



Research in one sentence

Resource recovery from waste in the form of nutrients, chemicals, biogas and electricity.

**What is your uniqueness in your research?**

In my group, we work on biochemical systems, especially how to recover resources from waste. We are also working on nutrient recovery from wastewater, nutrient recovery in the form of nitrogen and phosphorus, which leads to production of biodiesel. We work on optimizing the process of production of micro algae, and then we produce biodiesel from it. We target a particular few compounds, so that they can be used as transportation fuel.

**Background of joint research with Japanese Co-PI**

My Co-PI is Prof. Norihisa Matusura from Kanazawa University and our topic of joint research is Microalgae-microbial fuel cell (mMFC): an integrated process for removal of xenobiotics in sewage and simultaneous electricity generation.

His research area is biological water treatment, and he focuses on microbial ecology microbial measurement. Knowing some of his recent books and works, I came across him and we got in touch, and then we were connected.

### What are the tips to have collaborated with Co-PI for so long?

It will be communication. Meeting on a regular basis helps that we update our progress, what is going on. Plus, as managing the time to talk and discuss on work is difficult, time management is one of the tips for collaboration.

### What are benefits from collaboration with Japanese Co-PI?

There are a lot of benefits. There is always something to learn from another group. So a student visiting will always learn something from that group and bring that back to this research group. Of course, it will benefit the student technically and it will also benefit other people in the research group here.



### Prospects regarding India-Japan collaboration

We want to continue our collaboration on the same area that we are working on where he would be contributing to the microbial ecology part. Like for a fatty acid is from carbon dioxide, for hydrogen synthesis from different gases, as well as for by visiting system micro and so on.

### Do you recommend JICA Research Grant under FRIENDSHIP 2.0 to the other faculty members?

Yes, broadly the way our institute can grow is by collaboration. It is extremely beneficial for the students. Especially for the doctoral students who want to pursue research as their career in the future. They can get the benefit from the collaborations. Like I mentioned before, they get to know how it is working, build their own network. All those will help them in the future for getting a position or even doing research as an individual researcher.