



JPFA Online Training No. 23-1

Introductory & Specialized Courses

on Plant Factories with Artificial Lighting (PFALs)

MARCH 9 - 27, 2023

JPFA Training Course

Learn about PFALs on our science-based practical online course—anytime at your convenience and anywhere in the world during the course period.

Participants will acquire specific and practical know-how as well as be guided through theories and academic knowledge. There will be a live online question-and-answer session.

Since 2010, JPFA has conducted pioneering research alongside plant factory tours, workshops, and training courses. We have been collaborating with and advising businesses. Now anyone can access their insights and translate them into action.

JPFA is Training Indoor Farmers Around the World.

▶ 3600+ Training alumni since 2010

About 240 participants from more than 40 countries joined JPFA international training courses during 2018 - 2022.

Join the JPFA training course, [click here.](#)



Target

The course is targeted at enthusiastic individuals who plan to start or have started PFAL operations or research.

Objective and Goal

- To offer the foundation for theory and experience-based practices, with a view to foster academic and industrial development of next-generation PFALs.
- To facilitate the development and dissemination of technically and economically sustainable PFALs. To provide first-hand technical and conceptual classes by a variety of professionals in practice in both academia and the PFAL industry.

Course Period: March 9 - 27, 2023

This course also allows you to learn how large-scale PFALs in Japan ensure a stable supply of quality produce for customers, a crucial point in business operations in such an era.

- ✓ All lectures are pre-recorded
- ✓ Participants can view the videos at their convenience during the course period
- ✓ On completion of the course, a certificate of participation can be issued upon request
- ✓ A live Q&A session will be held on March 22, 2023.
- ✓ Our course is on a special app-- Swapcard
- ✓ The app allows participants to interact with each other
- ✓ Participants can send any questions via our app

For more information :
training@npoplantfactory.org

Or check our website for updated information.



NEW OPTION!!

Business Focused



This option offers business-related content besides a few primary lectures.

*For better understanding, however, the Full option is recommended.

► Class Example

Introductory Program

- Business Administration of PFALS
- Case Study of Large-scale PFAL
- Forthcoming Technologies
- Virtual Tour inside PFAL, etc.

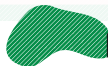
Specialized Program

- A 60 mins Personal Tour Inside a Large-scale Commercial PFAL
- Hands-On Technical Training on PFAL Business Management"
- Vertical Farming in Europe and Planet Farms/ Talk session, etc.

- ✓ Only includes the business-related content and a few general lectures
- ✓ Selected from the Full contents of Introductory and Specialized courses
- ✓ Express learning: The relatively short amount of learning time at reasonable fees
- ✓ A live Q&A session will be held on March 22, 2023, but questions from attendees who registered for the Full option take precedence
- ✓ All lectures are pre-recorded
- ✓ Participants can view the videos at their convenience during the course period



For more questions:
training@npo.plantfactory.org



Introductory Program

Updated

Introductory classes will offer elementary theory and practice of PFALs, basic knowledge of cultivation and operational management, and keys to business success. Some theory is considered universal, while other content is constantly updated, such as "Current Global Situation", "Forthcoming Technologies" and "Hydroponic Crop Production".

Module	B*	Class Name	
General	☆	Current Global Situation	Renewed
	☆	Principles, Structure and Environmental Control of PFALs	
Environmental effects		Photosynthesis, Respiration and Transpiration of Plants	Renewed
		Light Environment and Plant Growth	Renewed
Nutrient solution		Basis of Hydroponic Cultivation and Nutrient Solution	Renewed
		Plant Nutrition related with Nutrients and Water Uptake	Renewed
Cultivation		Cultivation Management	
		Cultivation Processes Demonstrated	
		Hydroponic Crop Production	
Business	☆	Business Administration of PFALs	
	☆	Case Study of Large-scale PFAL: 808 Factory	
Future developments	☆	Forthcoming Technologies	
Virtual tour	☆	Virtual Tour inside PFAL	
Live Q&A on March 22, 2023	☆	All participants can join a live Q&A session and watch the recorded video.	

The course contains PFAL principles and the basics, such as photosynthesis, respiration, transpiration, light environment and plant growth, nutrient solution and hydroponic cultivation, as well as about forthcoming technologies and PFAL business management.

For a basic understanding of hydroponic cultivation, for example, "Cultivation Management" discusses seeding to precooling. "Cultivation Processes Demonstrated" gives virtual hands-on demonstrations of such matters as how to handle and transplant seedlings.

Notes: The lecturers and classes are subject to change without notice.

The introductory course includes 11 hours of video learning and access to all introductory content.

*Business Focused includes 5 hours of video learning and access to the business-related modules. Check the star mark (☆) on column "B" in the table above.



Specialized Program

Updated

Specialized content will cover **practical methods** and **novel applications**, such as **plant phenotyping** and **molecular farming**, that anyone interested in forthcoming technologies should never miss!

The course gives you the privilege of taking a **60 mins personal tour** inside a large-scale commercial PFAL "808 Factory".

It also includes **detailed explanations**, provided with examples, about what an **expert operator** at "greenLand" PFALs views as important in its operations.

Hands-on Technical Training on PFAL Business Management includes an example of **spinach** to demonstrate what to expect when growing other products instead of lettuce.

Roel Janssen from Planet Farms, an Italian **automated large-scale PFAL**, will talk about the European plant factory market and the specific approach unique to an Italian company and invite participants to a live talk session with him on **March 22, 2023**.

Notes: The lecturers and classes are subject to change without notice.

Module	B*	Class Name
Novel Applications		Phenomics and Potential of Phenotyping Renewed
		Molecular Farming in Plant Factories: Biopharmaceutical Protein Production under Controlled Environment
Business	☆	A 60 mins Personal Tour Inside a Large-scale Commercial PFAL "808 Factory"
	☆	Case Study of Large-scale PFAL: greenLand
	☆	Hands-On Technical Training on PFAL Business Management Renewed
	☆	Vertical Farming in Europe and Planet Farms
Live Talk with Roel on March 22, 2023	☆	Roel from Planet Farms in Italy will update the information about Vertical farming in Europe and discuss it with participants.
Live Q&A on March 22, 2023	☆	All participants can join a live Q&A session and watch the recorded video.

The specialized course includes 5 hours of video learning and access to all specialized content.

*Business Focused includes 3.5 hours of video learning and access to the business-related module. Check the star mark (☆) on column "B" in the table above.

Course Fees

Course		Option	JPFA member	Nonmember	What is included/Notes	Application Form URL
First-time attendees	Introductory Only	Full	JPY 35,000	JPY 65,000	Viewing lecture videos, downloading lecture files and joining other events.	https://select-type.com/e/?id=hCtEPz-sVVl
		Business Focused	JPY 20,000	JPY 35,000	*Business Focused contains only business-related content and a few general lectures. For more details, check each course program. **First-time attendees need to start the introductory course.	
	Introductory + Specialized Courses	Full	JPY 65,000	JPY 100,000		
		Business Focused	JPY 45,000	JPY 70,000		
Alumni of 2018-2022 courses	Introductory Only		JPY 10,000	JPY 15,000	Same as above.	Visit the URL in the email to be <u>sent to all the alumni</u> .
	Specialized Course only		JPY 30,000	JPY 35,000	*In a planned Q&A session, questions of first-time attendees are given precedence over alumni ones.	
	Introductory + Specialized Courses		JPY 40,000	JPY 50,000		

How to apply

▶▶▶ Registration ▶▶▶

■ First-time attendees

To register, visit the application form.

(<https://select-type.com/e/?id=hCtEPz-sVVl>)

■ The alumni of the training courses

Visit the URL in the email to be sent to all the alumni.

▶▶ Payment ▶▶

- Credit card payment via Stripe
- or
- Bank transfer

▶ Start ▶

Start on March 9, 2023.

You will receive an invitation email on the training app a few days before the training course starts.

■ Cancellation Policy

Cancel on/before Feb. 8, 2023

> Return the fee except for the cancellation fee of 15 % of the payment

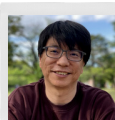
Cancel on/after February 9, 2023

> No return of the fee.

Instead of canceling, any participant can transfer their registration to another person without penalty on/before March 2, 2023.

JPFA Training Courses Lecturers

The first-rate lecturers of the coming course include



THE UNIVERSITY
OF TOKYO

**Wei
Guo**



JPFA

**Eri
Hayashi**



Planet Farms

**Roel
Janssen**



SHINNIPPOU LTD.
808 FACTORY

**Katashi
Kai**



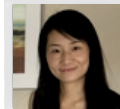
JPFA

**Toyoki
Kozai**



THE OHIO STATE
UNIVERSITY

**Chieri
Kubota**



CHIBA
UNIVERSITY

**Na
Lu**



JPFA

**Toru
Maruo**



THE UNIVERSITY
OF TOKYO

**Ryo
Matsuda**



GREENLAND

**Yuhei
Shimada**



JPFA

**Yutaka
Shinohara**



CHIBA UNIVERSITY

**Satoru
Tsukagoshi**



MARGINAL LLC

**Kazuya
Uraisami**

The live question and answer session for all participants is scheduled for 10-11 am on March 22, 2023 (JST), where academics and PFAL operators as lecturers stand by to answer participants' questions.