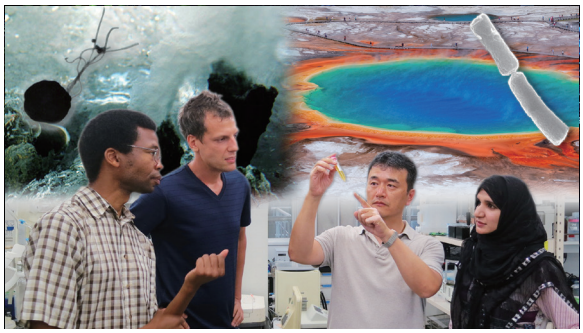
KyotoUx 003x

Free online courses from Kyoto University

"The Extremes of Life: Microbes and Their Diversity"

Microbes are everywhere! Find out how diverse microbial life is, and what their genome sequences tell us.



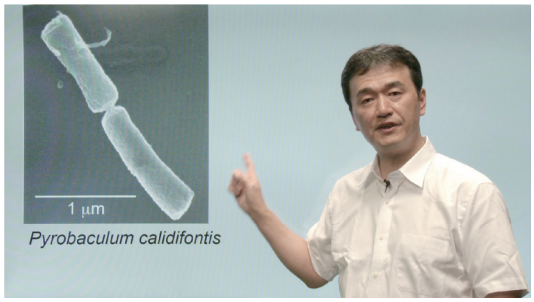
October 1, 2019–August 4, 2020

Length : **Self-paced (4 weeks)**

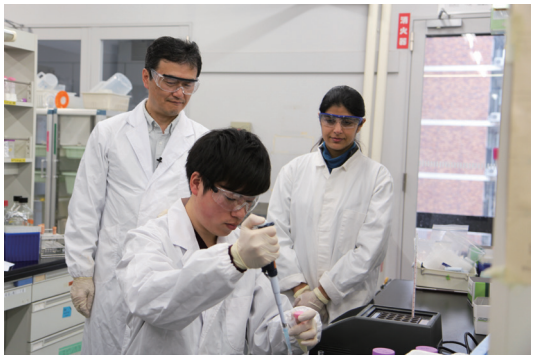
Instructor : **Haruyuki Atomi, Ph.D.**

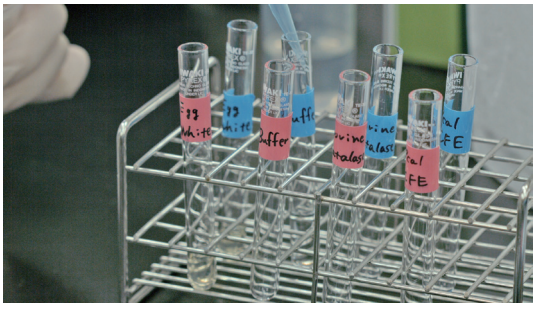
Professor at the Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University.

Life on our planet is diverse. While we can easily recognize this in our everyday surroundings, an even more diverse world of life can be seen when we look under a microscope. This is the world of microorganisms. Microorganisms are everywhere, and although some are notorious for their roles in human disease, many play important roles in sustaining our global environment. Among the wide variety of microorganisms, here we will explore those that thrive in the most extreme environments, the extremophiles.



In this course, we will discover how diverse life is on our planet and consider the basic principles that govern evolution. We will also learn how we can classify organisms. Following this, we will have a look at several examples of extreme environments, and introduce the microorganisms that thrive under these harsh conditions. We will lay emphasis on the thermophiles, extremophiles that grow at high temperatures and will study how proteins from thermophiles can maintain their structure and function at high temperatures.





- **Week 1** Evolution and the Diversity of Life
- **Week 2** Life in Boiling Water
- **Week 3** Diversity of Extremophiles
- **Week 4** Genome Sequences

https://www.edx.org/course/the-extremes-of-life-microbes-and-their-diversity-2

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