

Enhancement of Industry-University Collaboration Research Projects for Universities in Japan and Taiwan

- Spirit of Enterprise -

**Dr. Yoshizane Maeda,
Kagoshima University President**



Geographical Characteristics & Educational Tradition

【Educational Tradition】

Historical background of fostering young people who challenged on the difficulties in the era of reform and modernization in Japan.

Statues of young boys dispatched from Satsuma to England in middle of the 19th century



【Geographic Characteristic】

Open to Asia-Pacific regions, blessed with rich natural environments, such as mountains, sea and islands

Current Status

Originated in Han-gaku, 'Zoushi-kan', school of feudal domain established in 1773



Established in 1949 as one of the national universities



Kagoshima University

9 Faculties

10 Graduate schools

**Center for general
education**

9,000 students

2,000 graduate students

**300 foreign students
from 40 countries**

2,500 staff

President Yoshizane MAEDA

MOU (university level) → 78 institutions of 23 countries & regions

MOU (faculty level) → 58 institutions of 24 countries & regions

Undergraduate Course

Faculty of Law, Economics and Humanities

Faculty of Education

Faculty of Science

Faculty of Medicine

Faculty of Dentistry

Faculty of Engineering

Faculty of Agriculture

Faculty of Fisheries

Joint Faculty of Veterinary Medicine

Graduate Course

Graduate School of Humanities & Social Sciences (MSc) (Ph.D)

Graduate School of Education (MSc)

Graduate School of Health Science (MSc) (Ph.D)

Graduate School of Agriculture (MSc)

Graduate School of Fisheries (MSc)

Graduate School of Science and Engineering (MSc)

Graduate School of Medical and Dental Sciences (MSc) (Ph.D)

Professional Graduate School of Clinical Psychology (MSc)

United Graduate School of Agricultural Sciences (Ph.D)

Joint Graduate School of Veterinary Medicine

(Headquartered in Yamaguchi University)

United Graduate School of Veterinary Sciences (Ph.D)

淡江大学
中國文化大学
國立台北教育大学

國立台灣海洋大学
國立陽明大学
台灣市立大直高級中學

國立中興大学

國立嘉義大学

國立成功大学

國立高雄大学
國立高雄海洋科技大學
高雄醫學大學

鹿児島大学

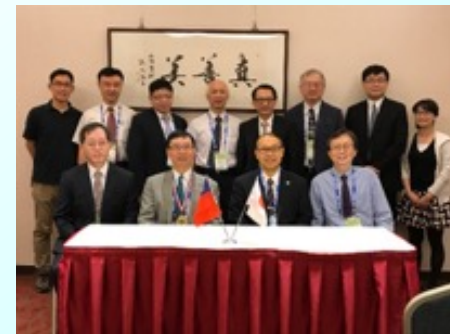


◆ Pertaining to faculties related to dental science

- Kaohsiung Medical University(2017)
- National Yang Ming University (2017)



高雄醫學大學



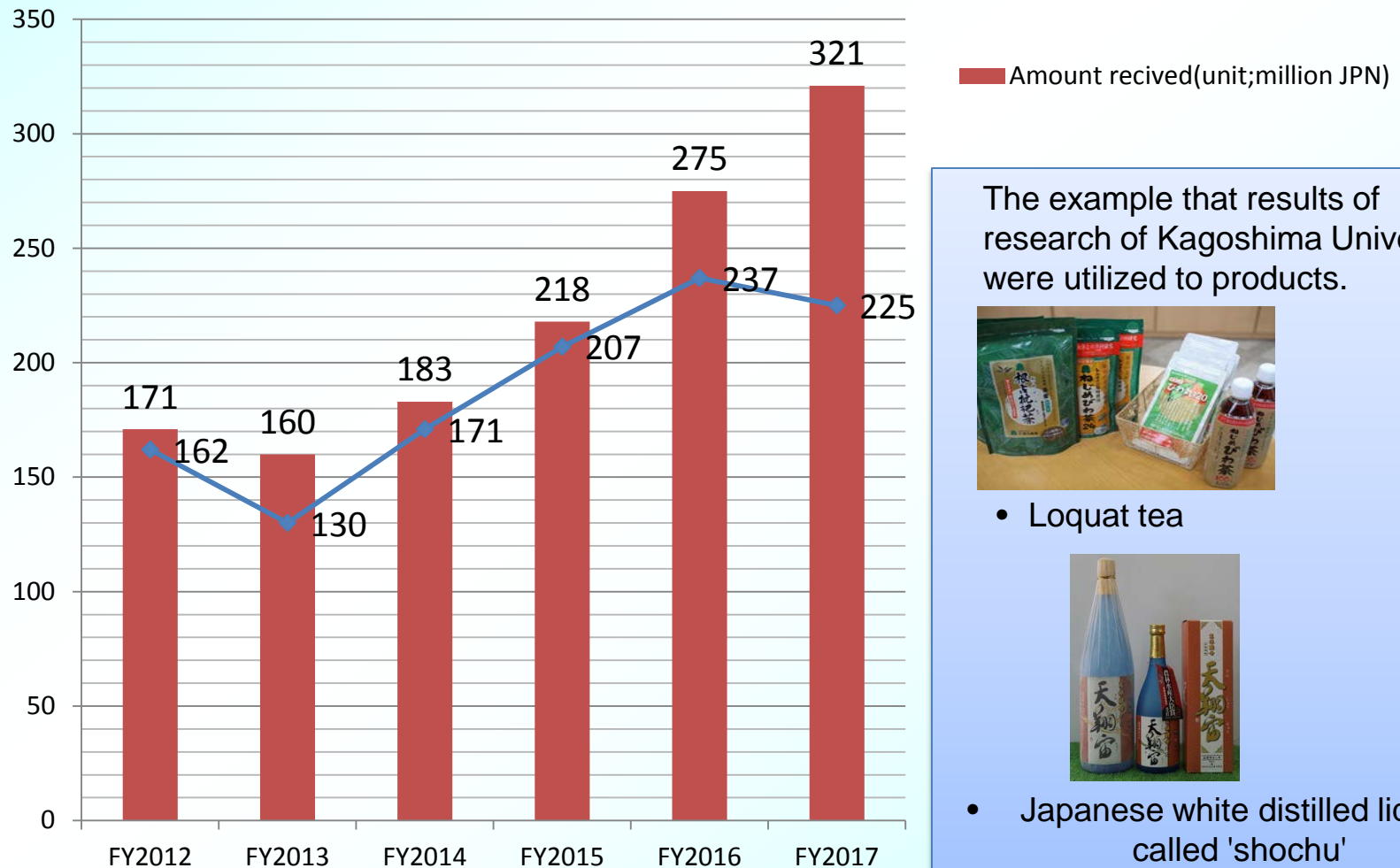
國立陽明大學

Industry-University Collaboration

- 1) Trends in joint research
- 2) Strengthening administrative function of Industry–Academia Collaboration office in Kagoshima University
 - Topic1: Transboundary Animal Diseases Research Center; (TAD center)
 - Topic2: Kagoshima–Osumi Food Technology Development Center
- 3) Study Field in Kagoshima University
 - 1. International Standard–Excellent Study Field
 - 2. Study Field for Regional Problems Solving
- 4) Strategic Study Field
 - 1. Islands, 2. Environment, 3. Food and Health, 4. Energy, 5. Water

1) Trends in joint research

- Amount of funds received from the private & public sector totally increases over 5 years from ¥160M (FY2013) to ¥321M(FY2017).
- The number of joint research projects was 225 cases(FY2017) .



The example that results of research of Kagoshima University were utilized to products.



- Loquat tea



- Japanese white distilled liquor called 'shochu'

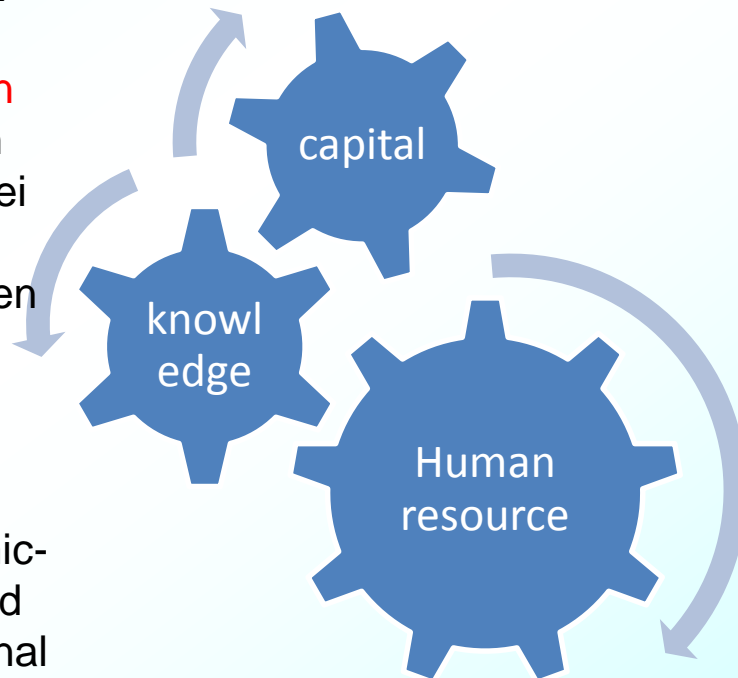
2) Strengthening administrative function of Industry-Academia Collaboration office in Kagoshima University (Topic 1, Topic 2)

we established the **Institute for Regional Co-creation in Southern Kyusyu and the South-East Islands** in April 2018 to strengthen functions of industry-academia and regional collaborations.

Mission

1. Establish a framework for the interaction of **knowledge** and **human resources** in Southern Kyushu and the Nansei islands
2. Reinforce links between administration and finance in the Kagoshima region
3. Centralization of industrial and academic-related information and sharing with the regional society

Our “Virtuous Cycle”



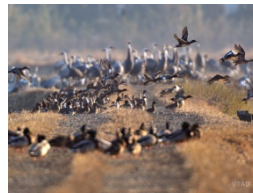
Action

1. Allocate **human resources** in a “new Institute”
2. Survey of the R&D needs of the local companies and society
3. Project formation and R&D support for local companies
4. Transfer of research results for local companies->**capital**
5. **human resources** linking industry and academia

Topic1

Transboundary Animal Diseases Research Center;TAD center

The TAD center has been established for the research of TAD pathogens, epidemics and their education in order to contribute for the development of veterinary medicine education, animal husbandry and safety in public health.



Fling cranes in Izumi-plain

Southern-Kyushu is one of the best area of domestic animal industries in Japan and tops the list of annual output in cattle, swine and poultry. Therefore, **threat of transboundary animal diseases (TAD)** is enormous and causes serious damage in the animal husbandry. Zoonosis is also serious problem for human health.

Topic2

Kagoshima-Osumi Food Technology Development Center

Kagoshima Prefecture established the “Kagoshima-Osumi Food Technology Development Center” in 2015, in order to promote research and development of food processing technology and food distribution technology. This center not only carries out R&D, but also supports the building of prototypes and expansion of sales routes by producers and farmers. Kagoshima University currently has close links with this Center.

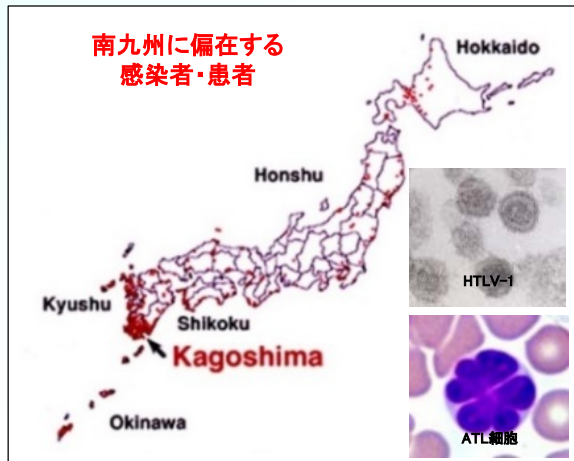


The Kagoshima region is a major production area for agriculture in Japan.
Kagoshima University is contributing to regional industries.

3) Study Field in Kagoshima University

1. International Standard-Excellent Study Field

- Advanced Infection control and prevention
 - * Center for Chronic Viral Diseases
 - * Transboundary Animal diseases Research Center
- Center for the Research of Advanced Diagnosis and Therapy of Cancer
- Research for The Milky Way Galaxy etc.



3) Study Field in Kagoshima University

2. Study Field for Regional Problems Solving

Islands, Environment, Food and Health, Water, Energy, Disaster
Research for Earthquake and Volcano Disaster Prevention etc.

Strategic Study Field in Kagoshima University

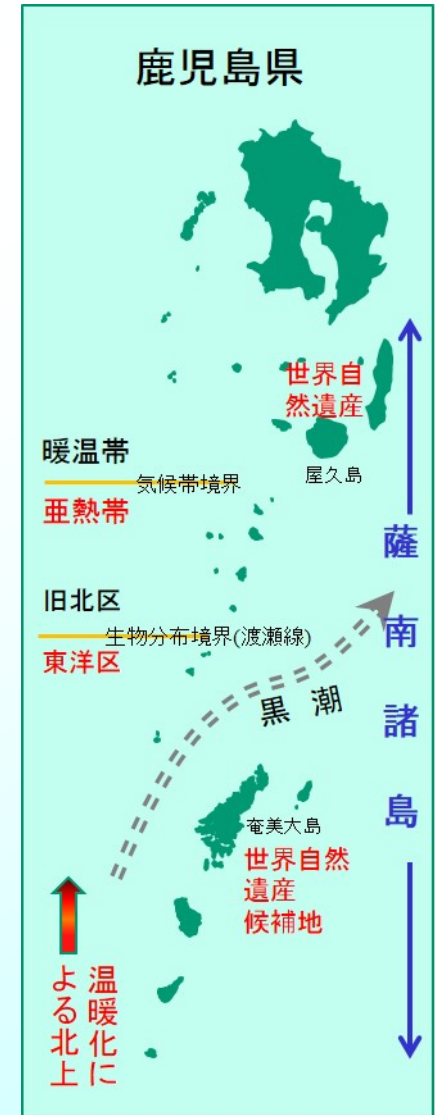
1. Islands
2. Environment
3. Food & Health
4. Water
5. Energy
6. disaster



4) Strategic Study Field

1. Islands, 2. Environment, 3. Food and Health, 4. Water, 5. Energy , 6 Disaster

- Promotion of research on the homeostasis and sustainable development on small islands.
 1. Project to establish an international academic network which deals with the changing environment
 2. Project to enhance the islanders' ability to make a living
 3. Project to make adaptation plans for community development



4) Strategic Study Field

1. Islands, 2. Environment, 3. Food and Health, 4. Water, 5. Energy , 6 Disaster

1. Kagoshima Environment Project

- The project lies in its constitutive nature emphasizing the Kagoshima cultural-environment context.

2. Biological Diversity Project



薩南諸島の生物多様性とその保全に関する教育研究拠点形成

教員の所属・研究分野

部門	氏名	所属	主なテーマ
陸域	1 齊本 初子	理工学	植物進化と絶滅の研究
	2 落合 雪野	博物館	標本の収蔵公開と植物相説明
	3 仲谷 夏夫	理工学	生物相の地史的変動
	4 坂巻 孝孝	農学部	昆虫相の解明
	5 橋元 しげ子	博物館	アリ類の島嶼分化
	6 鈴木 英治	理工学	希少種の好適生育環境
	7 相場 慎一郎	理工学	物理的環境の多様性への影響
	8 川西 基博	教育学部	生態環境の地理的分布の影響
	9 菊川 信	農学部	生態の時間変動の影響
	10 栗和田 隆	教育学部	昆虫の多様性を生み出す環境
	11 高山 清升	理工学	陸産貝類の島嶼分化の生態
人と自然	12 Postdoc		脊椎動物の生態
	13 桑原 幸雄	法文学部	人と自然の関わり文化人類学
	14 長崎 俊介	鳥嶼研	鳥嶼の地域特性と環境資源
	15 萩野 誠	法文学部	保護区設定と経済
	16 平井 一郎	農学部	保護区設定の政策的研究
	17 遠藤 道雄	農学部	在来作物の多様性
	18 山本 雅史	農学部	在来キツネの多様性
	19 山本 雅史	鳥嶼研	陸産鳥類の多様性
	20 津田 陽男	農学部	温暖化に伴う害虫の侵入
	21 藤田 志歩	共同獣医	有害獣類など哺乳類生態
	22 久米 元	水産学部	リュウキュウアユの保全と活用
水域	23 寺田 竜太	水産学部	藻類の分布調査
	24 本村 浩之	博物館	沿岸魚類の多様性
	25 河合 漢	鳥嶼研	水産生物
	26 鈴木 廣志	水産学部	陸産カニ類の島嶼分化
	27 Postdoc		海洋生物多様性
	28 山本 初子	水産学部	沿岸生物群集の生態
	29 牧野 正典	理工学	干潟の生物の生態
	30 津田 季之	理工学	海洋生物の化学的多様性
	31 池永 隆徳	理工学	魚類の生理・生態
	32 平 瑞樹	農学部	GIS, Data base
	33 Postdoc		Data Base GIS

データベースGIS



アサギマダラのマーキング調査



島への侵入等アサギマダラのモニタリング



薩南諸島のササギマダラの新種シマササギ



「ヤクシマキツネウオ」と命名 伊勢湾産のササギマダラ



経度応答性リュウキュウアユ

経度によるアユの産卵条件



ヤクザル



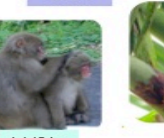
島の産来ミカン



奄美のヤムイモ



西の植物アマミビネ



海神での調査



島文相



島文相アマミビネ



島文相



ヤシガニ



4) Strategic Study Field

1. Islands, 2. Environment, 3. Food and Health, 4. Water, 5. Energy , 6 Disaster

1. Agricultural and Fishery Resources for Prevention of Lifestyle-Related Diseases
2. Reconstruction of Rural Community in the Southern Kyushu
3. Food Safety



紫芋団子きなこがけ
黒酢たれ
黒豚せいろ蒸し (赤キャベツ入り)
焼酎茶
茄子味噌田楽 (黒胡麻たれ)
里芋とワカメの黒豆入りサラダ
黒米入り麦御飯
ハンダマのすまし汁
パッションフルーツ黒糖焼酎割り

JAグループ
大塚がくある農業、もっと。

鹿兒島の長寿食文化を参考
(長寿文化の背景に高機能成分食材)

県内産食材の薬理作用を分析・把握
(食品機能プロファイリング)

鹿兒島の食材を組み合わせ
栄養学的にバランスを整えた献立を構築

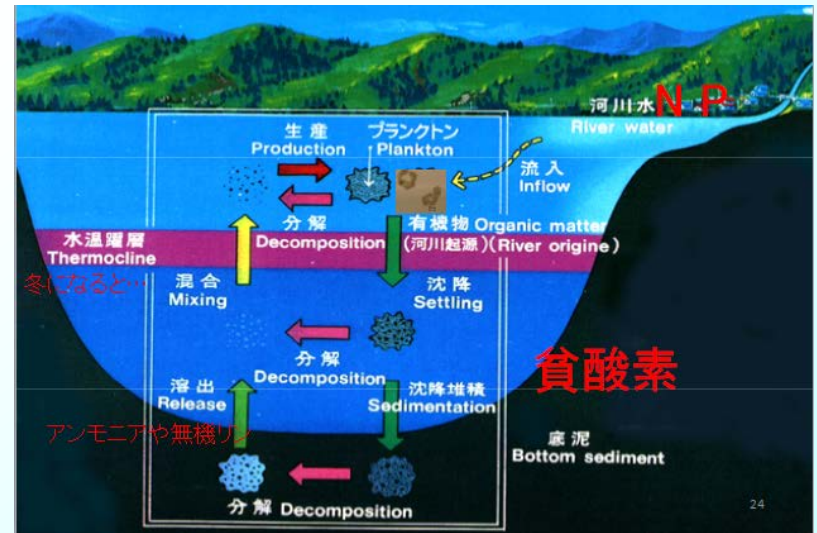
鹿兒島の食材を用いた
食べて健康になる新規メニュー
(登録商標「黒膳」登録番号5766881)

4) Strategic Study Field

1. Islands, 2. Environment, 3. Food and Health,
4. Water, 5. Energy , 6 Disaster



- 1. Water Resource and Utilization
- 2. Water and Disaster
- 3. Water and Life



Ocean Energy

4) Strategic Study Field

1. Islands, 2. Environment, 3. Food and Health,
4. Water, 5. Energy , **6 Disaster**

Research and Education Center for Natural Hazards



https://upload.wikimedia.org/wikipedia/commons/e/e6/Sakurajima_20091003.jpg

An aerial photograph of Mount Fuji, a large snow-capped volcano, dominating the background. In the foreground, a dense urban area, likely Tokyo, is visible, featuring a complex network of roads, buildings, and a large body of water (Tokyo Bay) with several bridges and ships. The sky is blue with a few wispy clouds.

Thank you for your attention!