

Division of Natural System	Research field	Evolutionary Developmental Genetics	Lab. ID NS06
Laboratory web site	http://bio.s.kanazawa-u.ac.jp/~endoh/e.html		
Research subjects			
<p>Our research subjects are as follows.</p> <p>1.. Evolution of apoptosis in protists Ciliates represented by <i>Paramecium</i> and <i>Tetrahymena</i> maintain primitive form of apoptosis, called "Programmed Nuclear Death". This phenomenon is quite different from those of plants and animals, because of a long history of protists evolution. Mitochondria are involved in the process as a major executor of the death. Our final goal is to understand this phenomenon from molecular biology.</p> <p>2. Development of a novel cellulolytic system utilizing the protozoan ciliate <i>Tetrahymena thermophila</i> Cellulolysis is presently an important subject to protect environment from global warming. We are attempting to construct a new efficient cellulolytic <i>Tetrahymena</i> by introducing genes of multiple cellulases from the termites.</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
<p>Students determine their research theme at the start of their graduate studies. Lab meeting is held weekly, where students introduce and discuss recent papers in their field (Journal Club) or present their recent results (Progress Report). It is hoped that students attend scientific meetings to present their results once a year.</p>			
Daily life in the laboratory, etc.			
<p>Students of undergraduate, master, and doctor courses share a room, which provides them with an environment for interdisciplinary approaches. We have an open and free lab environment. Lab members do research in evolutionary biology, developmental biology, and/or genetics at each own pace. (Master course student's comment 1). We keep tropical fishes in an aquarium just for pleasure and healing. (Master course student's comment 2)</p>			
Message or comments by the laboratory faculty staffs			
<p>We welcome students who are interested in research on evolution and development as well as genetics using protists. Our interdisciplinary research will be of basic literacy/skill for a variety of careers after graduation. Graduates of our lab take occupation as researchers at universities, research staffs in private companies, high school teachers, public employees, etc.</p>			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Attempts to construct novel expression vectors in the ciliate <i>Tetrahymena thermophile</i> : Expression of cellulase genes derived from the termite symbionts		
2015.3	Fission and subsequent death of mitochondria in conjugation of <i>Tetrahymena thermophila</i>		
2015.3	Structural analysis of mitochondrial plasmids in <i>Paramecium</i>		
2014.3	Sexual reproduction and long non-coding RNA in the genus <i>Paramecium</i>		
2014.3	Construction of a novel cellulolytic system by the ciliate <i>Tetrahymena thermophila</i>		
2013.3	Gametogenesis and light-dark cycle in the dinoflagellate <i>Noctiluca scintillans</i>		
2013.3	Identification of micronucleus-specific DNA sequences in the ciliate <i>Blepharisma japonicum</i>		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2016.9	Studies on a protein-protein interaction in the bacterial magnetic organelle "magnetosome"		
2014.3	A novel mitochondrial nuclease: a major executor of the programmed nuclear death in <i>Tetrahymena thermophila</i>		

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