JPFA 2022 Online Training Course on Plant Factories with Artificial Lighting (PFALs)

Feb. 25-March 15, 2022

Online Training Course in English Tailored for People Who Care about PFALs

DON'T MISS THIS OPPORTUNITY!

Jan. 12, 2022

The Japan Plant Factory Association is offering an online training course on plant factories with artificial lighting (PFALs) in English on Feb. 25-March 15, 2022.

The JPFA is responding to calls from indoor farmers, researchers, business planners and other interested people for lessons on PFALs, also known as vertical farms. Since 2010, the JPFA and Chiba University have organized various in-depth and practical learning events including introductory and advanced training courses.

Course Features

The coming course is targeted at enthusiastic current and prospective indoor farmers who plan to start or have started PFAL operations or research and will comprise introductory classes and special content.

Introductory classes will offer elementary theory and practice of PFALs, basic knowledge of cultivation and operational management, and keys to business success. Special content will cover such issues as practical methods and provide a virtual tour to commercial, large-scale PFAL. For details, see the program below.

All lectures are prerecorded, but participants can send any questions via a specified app. We are planning to hold a live Q&A session to answer these questions. The Q&A session will be a good opportunity for participants to exchange views and deepen their understanding.

The app allows participants to interact with each other although they cannot get together as in on-site courses.

On completion of the course, we can issue a certificate of participation upon request.

Objective and Goal

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

What Participants Say

Here are comments by participants in the 2021 online training course on PFALs.

" It was really wonderful being the part of the course; Many of the concepts really excited me." (A participant of India)

" As someone completely new to plant factories, I found this course an excellent overview of all the topics and challenges in running a PFAL." (A participant of the USA)

" The fact that I received answers to many technical questions, is priceless." (A participant of Romania)

"The JPFA 2021 PFALs training course is full of value, thoughtful insights, and details unavailable elsewhere. It is presented in a format and a pace suitable for many levels and interests. I plan to continue attending to refresh my knowledge, and to see this vital emerging technology evolve." (A participant of Saudi Arabia)

Lecturers and Classes

■ **Lecturers** (in alphabetical order of family names)

Chiba University/JPFA: Eri Hayashi, Toyoki Kozai, Na Lu, Toru Maruo, Osamu Nunomura, Yutaka Shinohara, Satoru Tsukagoshi

The Ohio State University: Chieri Kubota

The University of Tokyo: Wei Guo

Lecturers from the PFAL industry: Katashi Kai (Shinnippou Ltd.--808 Factory), Yuhei Shimada & Junnosuke Akigawa (Kidaya Shoten Co., Ltd.--greenLand), Kazuya (Kaz) Uraisami (marginal LLC)

■ **Program**

Introductory Classes

Category	Class Name	Notes
General	Current Global Situation	Plant factories with artificial lighting (PFALs) in the world
	Current PFALs	Current cultivation systems and protocols, the characteristics of LEDs, issues that remain to be solved and/or improved
	Principles, Structure and Environmental Control of PFALs	Meanings of basic technical terms for understanding the lectures, introduction to technical concepts and system design of PFALs
Environmental effects	Photosynthesis, Respiration and Transpiration of Plants	The basics of such matters as photosynthesis, respiration and transpiration, and effects of environmental factors on photosynthesis
	Light Environment and Plant Growth	Effects of a light environment on plant growth and the quality of produce
Nutrient solution	Basis of Hydroponic Cultivation and Nutrient Solution	Nutrient solution composition and management
	Plant Nutrition related with Nutrients and Water Uptake	The uptake of nutrients and water, function of transpiration, physiological disorders such as tip burn, and avoidance methods
Cultivation	Cultivation Management	Seeding, transplanting, harvesting, postharvest processing, and precooling
	Cultivation Processes Demonstrated	Expert demonstration of cultivation processes
	Hydroponic Crop Production: Leafy greens - Microgreens and Baby Greens	Hydroponic crop production methods on microgreens and baby greens

Business	Business Administration of PFALs	Basic concepts of efficiency, productivity, and profitability, and simulation practices with business administration sheets
	Case Study of Large-scale PFAL: 808 Factory	How 808 Factory operates: pursuit of sustainable PFAL business, reduction of running costs, production of high-value plants, marketing and business model creation
Future developments	Forthcoming Technologies	Phenotyping, artificial intelligence, time shift lighting, automation and robots, renewable energy use, and breeding of plants suited to PFALs
Virtual tour	Virtual Tour inside PFAL	A virtual tour inside an automated PFAL
Q&A Session		Time for lecturers to answer questions on their classes from participants

Special Content

Category	Class Name	Notes
Methodology	Phenomics and Potential of Phenotyping	Phenomics, phenotyping and their possible application to PFALs
Business	Case Study of Large-scale PFAL: greenLand	What greenLand considers important: ways of operational management in large-scale PFALs, illustrated with examples
	Hands-On Technical Training on PFAL Business Management	In-depth study of PFAL business administration
	A Close Look inside a Large-Scale Commercial PFAL	A virtual tour inside a commercial, large-scale PFAL in central Japan

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

■ Specified App--Swapcard

The course uses the Swapcard platform, which allows participants to connect and network with each other. The Swapcard app is available on personal computers as well as iPhone and Android.

After the registration, you will receive an email a few days before the training that will give information on how you can access the training site.

Course Fees

The following shows the fees for the course. Applicants who have not joined JPFA training courses in English before need to take the introductory course, but the alumni can choose special content alone.

Price List for JPFA 2022 Training Course

Category	Choice	JPFA member	Nonmember	What is included
First-time attendees	Introductory Course Only	JPY 35,000	JPY 65,000	Viewing lecture videos, downloading lecture files and joining other course events.
	Introductory Course + Special Content	JPY 65,000	JPY 100,000	
Alumni of 2018-2021 courses	Introductory Course Only	JPY 10,000	JPY 15,000	Same as above. *In a planned Q&A session, questions of first-time attendees are given precedence over alumni ones.
	Special Content only	JPY 30,000	JPY 35,000	
	Introductory Course + Special Content	JPY 40,000	JPY 50,000	

Registration

Apply for the course from either of the following:

▶ First-time attendees: Click here.
URL: https://select-type.com/e/?id=A5Vko7GAPXg

▶ The alumni of the training courses in 2018-2021:
Visit the URL in the email to be sent to all the alumni.

Once your application is approved, credit card payment will be made immediately, and you will automatically get a receipt via Stripe.

If you have selected "pay via wire transfer" as your payment option, we will send you an invoice with the necessary bank information separately soon. After your payment by wire transfer, we will email you to confirm the receipt of your payment.

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

Schedule

(1) Each applicant will receive an email on the training app a few days before the training starts.

(2) Course content will become accessible on Feb. 25, 2022.

(3) A live Q&A session is tentatively planned for early March 2022.

*You will receive necessary notifications after the course starts.

■ Cancellation Policy

If any participant cancels the training course on/before Jan. 25, 2022, we will return the fee except for the cancellation fee of 15% of the payment. If the cancellation is made on/after Jan. 26, 2022, there is no return of the fee.

Instead of canceling, any participant can transfer their registration to another person without penalty on/before Feb. 20, 2022.

Japan Plant Factory Association

The Japan Plant Factory Association (JPFA), a nonprofit organization founded in 2010, is devoted to advancing the plant factory industry and controlled-environment agriculture in and outside Japan through academia-industry collaborations.

Its mission is to develop and disseminate sustainable plant factory systems to address issues concerning food, the environment, energy and natural resources.

The JPFA oversees plant factories on the Chiba University Kashiwanoha campus in Kashiwa, northeast of Tokyo. Also, it works on about 20 R&D projects and runs workshops and training courses.

■ How to Become a JPFA Member

Apply for JPFA membership here.

For more information, visit the JPFA website or email us at training@npoplantfactory.org.

We welcome your inquiries.

Japan Plant Factory Association

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