

# **The overview of the Masai laboratory at TMiMS**

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## **1 Our institute (Tokyo Metropolitan Institute of Medical Science; TMiMS)**

We started nearly 50 years ago as three different institutes, each specializing in basic medicine, neurobiology or mental diseases, which merged into one institute in 2011. We can provide students with excellent research environment that includes the newest research equipment and facility. Students in our institute can learn diversified fields of biology and medicine through daily interactions with scientists with various backgrounds.

## **2 Our research activities (Genome Dynamics Project)**

With special focus on the mechanisms of DNA replication, we aim to understand how the genetic information is stably inherited through cell proliferation as well as through generations. We also want to elucidate biological significance of the novel genome signature based on the shape of nucleic acids. We also try to explore the functions of replication/ checkpoint related factors in development of animals and their association with various diseases. To achieve above goals, we use varieties of systems including bacteria, yeasts, mammalian cells (cancer/ non-cancer cells, and stem cells) and mice.

## **3 How you can apply for the Masai lab/ our institute**

We have contracts with many universities in Japan, through which you can apply for a graduate course that will enable you to do research at our institute. Our laboratory has contract with several universities including University of Tokyo and Ochanomizu Women's University. We also have many other routes through which you can apply for your study at our laboratory. We also accept undergraduate students who would like to make an early start for your favorite research topics.

## **4 The motto and things to be learned at our laboratory**

We treat all the students equally regardless of their background, gender and nationality. We all strive equally to search for truth and each individual is encouraged to contribute to the process through his/ her own unique ideas. We treasure three mottos that I inherited from my two late mentors, Dr. Yoshiko Kaziro and Ken-ichi Arai; "Full devotion", "Continuous excitement" and "Friendly atmosphere".

In our laboratory, students are expected to learn not only logical interpretation of the results, planning of experiments, and various experimental techniques but also the skills for effective presentation and command of practical English, in view of the need for these abilities to communicate, self-promote and gather information on the world-wide level in whatever field you will be working in the future.

## **5 Research Assistant system**

The institute provides all the graduates students working in our institute with the Research Assistant fellowship to ease the financial pressure and help them concentrate on research.

## **6 What we expect for students**

We expect the applying students to be communicative with your colleagues in the laboratory, to be receptive for the suggestions and advice from your supervisor and senior scientists, and to interpret any data as they represent and make a next plan in a logical and positive manner. The current level of knowledge or laboratory experience does not count.

### **My message for students**

In Japanese proverb, we say “Ku-areba, Raku-ari (no pain, no gain)”. In research, 90% would be pain, and the remaining 10% would be gain, at best. The ratio would probably be biased toward more pain and less gain. However, if you set your goal, think the problems to the extent that nobody does, and relentlessly strive, you will be eventually rewarded with blessing. Just be optimistic. Also it is important to cherish whatever you discover during the course of your study. How small or trivial it looks, it is your finding, only you in the world knows of. There may be treasure lurking behind it. It is up to you to be able disclose it or leave it behind you without making it see the light of day.