Research center of KOSEN
Image & future expectations

Tsuruoka Metabolome Campus

- Enhancement of the interaction space
- Enhancement & maintenance of shared facilities
- Implementation of advanced research theme
- Securing research space for collaboration partner

Kosen - Applied science Research Center (K-ARC)

- Open lab for teaching & research staffs
- Students internship
- Researchers’ training program

All colleges of KOSEN

National Institute of Technology’s research zone: realization of researchers’ dreams!

- Engage in research in the calm-vivid nature & rich food culture
- Collaboration with cutting-edge biotechnology research base
- Entrepreneurship
- Enriched environment

Employment as engineer/researcher in the industry

Industry
- Companies based in Tsuruoka Science Park
- National companies

Educational and research organizations

Collaborative research

Collaborative research

Collaborative research
Details of K-ARC (as of December 2015)

- Office room, meeting room, reception
- Resident coordinator (research advice, career education etc.)
- ICT for Agriculture program
  - Prof. Kazuya Kanda
  - other related faculty
- Manufacturing platform program (along with training factory)
  - Prof. Toma
  - Prof. Hiroshi Tanaka
  - Tsuruoka Fab (3D printer etc.)
  - JST matching planner
- Research & lecture area (30 people max.)
- JST strategic creative research promotion, ACCEL related lab
  - Functional Polymer Material research course
  - visiting researchers
- Metabolome Analysis program
  - Assoc. Prof. Saito
  - Asst. Prof. Kubo
- K-ARC (within KOSEN)
  - Plasma Science & Engineering program
    - Prof. Hiroyuki Yoshiki
  - Biomedical Engineering program
    - Assoc. Prof. Shishido
    - Assoc. Prof. Saito
  - Functional Polymer Material program
    - Assoc. Prof. Kagata
Research promotion system of Tsuruoka KOSEN

Organization for management & operation

President

URA Body (Chair: Vice president, research)

※five vicepresidents: research administrators (URA)

Research organization within campus

Research leader: Electronics

Research leader: Design Engineering

Research leader: Mechatronics

Research leader: ICT software

Research leader: Natural resource & energy

Research leader: Environmental biotechnology

Research leader: Materials engineering

Research intensive faculty program (3 people)

Young researcher training program (10 people)

Virtual Laboratory

Manufacturing platform program
Professor: Hiroshi Tanaka

Agricultural ICT program
Professor: Kazuya Kanda

Polymer materials program
Professor: Takaya Sato

External organization

Local business, Municipalities, public testing
Related organizations

All KOSENs Research body for ICT application in Agriculture
(Sendai KOSEN, TobaSHOSEN, Kagawa KOSEN, AnanKOSEN), Industry

NIMS, Tohoku University, Kyoto University, Yamagata University etc., Industry

Local business, Municipalities, public testing
Related organizations
Evolution of national KOSEN into block (Virtual Laboratory)

Realization by Tsuruoka KOSEN from July, 2015

Fab lab group
Advanced material group
Green techno group
Food science group
Next generation vehicle technology support group
Architectural group
K-Skill group

 dévelopement of virtual Laboratory enhanced group formation

Block 1: Virtual Laboratory
Tomakomai KOSEN:
  Biological resource engineering program
Asahikawa KOSEN:
  Methane resource utilization program
Ichinoseki KOSEN:
  Next generation mobility program
Sendai KOSEN:
  Smart community program
Hakodate KOSEN:
  Sixth-order industrialization of agriculture & fisheries program
Hachinohe KOSEN:
  High performance catalyst program
Tsuruoka KOSEN:
  Functional polymer materials research program
Tsuruoka KOSEN:
  ICT in agriculture program
Tsuruoka KOSEN:
  Manufacturing platform program
Researchers are invited from each college of KOSEN. We are trying to build an independent research organization by research outcomes and external fundings.

- Realization of social experiments in collaboration with top level research organizations.
- With a view to promote cooperation with other entities in the science park, achieve enhancement in scale & content.
- Would act as a billboard to raise the presence of all KOSEns around the country

Steps for promotion of K-ARC:

**Opening/launch**
- Promotion of research in the virtual laboratory in the Tohoku-Hokkaido block of KOSEN
- Construction of URA system
- Development of K-ARC research environment

**Research activation by the KOSEN network**
- Research activation by the virtual laboratory
- Promotion of the acquisition of external funds
- Construction of new K-ARC research building
- Joint research with affiliated foreign research bodies

**KOSEN establishment based on independent research organization & building (external funds management)**
- Gathering of KOSEN researchers
- Collaboration with advanced research organizations
- Technical college system education base overseas

Advanced research and manufacturing (social implementation) to function as two wheels of the car