

## Sudan-Japan Universities' Friendship Conference

--- 70th Anniversary of Japan's ODA, 35th Anniversary of JICA Sudan ---

7th March 2024

# Kumamoto University's Activities

Building a better future by connecting the world

**Kumamoto University Professor Emeritus** 

Hirofumi KAI

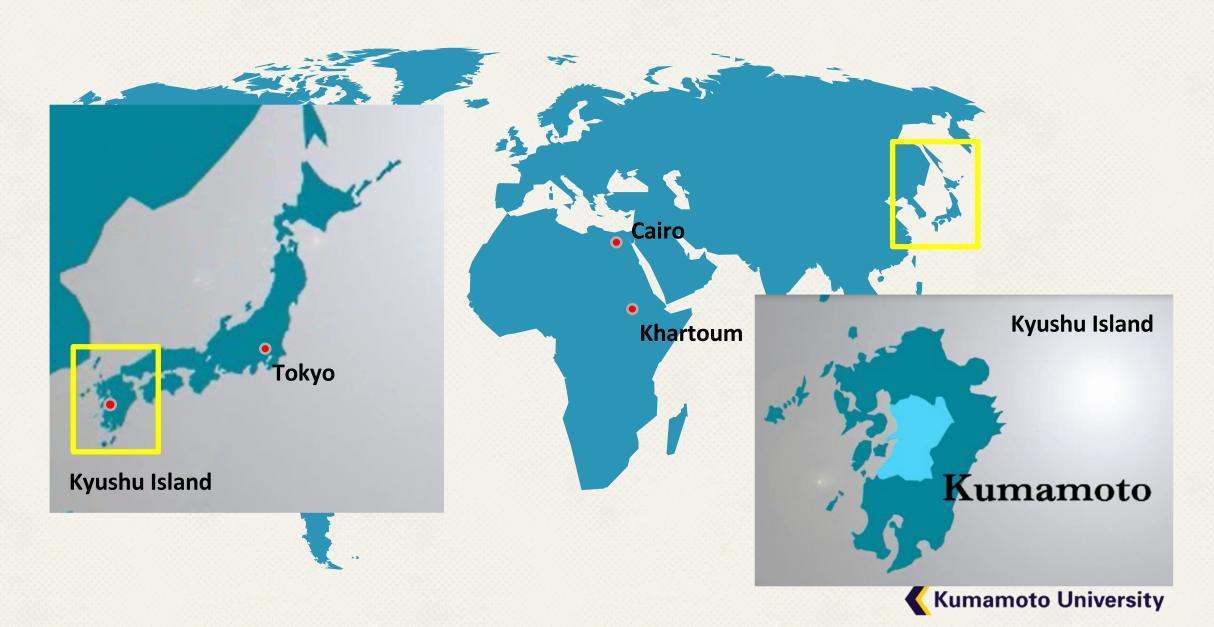
# Story of My Talk

- 1. Brief Introduction of Kumamoto in Kyushu Island
- 2. History of Relationship between us
- 3. TICAD event in Kumamoto
- 4. Future direction

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## Where Kumamoto Is



## **About Kumamoto**

#### **Amakusa**

Archipelago consisting of more than 120 islands among the blue seas



#### **Kumamoto Castle**

One of the oldest (more than 400 years) and best castles in Japan



#### Mt. Aso

The active volcano with one of the largest calderas in the world





## Beautiful Environment outside Kumamoto City





#### **History of Kumamoto University**

- Since 1949 (current Univ.)
- Its roots go back to the 18<sup>th</sup> century
- The Fifth Imperial High School (1894-1950) is one of the oldest high schools under the old system of education in Japan
- Currently
  About 10,000 Students
  (including 2,000 grad. students)
  1,000 Faculties and 1,700 staff



Old time building in 19th Century



The Red Gate (National Important Cultural Property)



The Memorial Museum of the Fifth High School (National Important Cultural Property)



## **Undergraduate Schools**

School of Letters

Integrated Human Studies, History, Literature, Communication and Information Studies

Contemporary culture studies, Manga

**School of Education** 

Elementary School Teacher, Junior High School Teacher, Special Needs Education Teacher, School Health Teacher

School of Law

Law

School of Science

Science (Mathematical Sciences, Physical Sciences, Chemistry, Earth Sciences, Biological Sciences)

School of Medicine

Medicine, Health Sciences

School of Pharmacy

Pharmacy, Pharmaceutical and Life Sciences

School of Engineering

Civil and Environmental Engineering and Architecture, Mechanical and Mathematical Engineering, Computer Science and Electrical Engineering, Materials Science and Applied Chemistry

Semiconductor Device Program will be launched in April 2024

**Kumamoto University** 

## **Graduate Schools**

Graduate School of Education

Teacher Training Practices and Development Major

Graduate School of Social and Cultural Sciences

(MC and DC) Law and Letter

Graduate School of Science and Technology

(MC and DC) Science and Engineering

Graduate School of Medical Sciences

(MC and DC) Medical Sciences

Graduate School of Health Sciences

(MC and DC) Health Sciences

Graduate School of Pharmaceutical Sciences

(MC and DC) Pharmaceutical and Life Sciences





## Global Center for Natural Resources Sciences (GCNRS)

#### Mission

We develop innovative new medicines based on the world's medicinal natural resources to protect people's lives and health.

### Vision

Natural ecosystems and people's health will be in harmony.

## Vaccine Development Research Center (VDRC)

#### **Mission**

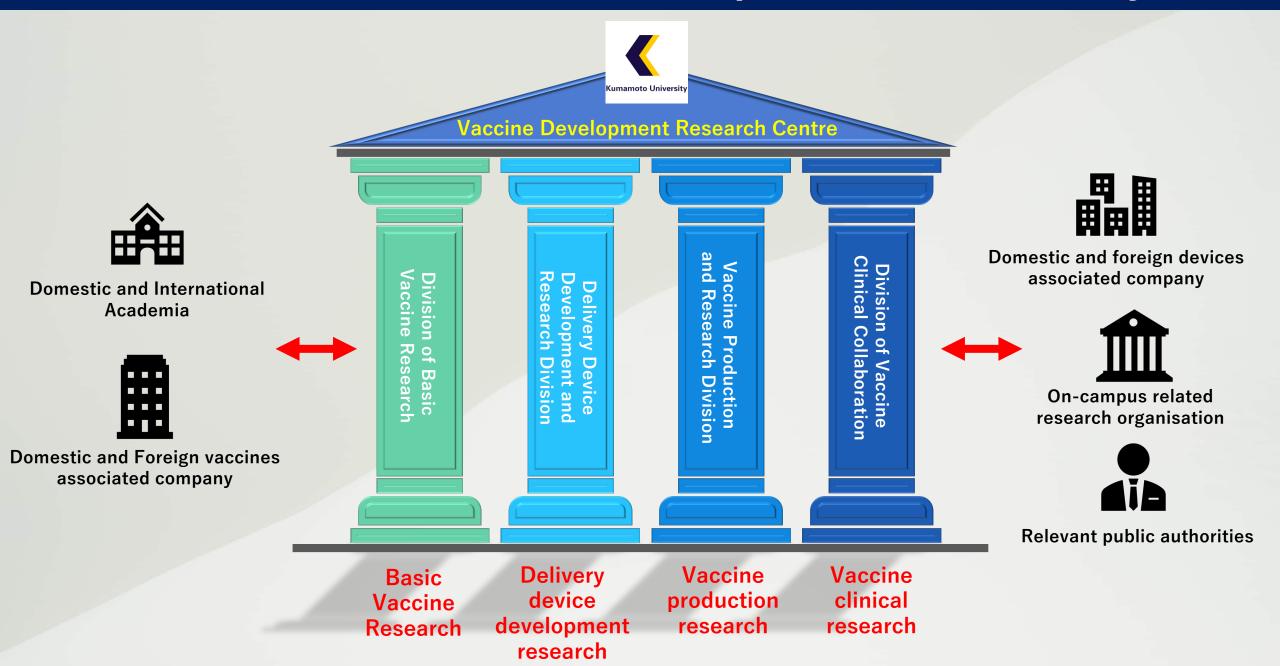
To protect the lives and health of the people, we engage in cutting-edge research towards the development of breakthrough vaccines.

#### **Vision**

We contribute to global medical care and public health through world-leading research for vaccine development.



## **Establishment of Vaccine Development Research System**



## Development of vaccine modalities

### Modernization of smallpox vaccine production

KM Biologics Ltd. (Kumamoto) and the Vaccine Development and Research Center are working together to modernize smallpox vaccine production.





## Dr. Isao Arita in Kumamoto



15 May 1926 - 17 March 2023

#### 8 May 1980 33rd World Health Assembly

#### WHO Declaration of Smallpox Eradication



نحن أعضاء اللجنة العالمية للإشهاد الرسمى باستنصال الجدري نشهد بأنه قد تم إستنصال الجدري من العالم.

WE. THE MEMBERS OF THE GLOBAL COMMISSION FOR THE CERTIFICATION OF SMALLPOX ERADICATION, CERTIFY THAT SMALLPOX HAS BEEN ERADICATED FROM THE WORLD.

> 我们,全球扑灭天花证实委员会委员, 证实扑灭天花已经在全世界实现。

NOUS, MEMBRES DE LA COMMISSION MONDIALE POUR LA CERTIFICATION DE L'ERADICATION DE OUE L'ÉRADICATION DE LA VARIOLE A ÉTÉ RÉA-LISÉE DANS LE MONDE ENTIER

мы, члены ГЛОБАЛЬНОЙ комиссии по СЕРТИФИКАЦИИ ликвидации оспы. подтверждаем, что

NOSOTROS, MIEMBROS DE LA COMISION MUNDIAL PARA LA CERTI-FICACION DE LA ERRADICACION DE LA VIRUELA, CERTIFICAMOS QUE LA VIRUELA HA SIDO ERRADICADA EN TODO EL MUNDO.

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## **History of Our Relationship**



#### **Trigger (2011)**

Dr Naoyuki Kawahara (Rocinantes) came and had a special lecture (Sudan's public health and international contributions) at the Faculty of Pharmacy, Kumamoto University.

One undergraduate student (Ms. Nagatomo, the 3<sup>rd</sup> grade) attended at his lecture.

She was very impressed and wanted to join the activity of Rocinantes in Sudan.











## History of Our Relationship



Development of academic research and educational exchange

- 1) (March 2016) MOU has started between the Faculty of Pharmacy, University of Khartoum and the Faculty of Pharmacy, Kumamoto University.
- 2) (April 2020) MOU was extended between University of Khartoum and Kumamoto University.

**Sudan Office of Kumamoto University** 



University of Khartoum, Faculty of Pharmacy

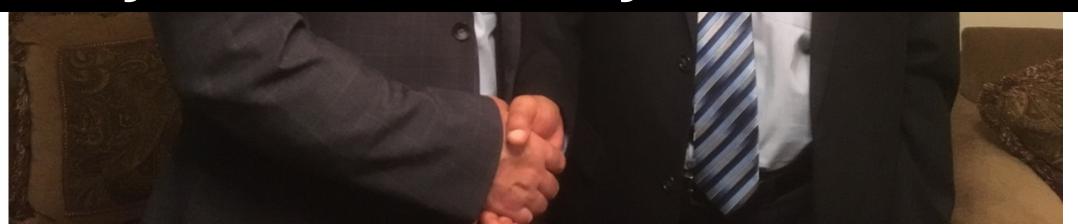








Embassy of Sudan in Tokyo (Nov. 2018)





# History of Our Relationship Development into educational exchange



• The first foreign student from Sudan successfully graduated (PhD) at the end of 2018. He is currently working as an assistant professor at the Faculty of Pharmaceutical Sciences, Kumamoto University.



 One student subsequently completed a doctoral course and obtained a PhD.



 In addition, one research student obtained a doctorate from the Faculty.



## Doctor Thesis of Sudanese Students Graduated From Kumamoto University





#### 1) Khaled Mohamed Elmain Suliman

March, 2018

Design and Evaluation of Novel Methylated-β-cyclodextrin Systems as Antitumor Agents for Colon Cancer

#### 2) Sara Mustafa Idris Elbashir

September, 2019

In vitro biological screening on Sudanese medicinal plants for their potential antidiabetic and anti-HIV activities



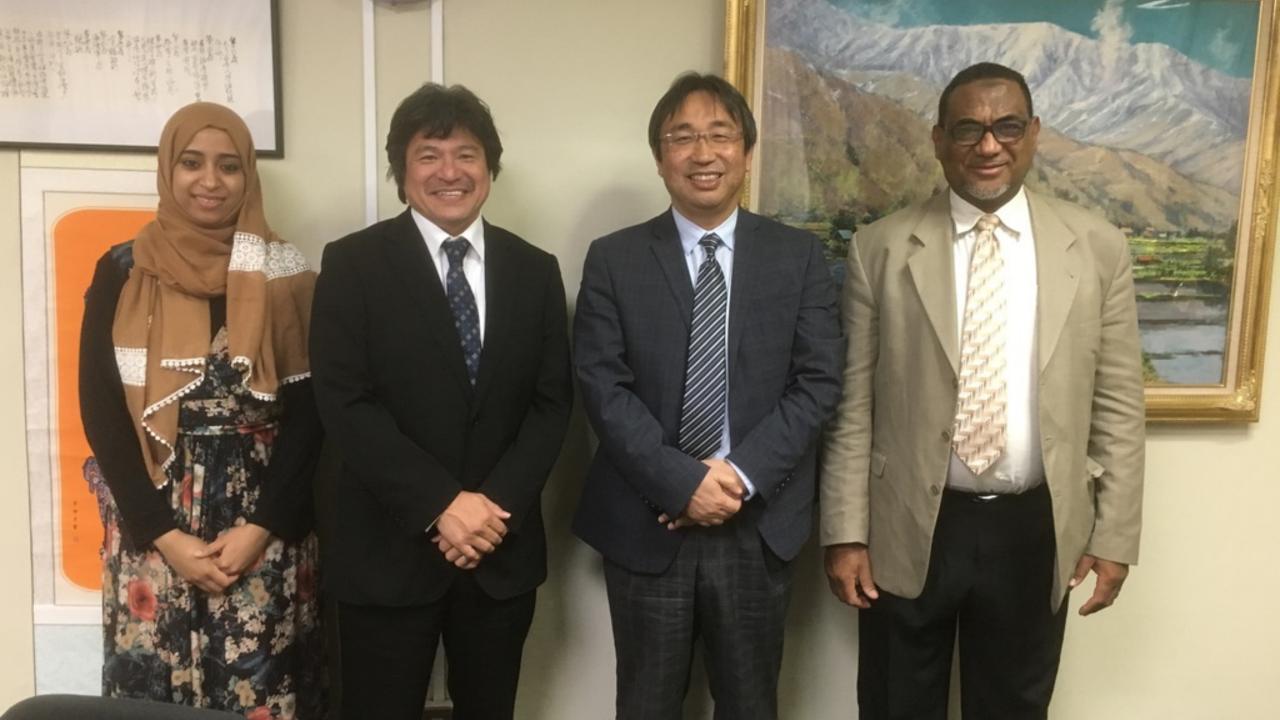
March, 2020

Biological Activity Screening of Sudanese Medicinal Plants and Chemical Analysis of Active Extracts of *Guiera* senegalensis JF Gmel and *Blepharis linariifolia* Pers.











## Current Sudanese Students from University of Khartoum studying at Kumamoto University under the signed MoU



#### **Ahmed Elwaleed Ahmed Ibrahim**

Faculty of Engineering, University of Khartoum

Joint project between Prefecture of Kumamoto University and Kumamoto University

**Enrolled in September 2021** 

#### **Ahmed Mohamed Elhassan**

Faculty of Medicine, University of Khartoum

JICA Scholarship

Will be Enrolled in October 2024



# Development into academic and research exchange



# Regular research meetings and Sudan plant collections

(March 2008, July 2008, October 2009, October 2017, December 2018, February 2020…)

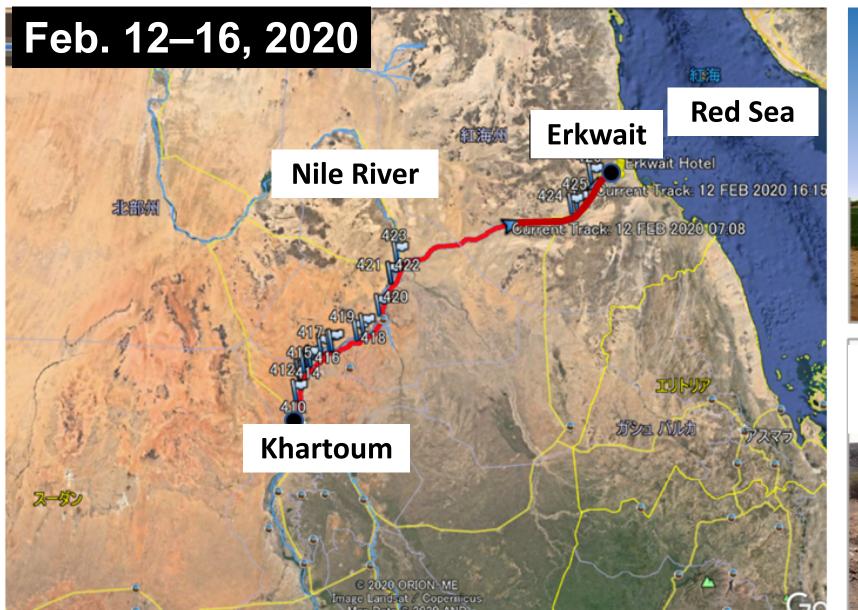




## Academic Workshop in University of Khartoum in 2020



## Visit Erkwait for Medicinal Plants in Sudan















#### **81 Medicinal Plants**

















# Useful and Unique Natural Products for Drug Discovery and Development (UpRpd)



2017-2021



# Mission

We contribute to sustainable development of the societies, coexisting and harmonizing natural ecosystem with human health, through scientific endeavors, conservation and preservation of the natural resources on earth.





Vision

Watanabe @ 2007-2010

We contribute to 1) Conservation and preservation of useful and unique natural products through networking and education, 2) Drug discovery and development by scientific innovation available worldwide, and 3) Encouraging the formation of glocal (global and regional) health communities.











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#### **TICAD7 Side event in Kumamoto 2019.10.19**









# Discussion for infectious diseases in Post-TICAD7 Forum in Kumamoto University





クマモト提言 2019 Kumamoto Statement 2019 Discussion for Lifestyle diseases in Post-TICAD7 Forum in Kumamoto University

### Kumamoto Statement 2019

ステートメント骨子

Statement Outline



第7回アフリカ開発会議 ボストフォーラム in 熊本 Post-TICAD7 Forum in Kumamoto



#### **Universal Health Coverage** (UHC)\*<sup>3</sup>の充実

Public-Private-Academia Partnership: PPAP による連携

UHC の充実を図るため、Public Private Partnership (P3 パッケージ、官民連携)に加えて、人材育成や医 療シーズの創出に強みを持つアカデミアが参画する Public-Private-Academia Partnership: PPAP 連携 による下記の取り組みにより、"三方良し"の精神で、 アフリカ諸国主導のより良い保健・医療環境の構築 を支援する。

#### 1. 日本の知識・経験・ノウハウを活かした現 地での人材育成

感染症および非感染症(生活習慣病)に関する 「ヘルスリテラシー」の向上のための人材育成 支援

#### 2. 医療アクセスの向上のための施策

- 医薬品および検査・診断・技術の適切な供給 支援
- 医療インフラ整備の適切な支援
- 緊急対応に必要な規制の緩和と調和
- 現地に即した薬局方の整備支援
- 伝統・伝承医療を活用した治療法の充実支援

#### **Enhancement of Universal Health** Coverage (UHC)#3

#### Cooperation by Public-Private-Academia Partnership (PPAP)

To enhance UHC, we plan to support the establishment of better health and medical environment led by African countries, with the spirit of "Sanpo Yoshi (meaning "Good for yourself, myself and society as well"). Specifically, the following actions outlined below will be accomplished via the Public-Private Partnership (P3) together with the Academia (PPAP), which can provide enhanced programs for human development and creation of medicinal avenues.

#### 1. Education of local people by sharing Japanese knowledge, experience and know- how on public health

· Support for the education on the improvement of "health literacy" on infectious diseases and noninfectious diseases (Lifestyle diseases)

#### 2. Policy for enhanced access on medical care

- · Support for the provision of medicines and techniques of diagnostic test
- · Support for the establishment of medical infrastructure
- · Easing and harmonizing regulations on healthcare policy for emergency situations
- · Support for the preparation of Pharmacopeia suited to local conditions
- · Support for the enhancement of therapy using traditional medical treatment



# Tokyo International Conference on African Development



Tunisia

2022





TICAD8 Official Side Event: International Online Symposium in English (Edited version)



**Date and Time** 

## **September 20, 2022**

From 16:00 - 18:00 (Japanese time)

International ONLINE Symposium in English and Japanese (with simultaneous translation)

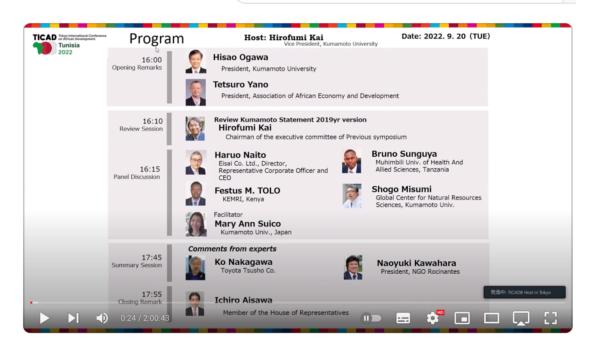






TICAD8 Official Side Event: International Online Symposium in English (Edited version)





検索

YouTube



第8回アフリカ開発会議 公式サイドイベント TICAD8 Official Side Event

創薬やアフリカ伝承薬活用による 健康的かつ、より良い生活を求めて

Health-Related Quality of Life and Well-being by Drug Development and African Traditional Medicines





Harmonization of traditional medicine and modern preventive medicine

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### Traditional Medical Practice Using Natural Resources

# To improve healthcare services compatible with local lifestyle and medical systems in Africa

- ➤ Academia will support drug development based on traditional medicine with sufficient scientific evidences.
- Academia will support drug development based on information of traditional medicine and suited to local health care needs
- Academia will tackle this issue through stronger integration in public-private partnerships (P3) by providing enhanced programs for human development and the creation of healthcare avenues.

# Public-Private-Academia Partnership (PPAP)





Young people can build a new paradigm of Sudan for future.