

# The past, present and future of Agricultural Engineering

- A bridge between UTokyo and NTU built by professors 白井 and 施



2015.12.9

@Yayoi Auditorium, UTokyo

2023.12.7

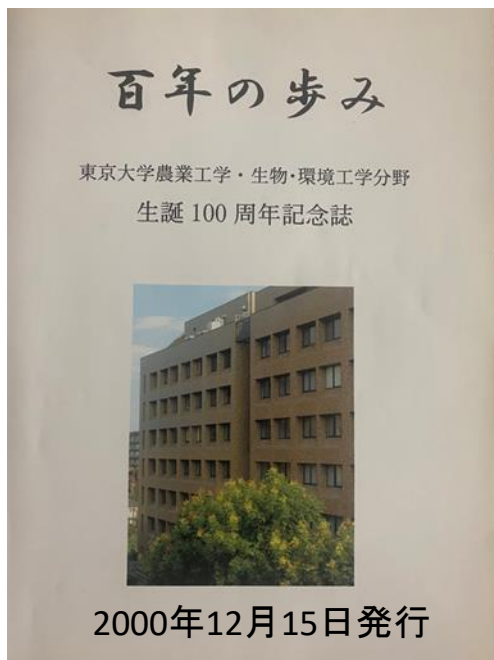
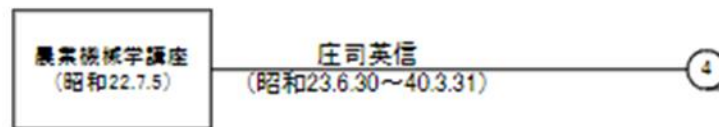
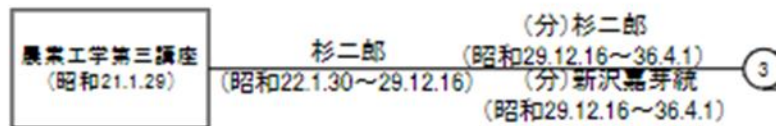
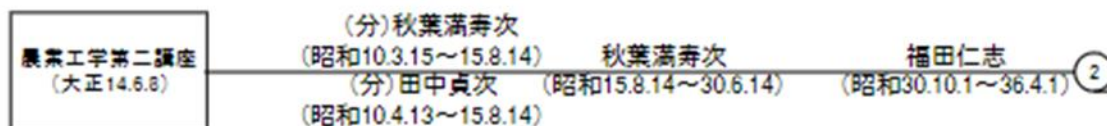
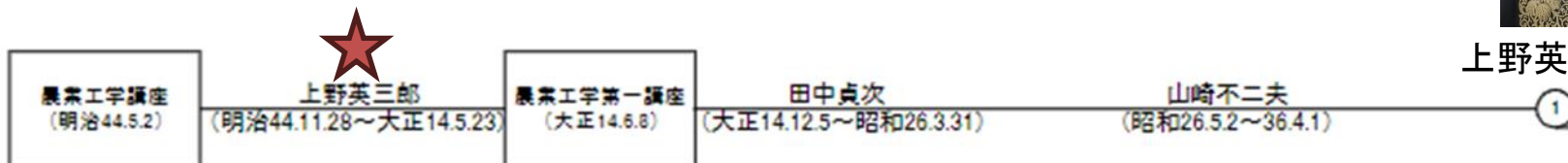
@NTU

# 東京大学農業工学・生物・環境工学分野関係講座の系譜

<http://shikou.en.a.u-tokyo.ac.jp/ayumi/keifu.pdf>

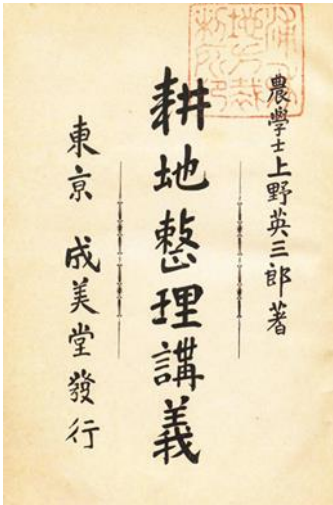


上野英三郎



p.8



西暦	年号	東京大学・農学部記事	農業工学科, 生物・環境工学専攻記事	関連一般記事
1895	28	千葉演習林開設		
1896	29			河川法(旧法)公布
1897	30	東京帝国大学と改称		
1899	32	北海道演習林開設		耕地整理法(旧法)公布
1900	33		上野英三郎先生農学第二講座を分担(講師)	耕地整理法施行
1902	35		上野英三郎先生助教授に昇任	
1905	38			耕地整理法改正(目的に灌漑排水を追加) 農商務省による耕地整理講習開始
1906	39		第一種耕地整理講習(農商務省委託)が農科大学において開催される(農・工学士を対象)	上野英三郎「耕地整理講義」刊行
1907	40		上野英三郎先生独・仏・米へ留学(明治43年まで)	第二種耕地整理講習(農商務省)開始(高等農林学校卒業生を対象)
1908	41			水利組合法公布
1909	42			耕地整理新法制定(開墾, 地目変換を認め, 耕地整理組合を法人化)
1910	43	水産学科開設		
1911	44		農業工学講座が正式に認められる	
1914	大正3年			第一次世界大戦はじまる
1915	4			社団法人土木学会第一回総会
1916	5	秩父演習林開設		岩田式初摺機(遠心式)の発明
1918	8	帝国大学改正により各公科大学		第一次世界大戦終結

百年の歩みp.77より

# 耕地整理（農業工学・農業土木学）の役割

## 農業農村のインフラ整備

Role of arable land consolidation (Agricultural Engineering and Agricultural Civil Engineering)  
Infrastructure development in agricultural and rural areas

## 農業基盤整備 Agricultural Infrastructure Development

公共事業 public works

農業生産を支える縁の下の力持ち的役割  
A behind-the-scenes role for Supporting agricultural production



- ①水を貯め ②水を導き
- ③農地を整え ④道を整える

+情報基盤整備

- (1) Store water (2) Direct water (3) Prepare farmland (4) Prepare roads

+Information infrastructure development

# 水田・水環境工学

## Paddy and Water Environment Engineering

- The science and technology of water and environment-related disciplines in paddy-farming
- Agricultural engineering in paddy farming regions
  - irrigation and drainage
  - soil and water conservation
  - land and water resources management
  - paddy multi-functionality
  - agricultural policy
  - regional planning
  - bioenvironmental systems
  - ecological conservation and restoration



Prof. Hidesaburo Ueno (1871-1925) is the Founder of this field

# Taiwan vs. Japan (台灣 vs. 日本)

## University department (大学)

生物環境工程学系  
Bioenvironmental Systems Engineering

生物・環境工学専攻  
Biological Environmental Engineering

## Academic Society (学会)



社團法人台灣農業工程學會 Taiwan Agricultural Engineers Society



The Japanese Society of Irrigation, Drainage and Rural Engineering

公益社団法人 農業農村工学会

## Land improvement (土地改良)



農田水利會聯合會 TAIWAN JOINT IRRIGATION ASSOCIATION, R.O.C

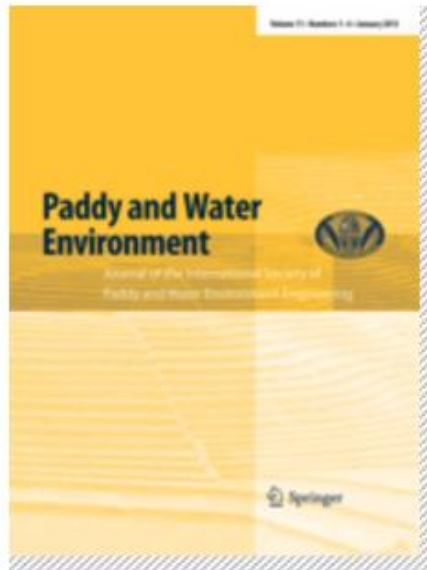


# International Society of Paddy and Water Environment Engineering (PAWEEES)



Agriculture Home > Life Sciences > Agriculture

SUBDISCIPLINES | JOURNALS | BOOKS | SERIES | TEXTBOOKS | REFERENCE WORKS



## Paddy and Water Environment


Editor-in-Chief: **Masaru Mizoguchi**

ISSN: 1611-2490 (print version)

ISSN: 1611-2504 (electronic version)

Journal no. 10333

Chief Managing Editor: Yu-Pin Lin (2009-2013) @NTU

 2014 Impact Factor

1.151

Past





# My Taiwan visit

- PAWEES 2011 International Conference
  - 27-29 October, 2011
  - National Taiwan Univ.
- AFITA/WCCA 2012
  - September 5, 2012
  - Taipei, Taiwan
- APAN 38th meeting
  - 13 August, 2014
  - National Chi Nan University, Taiwan
- PAWEES 2014 International Conference
  - 30-31 October, 2014
  - Kaohsiung, Taiwan



Shinkansen



Karaoke party

# Collaboration between UTokyo and NTU

FY 2012: 1 faculty, 4 graduate students from NTU to UTokyo

- ✓ Workshop of GRENE-RECCA Agriculture Workshop at UTokyo (2 July, 2012 )  
Global Environmental Changes and ICT-Agriculture

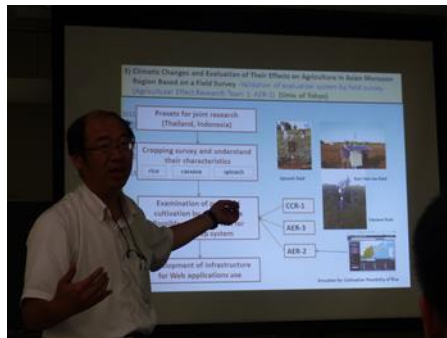
<http://www.iai.ga.a.u-tokyo.ac.jp/mizo/seminar/GRENE-RECCA-workshop.pdf>

FY 2012: 1 faculty from UTokyo to NTU

- ✓ Small seminar and Discussion on cooperation of ICT-agriculture (6 Sept, 2012 )



Yayoi campus



## The Second GRENE-RECCA Agriculture Workshop Global Environmental Changes and ICT-Agriculture

**Date:** 2 July, 2012  
**Venue:** Morning sessions(**Sesion-1**)- Yayoi Campus, Graduate School of Agricultural and Life Sciences  
 Afternoon session(**Sesion-2**)- Tanashi Campus, Institute for Sustainable Agro-ecosystem Services, The University of Tokyo  
**Organizer:**  
 / Program of "Climatic changes and evaluation of their effects on agriculture in Asian monsoon region" in Green Network of Excellence (GRENE)  
 / Program of "Development of decision support system for optimal agricultural production under global environment change" in Research Program on Climate Change Adaptation (RECCA)  
 /Institute for Sustainable Agro-ecosystem Services, The University of Tokyo  
 /Agro-informatics group of Agri-cocoon, Graduate School of Agricultural and Life Sciences, The University of Tokyo



Tanashi campus

### CONTENTS

#### Sesion-1 /Yayoi Campus

10:00-10:05	Opening Remarks (Masaru Mizoguchi, The University of Tokyo)
10:05-10:10	Opening Remarks (Ming-Che HU, National Taiwan University)
10:10-10:20	Opening Remarks (Naritaka Kubo, The University of Tokyo)
10:20-10:30	Monitoring of frozen soil in Mongolian grass field (Katori Arimitsu)
10:30-10:40	Water temperature in paddy field affected by global warming (Masaomi Kimura)
10:40-10:50	Education material by a Bucket SRI practice in elementary school (Hanae Yokokawa)





←本郷  
Hongo campus tour  
(2 July, 2012)

田無  
Tanashi campus tour →  
(2 July, 2012)

1. Ming-Che HU, Assistant Professor, Ph. D, male
2. Hsin-I HSIEH, Ph.D. candidate, female
3. Pei-Hsuan YAO, Ph.D. candidate, female
4. Chun-Wei HUANG, Ph.D. student, male
5. Tadashi IKEDA, Ph.D. student, Ph. D, male





UTokyo GAS Study tour  
July 22-30, 2016



NTU-UTokyo Joint Conference@NTU, Decr 12, 2018



AAUI Annual Forum  
@National Taiwan University  
December 14, 2018

**Field Monitoring System  
to Promote Data Science-based Smart  
Agriculture**

Prof. Masaru Mizoguchi

Lab. of International Agro-Informatics  
Dept. of Global Agricultural Sciences  
Univ. of Tokyo

(1980)

AAUI Annual Forum @NTU, Dec 14, 2018

# 細水長流

## Friendship goes a log way



施嘉昌 教授

白井清恒 教授

博士論文：台湾における地表灌漑の研究(1984)

Study on surface irrigation in Taiwan

農業地水学研究室、農業工学科

Lab. of Chisui, Department of Agricultural Engineering (1984)

# Professor Shirai (白井教授)

After retiring UTokyo, he taught at NTU.

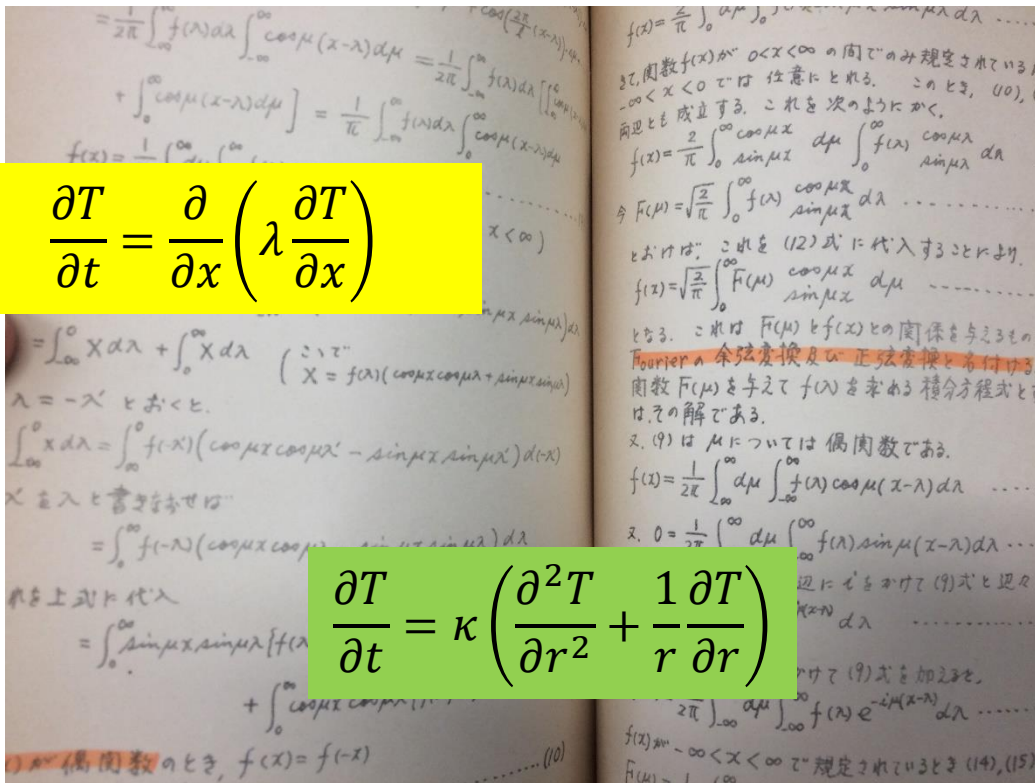
- Agricultural Mathematics (農業数学)
- Agricultural Physics (農業物理学)
  - Heat conduction (熱伝導)

He is my teacher.

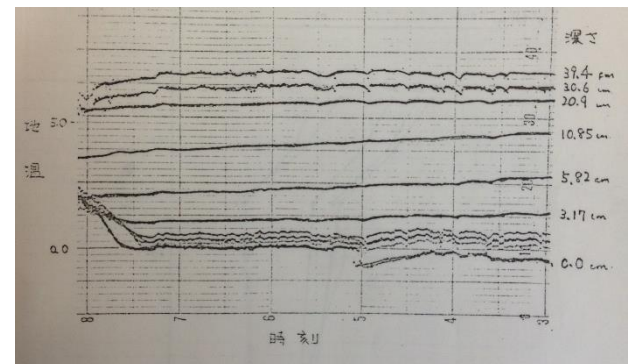
- 三重大学
- 東京大学
- 東京農業大学(台湾大学)

$$\frac{\partial T}{\partial t} = \frac{\partial}{\partial x} \left( \lambda \frac{\partial T}{\partial x} \right)$$

$$\frac{\partial T}{\partial t} = \kappa \left( \frac{\partial^2 T}{\partial r^2} + \frac{1}{r} \frac{\partial T}{\partial r} \right)$$



Handmade textbook (手作教科書)



My BS thesis supervised by Prof. Shirai.  
Measurement of soil temperature (1981)












## 獎助學金

### 學生專區

- 大學部
- 碩士班
- 博士班
- 系學會
- 獎助學金
- 其他規定
- 高中生
- 外籍生
- 國際交流

#### 獎助學金

- 一、紀念金城
- 二、國立台灣
- 三、系友會
- 四、紀念鮑
- 五、易任教
- 六、施嘉昌
- 七、徐玉標
- 八、生工系
- 九、中興工
- 十、七星農
- 十一、王鼎盛

- 一、紀念金城教授獎助金辦法 
- 二、國立台灣大學農業工程學系高阪知武教授紀念論文獎頒授辦法 
- 三、系友會白井清恆教授獎學金頒給辦法 
- 四、紀念鮑衡山系友獎學金辦法 
- 五、易任教授農業工程研究獎學金辦法 
- 六、施嘉昌教授清寒獎學金申請辦法 
- 七、徐玉標教授獎學金辦法 
- 八、生工系研究生助學金申請辦法 
- 九、中興工程公司獎學金申請辦法 
- 十、七星農田水利研究發展基金會獎學金頒授辦法 
- 十一、王鼎盛教授獎學金辦法 



本網站著作權屬於國立臺灣大學生物環境系統工程學系，請詳見使用規則。

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E-Mail：ntubse@ntu.edu.tw

RulingDigital 銳繪數位建置

建議使用IE 6/7 或 Mozilla Firefox 3，並將螢幕解析度設定為 1024\*768，以獲得最佳瀏覽效果



## 系友會白井清恆教授獎學金頒給辦法

1. 獎學金來源：以白井清恆教授捐款新台幣參拾伍萬元為基金及今後追加捐款之利息為獎學金。
2. 頒給對象：國立台灣大學農業工程學研究所所在學研究生為限。
3. 申請資格：
  - a. 學業成績平均八十分以上者。
  - b. 未申請其它獎學金者。
4. 申請日期：每年五月一日以前以填具申請表向主任提出申請
5. 頒獎方式：頒給獎金與獎狀資學術交流，或其它。其方式名額及金額將視該年孳息情形，經審查小組開會商定（以往每年一至三名，每名新台幣壹萬元整）。
6. 審查公布：所主任將所有申請表及有關資料交請審查小組審。於五月二十日以前將審查結果於六月一日公布，並擇期公開頒獎。
7. 審查小組：擬請國立台灣大學農業工程所學術招生委員會負責審查。
8. 本辦法依八十四年八月十八日由國立台灣大學農業工程系友會理監事聯席會議決議處理。

## 白井清恆教授獎學金歷年得獎名單

年度	得獎學生
2005 年	林嘉佑
2006 年	張高華
2007 年	魏嘉徵
2008 年	劉俊志
2009 年	王承龍
2010 年	連琮勛
2011 年	黃浚璋
2012 年	曾怡菱
2013 年	魏嘉徵
2014 年	陳沛堯



Present

Mizo and Yu-Pin made a draft of MOU on 2016/11/24



# Agreement on Scholarly Exchange and Collaboration

between

University of Tokyo

Department of Global Agricultural Sciences

and

National Taiwan University

College of BioResources and Agriculture

Department of Bioenvironmental Systems Engineering

- The University of Tokyo, Department of Global Agricultural Sciences (located in 71-31-1 HongoYayoi, Bunkyo-ku, Tokyo 113-8654 Japan) and National Taiwan University, College of BioResources and Agriculture, Department of Bioenvironmental Systems Engineering (located

The University of Tokyo

National Taiwan University

College of BioResources and Agriculture

Department of Global Agricultural Sciences

Department of Bioenvironmental Systems Engineering

Department of Biological Environmental Engineering

Professor ~~XXX~~ Kensuke Okada

Professor Yu-Pin Lin

Chair

Chair

Date:

Date:

# Future

細水長流

A new Friendship  
between UTokyo and NTU  
will be built by our generation!

# 豆知識 Trivia



1. A dog, Hachiko, is more famous than the founder of our academic field, Prof. Hidesaburo Ueno.
2. Hachiko was born 100 years ago.
3. The statue of Dr. Hidesaburo Ueno and Hachiko was built at Yayoi campus of UTokyo on March 8, 2015.

Let's take a group photo in front of the statue next year!

# Additional information



Hachiko goods shop is open on 8th day in every month <https://hachikocafe.com/>



Puppy hachiko sticker (issued monthly)  
Hachiko met Prof. Ueno when he was 2 months old.



More information

Hachiko ramen at UTokyo cafe

[https://twitter.com/hongo\\_coopd/status/1716688969378013469](https://twitter.com/hongo_coopd/status/1716688969378013469)

<http://www.iai.ga.a.u-tokyo.ac.jp/mizo/hachi/hachi.html>

# Thank you for your kind attention

