1. Introduction of new E-version of PSSNet magazine

It may not surprise you that PSSNet is aiming for internationalization to increase the impact of this Plant Stress Science Network. As first practical step, we have re-designed and opened our website in English in 2017. Next, we will start issuing an E-version of our magazine quarterly, that is in every 4<sup>th</sup> month. We hope that PSSNet members will accept this change, and still enjoying reading the magazine, while our new international members will be able to join and participate in the Network. Thank you for staying with us! Thank you for joining us! We are always thankful for your support!

2. New employment opportunities at IPSR

2.1. WOMAN TENURE-TRACK ASSISTANT PROFESSOR position in the Plant Immune Design Group (Biotic Stress Unit) led by Professor Yoji Kawano. The applications from qualified candidates should be sent directly to Okayama University Office for Promotion of Gender Equality by 3 p.m. on August 31, 2020, Japan Standard Time. See more details from the Okayama University websites:

https://en.okayama-u-diversity.jp/recruitment-female-researchers/wtt/recruitment/ (English)

https://www.okayama-u-diversity.jp/recruitment-female-researchers/wtt/recruitment/ (Japanese)

2.2. TENURE-TRACK ASSISTANT PROFESSOR position in the Plant Light Acclimation Research Group (Atmospheric Stress Unit) under the supervision of Prof. Wataru Sakamoto. The applications from qualified candidates focusing on various aspects of chloroplast development and photosynthesis in plants should arrive at IPSR by Wednesday September 30, 2020. See more details at IPSR websites: <u>http://www.rib.okayama-u.ac.jp/english/20200612-2</u> (English) <u>http://www.rib.okayama-u.ac.jp/recruit/20200612-1.html</u> (Japanese) 3. Student recruitment information - Online Graduate School Briefings The Institute of Plant Science and Resources offers excellent study opportunities for graduate students interested in various aspects of plant research. Considering the nationwide travel restrictions due to the prevention of coronavirus spread, the Institute is holding its briefing sessions online, via Zoom on the following dates:

4-September 2020 (Friday) 13:00~16:00 11-September 2020 (Friday) 13:00~16:00 14-September 2020 (Monday) 13:00~16:00

Registration page (Japanese): <u>https://www.rib.okayama-u.ac.jp/nucleus/Daigakuin/setsumeikai2020Sep.html</u> Information page (English): <u>https://www.rib.okayama-u.ac.jp/Education2020/setsumeikai0L.html</u>

[Q&A] (English - Japanese) Toshio Yamamoto, Institute of Plant Science and Resources, Okayama University TEL: (086)434-1205 E-mail: <u>yamamo101040@okayama-u.ac.jp</u>

4. Joint research introductions \* 64-th series \*

Same as in the regular Japanese version of PSSNet magazine, we will be inviting foreign researchers who participated in our Joint Research Center International Program to share their experience with us in English. In July, we received a letter from Israel that was jointly contributed by Drs. Buzi Raviv and Janardan Khadka from Gideon Grafi's laboratory at the French Associates Institute for Agriculture and Biotechnology of Drylands, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev

[https://in.bgu.ac.il/en/bidr/Pages/default.aspx]. Here is what they have to say.

Konnichiwa. We are Dr. Buzi Raviv and Dr. Janardan Khadka from the Bluastein Institutes for Desert Research (BIDR), Ben-Gurion University, Israel. We are early career researchers at Prof. Gideon Grafi's Lab for Plant Epigenetics, or as we call it, "The Happy Genetics lab". We have spent several weeks in the 2019 fall season in your institute and we wish to pay our deep gratitude to Prof. Ivan Galis and his associates for hosting us in Japan and specifically in the lab. We work on a special project and recently had the opportunity to collaborate with Prof. Galis. Our project includes the investigation of the fate of dead plant material enclosing embryos and seeds of Angiosperms. In the last couple of years, we and our partners in the lab, have discovered a previously unexplored feature of these dead organs (i.e. seed coats, dry pericarps and hardened floral bracts) that is, their capability to function as long term storage for active biomolecules such as proteins and metabolites. While our study in Israel is more focused on the protein level, the collaboration with Prof. Galis enabled us to explore metabolites such as hormones and primary metabolites and analyze them efficiently. Following Prof. Galis' invitation, Dr. Khadka spent several weeks in the metabolites lab to learn and perform the analyses on several interesting samples

of dead plant, collected from experimental plots, treated under differential watering regime. Basically, we tried to examine whether drought stress experienced by a plant, may have effect on accumulated molecules in the dead organs which enclose embryos. "It was a nice opportunity to be exposed to a different lab and environment" says Khadka with a smile, "after all, the desert is very different from Japan". He reports that in addition to learning new methods and meeting new colleagues, he had an unforgettable cultural experience.

Dr. Raviv joined after several weeks to participate in a short-term training on metabolite analysis, together with a group of about 10 more graduate students from different parts of the world. "I am so grateful for this experience" says Raviv "and it was very interesting to present our study to unfamiliar scientists and be open for criticism and new ideas". Eventually, the results obtained in this adventure confirmed the hypothesis that indeed, the composition of biomolecules in dead organs enclosing embryo was affected by the life history of the mother plant. The results were summarized into two manuscripts, which were submitted to leading journals.

Link to our recent review publication, giving more details on our research topic: <a href="https://tinyurl.com/y7efnnkq">https://tinyurl.com/y7efnnkq</a>

5. Recent publications

This section contains recent publications of the institute, as well as those contributed by the individual PSSNet users. It is a great opportunity for everyone to draw attention to their own work! Send us information about your papers. We will list them in the next coming issue!

Okano, N., Goto, R., Kato, T., Saisho, D., Kato, K., Miura, H., Tani, M., Onishi, K. Spanish spelt is unique germplasm for improvement of root hair length in hexaploid wheat. PLANT AND SOIL: Published online 23 May 2020 https://doi.org/10.1007/s11104-020-04555-8

Wei, S., Bian, R., Andika, I. B., Niu, E., Liu, Q., Kondo, H., Yang, L., Zhou, H., Pang, T., Lian, Z., Liu, X., Wu, Y., Sun L. Reply to Serra et al.: Nucleotide substitutions in plant viroid genomes that multiply in phytopathogenic fungi. PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA 117(19): 10129-10130 (2020) https://doi.org/10.1073/pnas.2001670117

Huang, S., Wang, P., Yamaji, N., Ma, J.F. Plant Nutrition for Human Nutrition: Hints from Rice Research and Future Perspectives. MOLECULAR PLANT 13 (6):825-835 (2020) https://doi.org/10.1016/j.molp.2020.05.007 Kiba A., Nakano M., Hosokawa M, Galis I., Nakatani H., Shinya T., Ohnishi K., Hikichi Y. Phosphatidylinositol-phospholipase C2 regulates pattern-triggered immunity in Nicotiana benthamiana. JOURNAL OF EXPERIMENTAL BOTANY: Published online 15 May 2020 https://doi.org/10.1093/jxb/eraa233

Uemura T., Hachisu M., Desaki Y., Ito A., Hoshino R., Sano Y., Nozawa A., Mujiono K., Galis I., Yoshida A., Nemoto K., Miura S., Nishiyama M., Nishiyama C., Horito S., Sawasaki T., Arimura G-I. Soy and Arabidopsis receptor-like kinases respond to polysaccharide signals from Spodoptera species and mediate herbivore resistance. COMMUNICATIONS BIOLOGY 3: 224 (2020) https://doi.org/10.1038/s42003-020-0959-4

Takafuji K., Rim H., Kawauchi K., Mujiono K., Shimokawa S., Ando Y, Shiojiri K., Galis I., Arimura G-I. Evidence that ERF transcriptional regulators serve as possible key molecules for natural variation in defense against herbivores in tall goldenrod. SCIENTIFIC REPORTS 10: 5352. (2020) https://doi.org/10.1038/s41598-020-62142-4

## 6. Posting request

In this E-mail magazine and website, we aim to share various information about research in plant stress science, and not only limited to that. We cordially invite all PSSNet members to share their latest publications, information about meetings and seminars, recruitments etc. on the Plant Stress Science Network. Please send us your information by using [pssnet-admin@okayama-u.ac.jp] E-mail address.

## 7. Column from a (very) frustrated Editor

Do you also think that "practice makes perfect"? The truth is that I only know few foreigners, outside the magical "Anglosphere", who can completely hide their true country of origin.

It is particularly painful for a scientist. I hope you agree. The other day, despite receiving generally positive comments, Editor, on the base of one reviewer's feelings, asked us for -- you can guess -- native English speaker check of our manuscript! Here we go again! Sounds like everyone has tons of money (\$\$\$\$) to pay for editing services, or a good friend to ask for a big favor. My own language is a Slavic one, and it is very different from English (almost like Japanese). In particular, we do not have "articles" before nouns in Czech language, and I am never able to get them right… Should it be: "A" mistake? Or

"The" mistake? For me, whichever is fine. It is still just a simple MISTAKE. So, in the first place, how important is English for scientific writing? In my opinion, as long as meaning remains clear, I think simple is better. But as most journals are run by "natives", or have at least one for "check of proper use of English", we are not going to get away from this so easily.

My dream is that one day, the AI translators will be so clever, and find all my mistakes at once. Unmistakably fish out all wrong uses of "a" and "the" from

my Czenglish puzzle, and Editor will once say: "Good job, Ivan… Accepted." Done! I wish, at least once, to know this amazing feeling.

So, I am wondering how is everyone doing? Do you know any good and cheap Editing services? Can you share your experience? It would be great to hear your opinions and publish them in one of the next E-magazine issues planned for November, or any later date. Can we help each other?

In the meantime, here is my own imperfect method. I always try to get a good book in English. Not a scientific book or paper. Just a good looking paperback from local library, bookstore or Amazon, but nothing serious. The most important point is to read your book completely without the use of "evil" known as Dictionary. I find many young Japanese students literally attached to their dictionaries, looking thru their assignments, desperate to know meaning of every single word… I always think: "How wrong!" I believe, the only way to enjoy a book (or paper) is to get engulfed by its story, without any interruptions. If I do not know a word or sentence, I use my imagination, guess what it could mean, and read further. Actually, later, after few more lines, you will probably realize the true meaning from the context. And if not, who cares. You can make your own story, maybe even better than the original!

So, I think it is (maybe) time for you to look for a good novel and read few paragraphs before going to sleep. And for me, I should get back on correcting my paper, again, again, and… again.

Although practice does not make perfect, it can definitely make things better. I hope the Editor will find this idea truly appealing.

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pssnetml mailing list pssnetml@okayama-u.ac.jp