

Division of Mechanical Science and Engineering	Research field	Applied Mathematical Structures	Lab. ID MS02
Laboratory web site	http://www.ms.t.kanazawa-u.ac.jp/~maths/index.htm		
Research subjects			
<p>In this laboratory, we research for pure Mathematics (mathematical physics, real analysis, low dimensional topology). The research theme in master's course is decided in consideration of the applications to the mechanical field. For instance, the students can choose the theme such as Q-bit quantum mechanics, functional analysis, knot theory and so on. In doctor's course, they can learn more specific contents such as quantum mechanical systems, mathematical approach to statistical mechanics, the research of multi-variables' Fourier integral, singular integral and classification problem on 3- and 4-manifolds and so on.</p>			
Master/Doctor course: Education policy, curriculum, typical activity in the laboratory			
<p>The research fields of our laboratory consist of "Applied Mathematical Analysis" and "Applied Mathematical Structures". In master's course, the students give a seminar with advising teachers about twice a week. Also, they give a talk for explaining the progress of their research in front of all members in our laboratory. In doctor's course, the students have seminars with their advising teachers individually. Doctor's students in the working member of society have seminars with their advisors in the weekends mainly.</p>			
Daily life in the laboratory, etc.			
<p>Each student can use one's own computer. We manage computers in our laboratory in which Mathematica and Maple has been installed, and it is available to apply them for numerical computations or simulations. We recommend especially for master's students to come to the laboratory in the morning and live a regular life. Basically we do not hold the mechanical experiments, and the students have a enough time in this sense. We strongly wish you to use this enough time meaningfully and to spend a fruitful research life.</p>			
Message or comments by the laboratory faculty staffs			
<p>First, the students learn the basic knowledge of pure mathematics. We advise the students to think of mathematics by using their own brains. Sometimes it would be not easy but we hope the students to feel the joy or accomplishment after their persevering efforts were finally rewarded. The place of employment after the graduation is wide-ranging. The companies concerning mechanics will be chosen mostly but some students have choices to find employment related to computer systems. It would be also considerable to proceed to a graduate school in the mathematical course.</p>			
Recent Master theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
2017.3	Enforced excitations of a qubit with dissipation		
2016.3	Excitations of qubit forced by micro-controls		
2016.3	Excitations of qubit force by large controls		
2015.3	On algorithms for HEX using the Monte-Carlo method		
2014.3	Computer Algorithm for HEX in terms of the Monte-Carlo method		
2014.3	Escape strategy from several chaser		
2013.3	The boundary element methods applied to the inverse free boundary problems		
Recent Doctoral theses in these 3 years (+ more if appropriate)			
year.month	Thesis title (including English translation of Japanese thesis title)		
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