec.ac.jp/e-bulletin/news/2016/oscar-h-ibarra-an-eminant-academic-from-uc-santa-barbara-visits-uec-tokyo.html>

Dorota Gryko from the Institute of Organic Chemistry Polish Academy of Sciences, gives a seminar at UEC, Tokyo.

<http://www.ru.uec.ac.jp/e-bulletin/news/2016/dorota-gryko-from-the-institute-of-organic-chemistry-polish-academy-of-sciences.html>

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### **About The University of Electro-Communications**

The University of Electro-Communications (UEC) in Tokyo is a small, luminous university at the forefront of applied sciences, engineering, and technology research. Its roots go back to the Technical Institute for Wireless Communications, which was established in 1918 by the Wireless Association to train so-called wireless engineers in maritime communications in response to the Titanic disaster in 1912. In 1949, the UEC was established as a national university by the Japanese Ministry of Education, and moved in 1957 from Meguro to its current Chofu campus Tokyo.

With approximately 4,000 students and 350 faculty, UEC is regarded as a small university, but with particular expertise in wireless communications, laser science, robotics, informatics, and material science, to name just a few areas of research.

The UEC was selected for the Ministry of Education, Culture, Sports, Science and Technology (MEXT) Program for Promoting the Enhancement of Research Universities as a result of its strengths in three main areas: optics and photonics research, where we are number one for

the number of joint publications with foreign researchers; wireless communications, which reflects our roots; and materials-based research, particularly on fuel cells.

Website: <http://www.uec.ac.jp/eng/>