All About MEXT Scholarship & Research Experiences in Japan

Beni Lestari

Assalamu’alaykum wr. wb. Hallo kenalin…

- **Doctoral (2020-now):**

Cell Biology Center, Dept. of Life Science and Technology, Tokyo Institute of Technology, Japan

- **Master (2017-2019):**

Tumor Cell Biology Lab, Grad. School of Biological Science, Nara Institute of Science and Technology, Japan

- **Pharmacist Professional Program (2015-2016):**

Faculty of Pharmacy, Universitas Gadjah Mada

- **Undergraduate (2011-2015):**

Faculty of Pharmacy, Universitas Gadjah Mada

Kenapa pengen lanjut S2-S3?

- Lanjut sekolah ke LN terlihat keren (?)
- Perlukah saya lanjut S2 dan S3 setelah profesi?
- Apa mimpi/cita-cita kamu?

  Profesional/praktisi

  Dosen/akademisi/peneliti
- Apakah kamu suka research-based atau course-based?
- Beban S2 dan S3 itu jauuuhh lebih berat dari S1, apalagi di LN

  S2: 5-8x lipat S1

  S3: 20-30x S1

Kenapa milih di Jepang?

Untuk S2

- Ada project kerjasama
- Sudah pernah bertemu Professor yang diinginkan di Indonesia
- Paling fast response
- Lab dan tema riset sesuai interest
- Syarat bhs inggris masih boleh TOEFL
- Ramah muslim
- Komunitas Indonesia banyak

Untuk S3

- Family oriented
- Lab dan tema riset sesuai interest
- Cukup nyaman dengan research-based study
- Jepang adl negara ramah beasiswa s3

Suka Duka kuliah di Jepang

- Penelitian: skill yang oke, semua alat dan bahan yang kamu mau ada, kesempatan publikasi di jurnal high impact
- Progress studi kita terkontrol
- Kesempatan konferensi ke negara lain
- Kita bisa merasakan menjadi orang asing dan minoritas (keluar dari zona nyaman)
- Kesempatan berdakwah dan promosi Indonesia ke orang lokal
- Koneksi global
- Self-improvement: manajemen waktu, manajemen stress
- Merasakan 4 musim
- Jalan-jalan dan silaturahmi dengan orang Jepang or Indonesia
- Mendapatkan pelayanan publik yang sama dg orang lokal

Suka Duka kuliah di Jepang

- Jauh dari keluarga
- Kangen kuliner Indonesia
- Effort lebih untuk makanan halal
- Tidak ada gofood
- Tidak banyak orang yang bisa berbahasa inggris
- Dokumen2 dari pemerintah berbahasa Jepang
- Budaya kerja overtime

Types of MEXT Scholarship

1 Embassy Recommendation

- Seleksi di negara asal (perwakilan diplomatic Jepang di Indonesia)
- Seleksi sistem gugur (dokumen, ujian tulis, wawancara)
- Tidak perlu mengontak calon supervisor/univ
- Ujian tulis: basing and basjep

2 University Recommendation

- Seleksi di universitas tujuan
- Seleksi dokumen, ujian tulis (optional), presentasi dan wawancara
- Dokumen dikirim langsung ke Jepang via post mail
- Perlu mengontak calon supervisor dan sudah mendapat inform consent

Benefit MEXT:

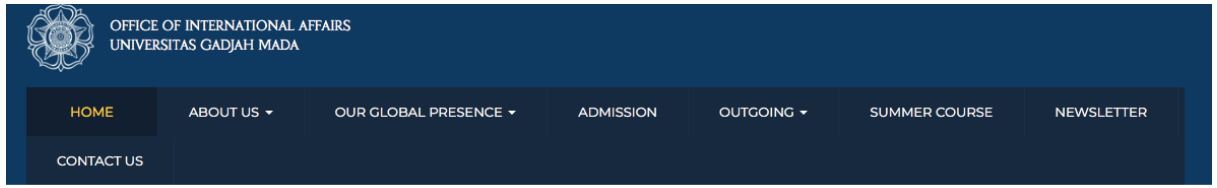
1. Tanpa ikatan dinas
2. Living allowance lebih dari cukup
3. Free tiket pulang pergi
4. Regulasi dipermudah
5. Free tuition fee

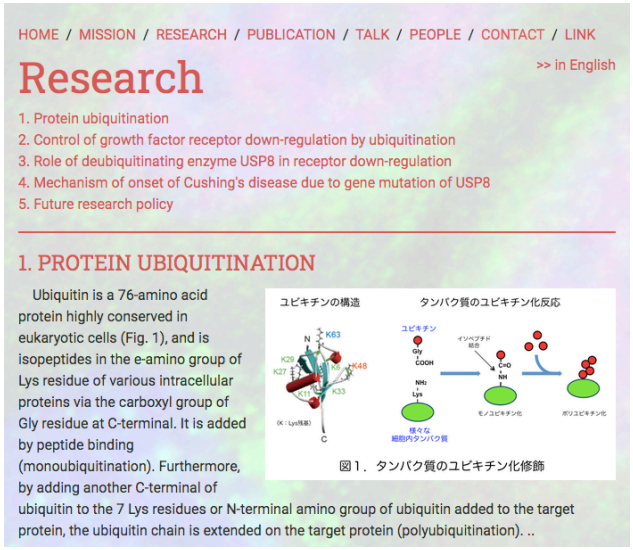
All About MEXT University Recommendation

- Types: tergantung universitas
    1. General S2 only
    2. General S2 + S3
    3. General Research student + S3
    4. General language training + S3
    5. Super Global University (SGU)
    - Can be used for S2 only or S2-S3
    - Not an annual number of awards
    - Domestic selection
    - Not all universities

All About MEXT University Recommendation

1. Tentukan pilihan major study dan universitas tujuan
2. Hubungi calon supervisor (amunisi: CV, transkrip, study background)
3. Seleksi berkas (Form, IELTS/TOEFL IBT, Recommendation letter, Field of study, Research plan, LoA)
4. Seleksi Presentasi dan wawancara



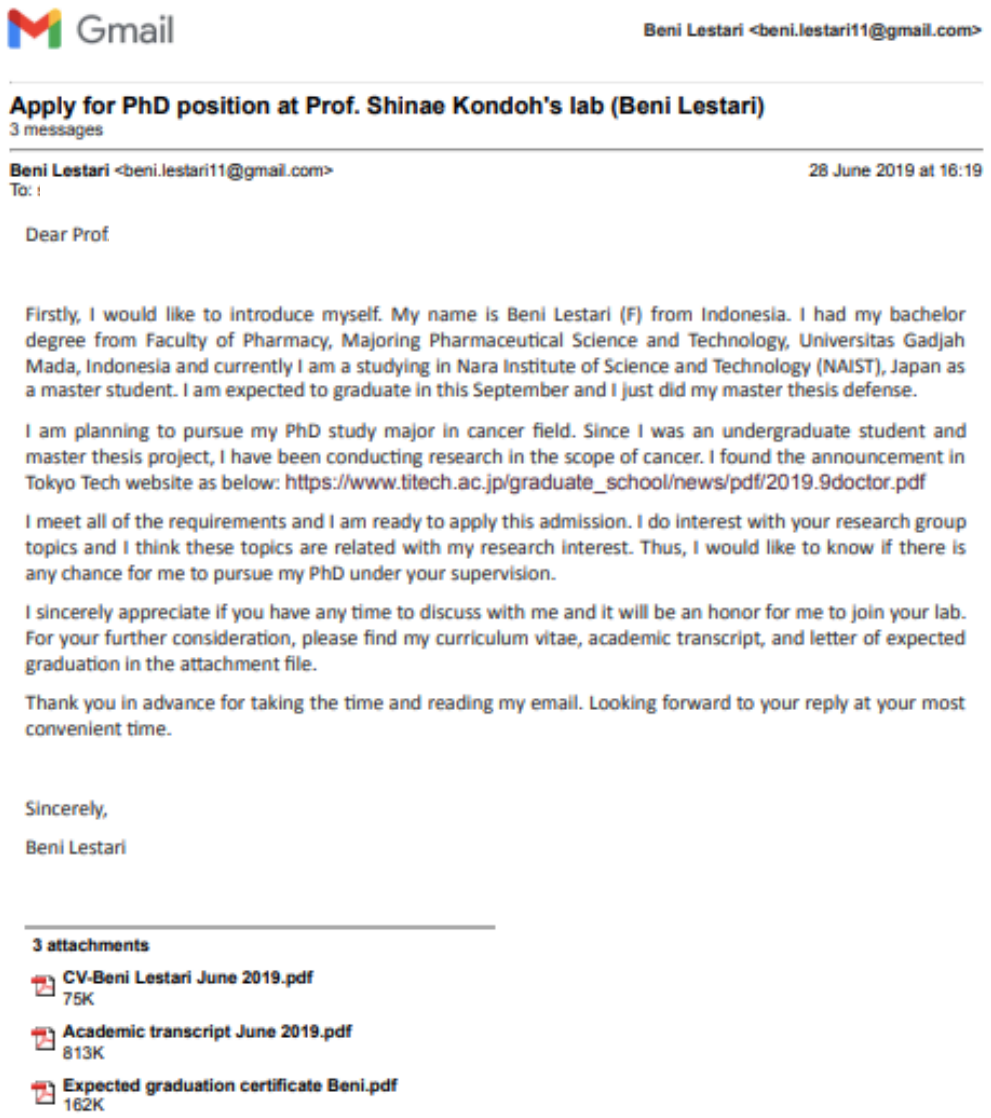


TIPS MEMILIH, LAB, JURUSAN DAN UNIVERSITAS

- Pilih univ yang mempunyai hubungan Kerjasama dengan kampus
- Kepo website lab-lab yang mempunyai research area yang kamu inginkan (sampe ke paper yang mereka terbitkan)
- Pilih lab yang mempunyai koneksi langsung dengan Dosen di kampus kita
- Pilih lab yang ada orang Indonesia/orang asing (jembatan komunikasi)
- Kirim email ke beberapa calon supervisor

TIPS MENGHUBUNGI CALON SUPERVISOR

- Subjek email: singkat, padat, jelas, tertarget
- Perkenalan diri (nama, jabatan professional/akademik, institusi, background akademik)
- Tujuan mengirim email (paparkan motivasi, tunjukkan komitmen ingin mendaftar program apa dan kapan)
- Bertanya tentang peluang
- Alasan memilih lab tersebut
- Rencana riset/studi yang ingin dikerjakan
- Urgensi: misal ingin/sedang mendaftar beasiswa apa
- Tunjukkan keterbukaan misal bersedia untuk wawancara via zoom
- Lampirkan CV, Backround studi, transkrip
- Kirim jauh-jauh hari
- Kirim saat jam kerja



Gmail

Beni Lestari <beni.lestari11@gmail.com>

Apply for PhD position at Prof. Shinae Kondoh's lab (Beni Lestari)
3 messages

Beni Lestari <beni.lestari11@gmail.com> 28 June 2019 at 16:19
To: !

Dear Prof

Firstly, I would like to introduce myself. My name is Beni Lestari (F) from Indonesia. I had my bachelor degree from Faculty of Pharmacy, Majoring Pharmaceutical Science and Technology, Universitas Gadjah Mada, Indonesia and currently I am a studying in Nara Institute of Science and Technology (NAIST), Japan as a master student. I am expected to graduate in this September and I just did my master thesis defense.

I am planning to pursue my PhD study major in cancer field. Since I was an undergraduate student and master thesis project, I have been conducting research in the scope of cancer. I found the announcement in Tokyo Tech website as below: https://www.titech.ac.jp/graduate_school/news/pdf/2019.9doctor.pdf

I meet all of the requirements and I am ready to apply this admission. I do interest with your research group topics and I think these topics are related with my research interest. Thus, I would like to know if there is any chance for me to pursue my PhD under your supervision.

I sincerely appreciate if you have any time to discuss with me and it will be an honor for me to join your lab. For your further consideration, please find my curriculum vitae, academic transcript, and letter of expected graduation in the attachment file.

Thank you in advance for taking the time and reading my email. Looking forward to your reply at your most convenient time.

Sincerely,

Beni Lestari

3 attachments

CV-Beni Lestari June 2019.pdf
75K

Academic transcript June 2019.pdf
813K

Expected graduation certificate Beni.pdf
162K

TIPS SELEKSI BERKAS

- Pastikan IPK dan skor tes Bahasa inggris aman
- Formulir: sangat simple, isi sesuai data diri
- Field of study dan research plan harus up to date, menarik, inline dengan previous research dan topik lab yang dituju (show the connection)
- Surat rekomendasi sebisa mungkin dari seseorang yang mengenal kita secara profesional, akademis, dan personal (seseorang yang mempunyai jabatan juga bisa dipertimbangkan)
- Pastikan sudah interview personal dengan calon supervisor

1. Field of study

I have been taken a keen interest in chemistry and biology since Junior High School. Universitas Gadjah Mada (Indonesia) is the place I had taken Bachelor degree for 4 years and an extra a year for Pharmacist Professional Program. I graduated as a Pharmacist majoring in Pharmaceutical Science and Technology. During these years, my heart was moved to learn more about cancer and its therapies, because the disease has become a serious social problem.

Since I was an undergraduate student, I have been conducting research in the scope of identifying anti-tumorigenic agents based on natural products, which are usually safe for human. I joined one of the best research center in my university, named Cancer Chemoprevention Research Center (CCRC). Starting from analyzing plant extracts isolated from several different Indonesian plants, I examined the anti-cancer activity of curcumin and its derivatives, an active compound contained in turmeric. Curcumin has been reported to possess various health benefits including an anti-cancer activity, but its bioavailability is limited because of the low absorption efficiency. We revealed that curcumin and its analogues have potential effects in cancer metastasis (Meiyanto *et al.*, 2019). My undergraduate thesis was also highly correlated with the cancer chemoprevention. I found the lower cancer risk caused by hormone replacement therapy for menopause woman by utilizing the potency of the phytoestrogens component in pumpkin seeds (Lestari *et al*, 2019).

After entering Master course in Nara Institute of Science and Technology (NAIST, Japan), I focused on the characterization of anti-cancer properties of Pentagamavunon-1 (PGV-1), a curcumin analogue with improved physicochemical properties. I studied about the molecular mechanisms by which PGV-1 regulates the cell cycle machinery and cancer metabolism. I found that PGV-1 induces M phase (prometaphase) arrest and modulates the production of reactive oxygen species (ROS) in cancer cells by binding to several ROS-metabolizing enzymes (Lestari *et al.*, 2019). My master thesis project provides a strong evidence of PGV-1's properties as a new type of anti-tumorigenic drug.

Conducting researches and discussing with experts made me want to learn more and widen my knowledge. Therefore, I am willing to expand my scientific experiences and research skills through Doctorate degree at Cell Biology Center and Center for Biological Resources and Informatics, Tokyo Institute of Technology. My proposed research aims to discover a novel protein complex inhibitor for Cushing's disease, a pituitary tumor secreting adrenocorticotropic hormone (ACTH).

Reference list:

Lestari, B., Nakamae, I., Yoneda-Kato, N., Morimoto, T., Kanaya, S., Yokoyama, T., Shionyu, M., Shirai, T., Meiyanto, E., and Kato, JY. (2019). Pentagamavunon-1 (PGV-1) inhibits ROS metabolic enzymes and suppresses tumor cell growth by inducing M phase (prometaphase) arrest and cell senescence. *Scientific Reports, 9, 14867.* DOI: 10.1038/s41598-019-51244-3

Lestari, B., Walidah, Z., Utomo, R. Y., Murwanti, R., & Meiyanto, E. (2019). Supplementation with extract of pumpkin seeds exerts estrogenic effects upon the uterine, serum lipids, mammary glands, and bone density in ovariectomized rats. *Phytotherapy Research*, 33(4), 891-900. DOI: 10.1002/ptr.6280

Meiyanto, E., Putri, H., Larasati, YA., Utomo, RY., Jenie, RI., Ikawati, M., **Lestari, B.**, Yoneda-Kato, N., Yokoyama, T., Kawaichi, M., Kato, JY. (2019). Anti-Proliferative and Anti-Metastatic Potential of Pentagamavunon-1 (PGV-1) toward Highly Metastatic Breast Cancer Cells in Correlation with ROS Generation. *Advanced Pharmaceutical Bulletin*, 9(3), 445-452. DOI: 10.15171/apb.2019.053

TIPS SELEKSI BERKAS: RESEARCH PROPOSAL

2. Study program in Japan in detail and concreteness

The detail of my research plan for Doctoral course in Tokyo Institute of Technology:

1. **Research theme:**

2. **Background:**

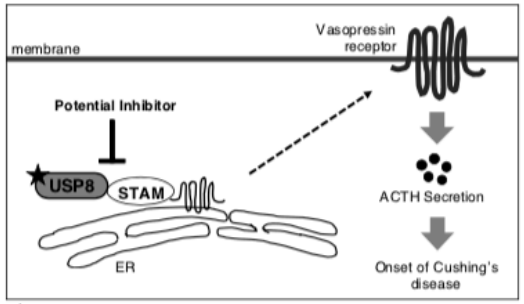


Figure 1. An illustration of inhibiting STAM-USP8 complex to reduce ACTH hypersecretion

3. **Objective:**

4. **Research Plans:**

5. **Significance:**

6. **People and Place:**

Since I have taken an interview in Tokyo Institute of Technology, this research is expected to be conducted in Cell Biology Center and Center for Biological Resources and Informatics, Tokyo Institute of Technology for three years, starting from April 2020 to March 2023. I am confidently state that the laboratory environment is highly supportive for my doctoral study.

7. **References:**

Berlin, I., Schwartz, H., & Nash, P. D. (2010). Regulation of epidermal growth factor receptor ubiquitination and trafficking by the USP8· STAM complex. *Journal of Biological Chemistry*, 285(45), 34909-34921.

Huang, C., Shi, Y., & Zhao, Y. (2015). USP8 mutation in Cushing's disease. *Oncotarget*, 6(21), 18240.

Kawaguchi, K., Endo, A., Fukushima, T., Madoka, Y., Tanaka, T., Komada, M. (2018) Ubiquitin-specific protease 8 deubiquitinates Sec31A and decreases large COPII carriers and collagen IV secretion. *Biochem Biophys Res Commun.*, 499, 635-641.

Millard, S. M., & Wood, S. A. (2006). Riding the DUBway: regulation of protein trafficking by deubiquitylating enzymes. *The Journal of cell biology*, 173(4), 463-468.

Reincke M, Sbiera S, Hayakawa A, Theodoropoulou M, Osswald A, Beuschlein F, Meitinger T, Mizuno-Yamasaki E, Kawaguchi K, Saeki Y, Tanaka K, Wieland T, Graf E, Saeger W, Ronchi CL, Allolio B, Buchfelder M, Strom TM, Fassnacht M, Komada M. (2015). Mutations in the deubiquitinase gene USP8 cause Cushing's disease. *Nat. Genet.*, 47, 31-38.

TIPS PRESENTASI DAN WAWANCARA

PRESENTASI

- Presentasi singkat-padat-jelas (biasanya 10 min utk master, 20 min utk PhD)
- Tentang previous research dan sedikit research plan
- Komponen: background yang jelas, tujuan penelitian, results dan interpretations, conclusion, research plans related to your previous fields)
- Research plan sudah disetujui calon supervisor
- Gunakan pointer
- Latihan-Latihan-latihan

WAWANCARA

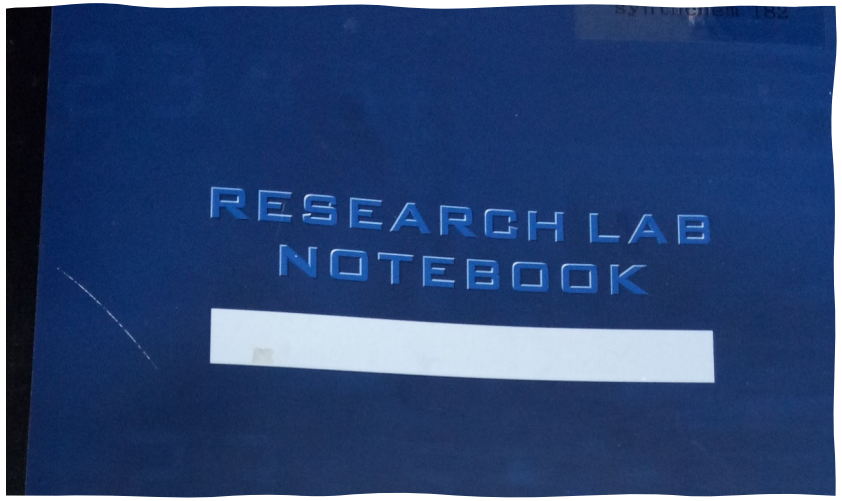
- No personal questions: pastikan paham betul previous research dan ketertarikan untuk belajar dan riset
- Fokus pertanyaan:
  - background diri (professional background, research interest dan expertise)
  - Kesiapan akademis dan riset (rencana riset, korespondensi dengan calon supervisor, rencana pendanaan, rencana setelah lulus)
  - Adaptability (adaptasi kehidupan di Jepang dan kesiapan akan budaya riset/lab di Jepang)

Research Experiences in Japan

Kondisi Lab


2016 NOBEL PRIZE IN
PHYSIOLOGY OR MEDICINE
Yoshinori Ohsumi

Sistem administrasi



- Absensi
- Logbook

  Setiap pekerjaan kita wajib ditulis secara detil di log book meliputi, tanggal pekerjaan, waktu kerja, mekanisme reaksi, kalkulasi, maupun kesalahan saat pengerjaan

  Log book harus ditinggal di lab dan tidak boleh dibawa pulang
- Laporan riset
- Protokol kerja

Protocol of Protection from Aβ toxicity using MTT Assay

Workflow:

Culturing→Treatment→Staining→Measurement

A. Working Solution Preparation

I. Aβ42 peptide Oligomer

No.	Step	Note
1.	Take 5 µL from Aβ stock 500 µM and add 45 µl of sterile PBS 1X pH 7.4 to get final concentration Aβ 50 µM	Put the solution in the microtube and prepare in the clean bench
2.	Incubate overnight at 37°C	
3.	Centrifuge the solution using speed 13,200 rpm, at 4°C, and for 5 minutes	
4.	Take the about 75% of the supernatant and move to the new microtube	

II. MTT (freshly prepare at the staining day)

No.	Step	Note
1.	Weight 7 mg of MTT	MTT in the refrigerator
2.	Dilute in 1400 µL of sterile PBS 1X pH 7.4 to obtain MTT stock solution 5mg/mL	Avoid the light contact by covering the microtube with aluminium foil
3.	Take 1 mL of the MTT solution and diluted in 9 mL of medium to obtain 0.5 mg/mL	

B. Culturing

No.	Step	Note
1.	Remove the medium using suction pump	Suction from the wall
2.	Add 1 mL PBS	Carefully add from the wall
3.	Remove the PBS using suction pump	Suction from the wall
4.	Add 1 mL TripleXpress solution	Directly on the TCD surface, shaking gently to coverage all of the TCD's area
5.	Incubate 3 minutes	Prepare conical tube containing 7 mL of medium
6.	Transfer the cells on the conical tube containing medium	Carefully re-suspend the solution
7.	Centrifuge using 1500 rpm speed for 3 minutes	
8.	Remove the medium using suction pump	Take the bubble first then all of the medium Be careful not to take the cells
9.	Add 5 mL of medium	
10.	Count the cells using LUNA machine	Mix 10 µL of the cell solution with 10 µL of tryphan blue (1:1)
11.	Plate 10.000 cells/ well on 96-well plate	

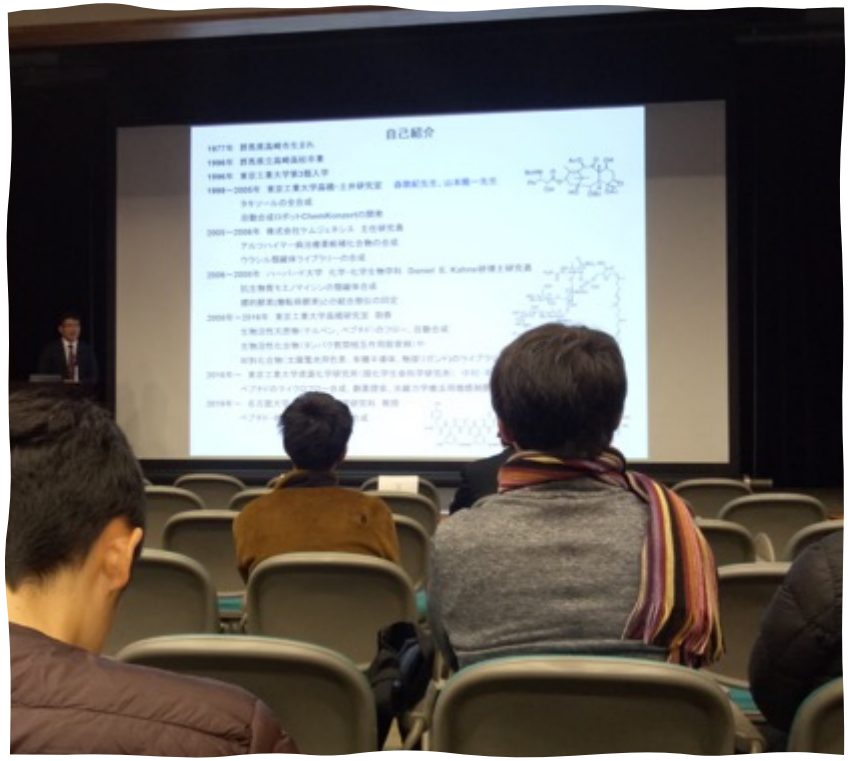
Sistem SDM

Satu Professor

Satu atau lebih Associate Professor, Assistant Professor, Post Doc, Researcher

Staff Administrasi

Mahasiswa (Bachelor 3rd–4th year, Master, Doctoral)



Sistem Peningkatan kapasitas SDM

- Progress report @2 minggu
- Journal club @bulan
- Senpai-Kohai: *Transfer of knowledge*
- Training: animal facility, general machine
- Conference

Keselamatan dan Kesehatan Kerja

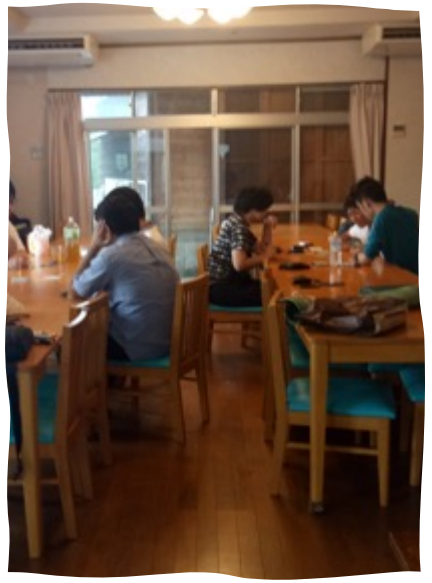
- Training dari Head of Safety Department (1x sebelum memulai penelitian)
- Evaluasi keamanan kerja (1 bulan sekali)
- Disaster evacuation training (6 bulan sekali)
- Medical Check Up (urine test, blood test, x-ray, kualitas mata, dll) 2x setahun

Lab Party

- Graduation Party
- Farewell party
- Welcome Party
- Nominkai perayaan

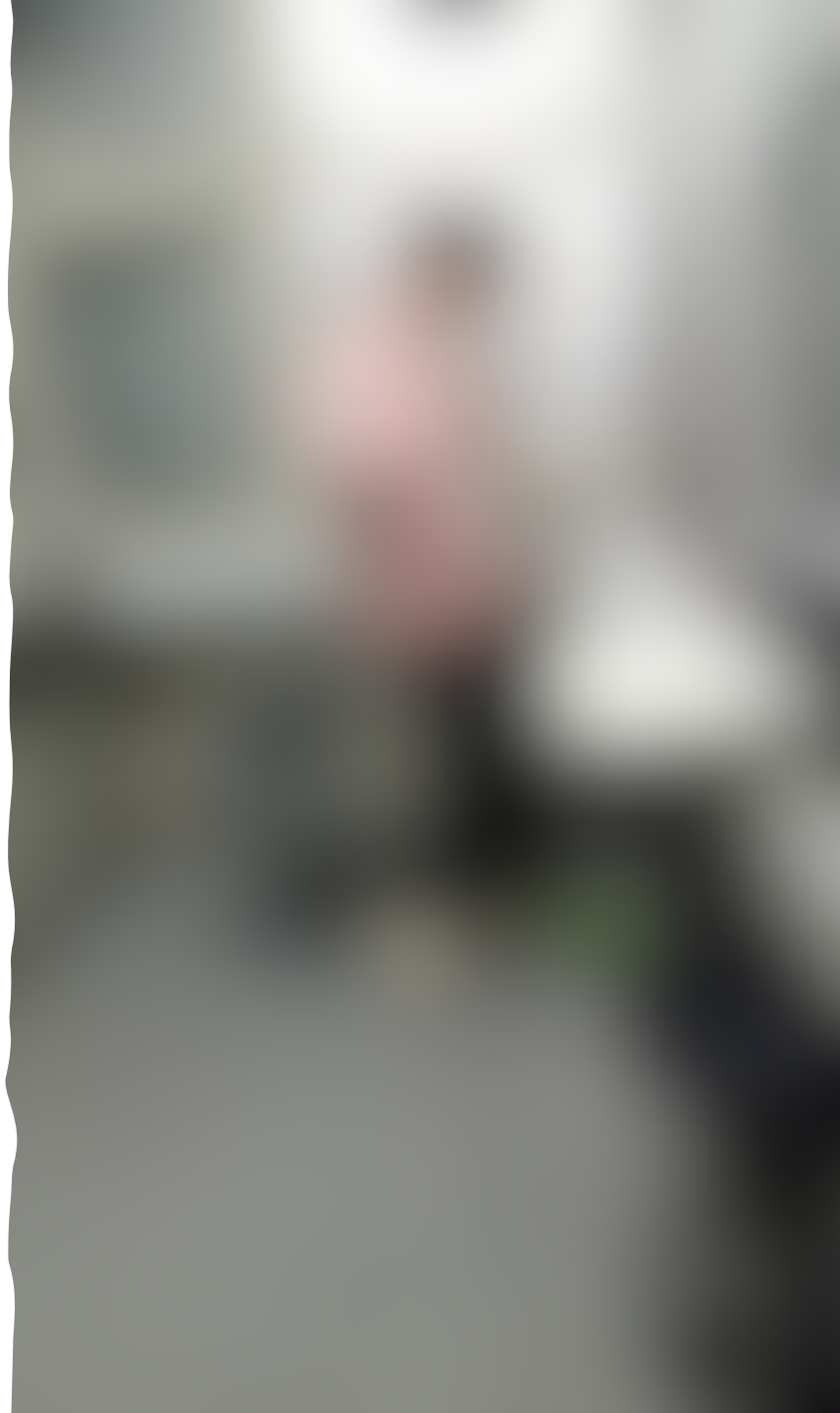
Lab Trip

- Diadakan setahun sekali
- BBQ, menginap semalam, enjoy nature (pantai, gunung, dll)



Aturan Umum

- Tidak boleh riset tanpa ada mahasiswa Doctoral atau Professor
- Penelitian hari Sabtu-Minggu maksimal sampai jam 9 malam kecuali kondisi khusus
- Tidak boleh "bermain-main/ngobrol" di area lab
- Lab cleaning dilakukan semua orang seminggu sekali
- Pembagian kerja pembuatan common reagent
- Pembuangan sampah oleh mahasiswa



Makanan Halal di Tokyo Tech

- Hasil sounding TTMC kepada pihak kampus Tokyo Tech membuahkan hasil dengan disediakannya menu halal di cafetaria
- Menu halal tersebut tidak hanya digemari mahasiswa muslim tapi juga lainnya

Food truck kebab

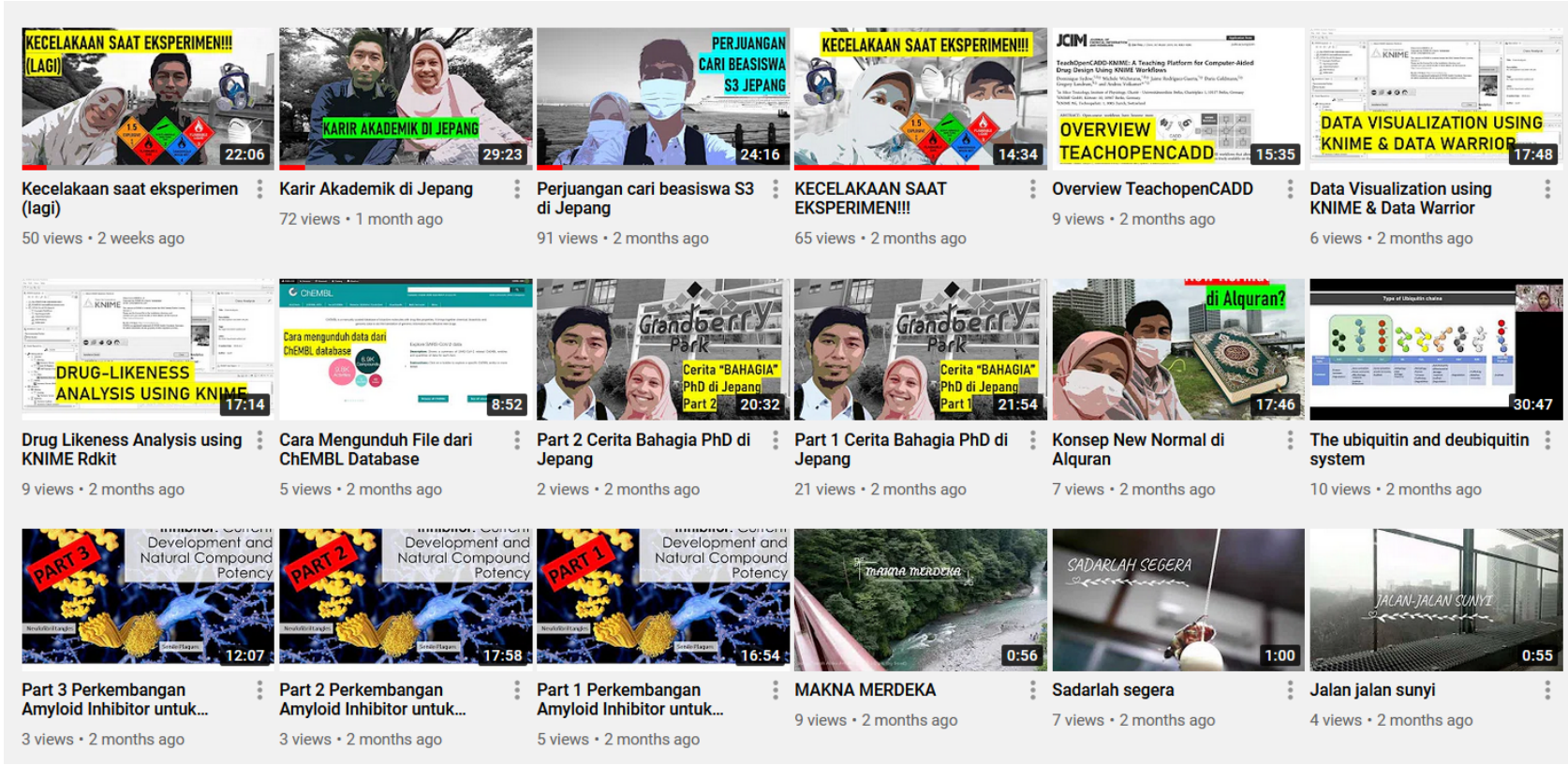

Halal Ramen


Halal Gyudon

Prayer space di Tokyo Tech

- Kita biasa sholat di area "kosong" yang tersedia seperti rooftop dan meeting space dan biasanya sudah ada sajadah dan mukena
- Salah satu anak internship dari UGM'15 sedang mengerjakan studi penggunaan prayer space di Tokyo Tech
- Note: perlunya menjaga kebersihan saat berwudhu

For more story...



Youtube: Rohmad Yudi Utomo


Semoga Bermanfaat