

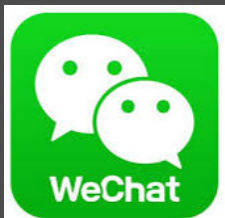
**IASPRR**  
December 2019

# Plant Reproduction Newsletter

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Visit [www.iasprrr.org](http://www.iasprrr.org) for a QR code

## IASPRR Membership

The Plant Reproduction Newsletter is sent to registered IASPRR members only.

Sign up for membership at

[www.iasprrr.org](http://www.iasprrr.org)

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### Message from our President

On September 27, about half a million people marched through the streets of Montreal to bring attention to one of the biggest challenges that humankind is facing during the 21st century—climate change. The march was led by Greta Thunberg, the now famous Swedish teenager who started the school strikes for stronger action on global warming.

This event, as well as the publication of the IPCC Report (Intergovernmental Panel on Climate Change), make one think more than ever about one's daily activities, both private and professional, that contribute to greenhouse gas emission. One way in which research activities contribute to climate change is through the very essence of science—the dissemination of knowledge and discussion of data and methodology at conferences and workshops. The traditional conference format implies that hundreds of people travel over large distances to meet for few days. While some may use ground transport, most are likely to take an airplane for speed and convenience. Flying, of course, contributes in non-negligible manner to the emission of greenhouse gases. A typical conference might entail a combined distance of hundreds of thousands of kilometers traveled by air. Although both aircraft manufacturers and airlines have expressed commitments to increasing efficiency and reducing carbon footprint, the necessary technologies are only slowly being developed and their implementation, let alone reaching a net zero carbon footprint, is still far away.

We, therefore, have to reflect on the way in which we, as a scientific community, think about doing science in the near future. The format of online conferences may be a viable alternative for the purpose of data dissemination, but conventional video conferencing precludes what I think are the most important outcomes of a scientific conference - the serendipitous encounters, the ideas for team projects drawn up on the back of a beer coaster, the joint grant proposals born from conversations around the coffee station. Future online technology may eventually be

able to provide for these functionalities. Virtual reality headsets may allow you to smell that coffee enjoyed by a colleague in a Viennese Kaffeehaus from your office desk located in Southern California and to exchange ideas with that researcher you never met in person before this conference.

In the meantime, we can and should try to organize conferences in more sustainable ways by producing less waste and using fewer resources. For conference organizers, avoiding single-use plastics during meal service and coffee breaks is a straightforward measure and reducing the amount of meat-containing dishes (or avoiding them altogether) is another. Even at events that do not implement these measures, the conference attendee also has the power of choice. Traveling with a small coffee mug, a fork and a refillable water bottle in your purse is a small burden and not accepting that zillionth swag pen from an exhibitor is another way to more consciously reduce the amount of stuff we barely use and subsequently throw away.

Importantly, we must try to travel smarter. Choosing the train over the plane when the distances (and the infrastructure) allow it, is particularly impactful. Greenhouse gas emission during short-haul flights is disproportionately high because the take-off and landing cycle have the highest emission rates during the flight. If the car is the inevitable means of transport, trying to find conference participants from the same area and giving them a ride to the conference venue is another no-brainer. Logistically more demanding suggestions were made in a recent article by Hamant et al. (2019, *Nature* 573: 451-452). For example, the timing and location of related conferences could be aligned to allow people to attend back-to-back meetings in the same city. This would require major cooperation between scientific societies, not only to align schedules, but to identify whether there is sufficient overlap in clientele to justify the effort.

Finally, every one of us may want to pick and choose conference attendance more critically. Will the conference in question allow you to do more than to just give your talk or show

your poster? Is the likelihood of running into potential future collaborators sufficiently high to warrant the trip? Will you truly benefit from the other presentations or could you just read the respective papers? Do you really need to attend five conferences per year to disseminate your research? Won't it suffice to let your students attend on their own? Can you combine the conference trip with your vacation thus avoiding that separate trip? Ironically, the value of an academic CV increases with the number of conference presentations. It seems that the scientific community in general and universities and funding agencies in particular need to develop an incentive structure that is better aligned with sustainability goals. In my faculty, declined invitations for seminars, presentations given by way of videoconferencing, and booking a more sustainable way of transport over a more convenient one earns 'brownie points' for the annual merit evaluation. I have heard of colleagues who set for themselves a carbon travel budget per year, forcing themselves to choose their conference attendance scrupulously. Kudos. These are important steps towards making science more sustainable. I am sure, much more can be done, and I would love to hear your creative ideas for reducing the carbon and waste footprint of your research-related activities as well as those of the IASPRR.



Anja Geitmann

This is just the beginning of a discussion that must be had. I am looking forward to engaging in this conversation at the upcoming IASPRR conference in Prague. The irony that I and many of you will take long-haul flights to attend that meeting does not escape me. However, let's seize the opportunity to optimize our collective time on site, in the Czech Republic, by not confining our discussions to exchanging research results, but expanding them to envision the future of science and the academy.

**Anja Geitmann**  
*IASPRR President*  
McGill University, Canada

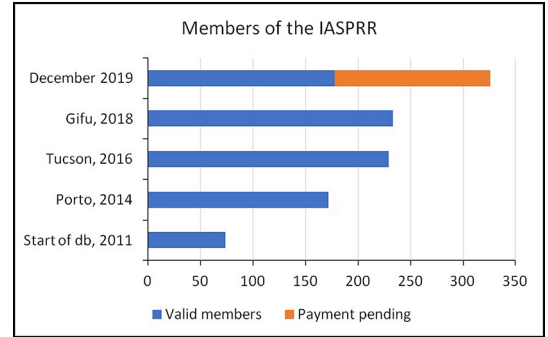


Stefanie Sprunck

**Treasurer's Report**

We are happy to announce that the number of members of the association is steadily growing since 2011, when the online database of the International Association of Sexual Plant Reproduction was established! At the 25th International Congress on Sexual Reproduction in Gifu, Japan, 69% participants registered as members of the society (233 of 340 attendees). Nevertheless, especially student memberships have high fluctuation as they tend to come in for the year of the conference and then drop off. Now, in December 2019, the society has 329

members. Beside 102 lifetime members, 227 individual and student members are registered. 147 membership fees are still pending, and reminder emails have been sent around.



IASPRR membership fees have remained unchanged for many years. For this reason, the General Assembly in Gifu (June 15, 2018) approved to increase the annual membership subscription. To reduce the effort of database record keeping, which is on a voluntary basis, the General Assembly furthermore approved that a payment for a 2-year membership will be requested when registering for the first time as a member.

The new annual membership fees are as follows (as of Dec 16, 2019):

- Individual membership: € 30.-
- Student membership: € 15.-
- Corporate membership: € 100.-
- Lifetime membership: € 300.-

Membership fees can be easily paid by debit or credit card using PayPal. The PayPal link is provided on the Membership page (<https://www.iaspr.org>). We kindly remind you to indicate your name, especially if payment is made by a different account holder, or when the email address differs from that in your membership application. In the past we often had difficulties to link a payment with the membership application/renewal. Member name (and member ID) can be provided using the option "Special Instructions (optional)" from PayPal.



Only valid members of the society can enter the member area using their individual member login. In the member area the Association provides actual information and members can, for example, search for methods, research fields, or other members with similar scientific interests. Members can check their own payment status and edit own personal and professional information in case updates are necessary.

**Stefanie Sprunck**  
*IASPRR Treasurer*  
University of Regensburg, Germany



## Inside Plant Reproduction Labs

### Dr. Duarte Figueiredo

Junior Group Leader  
Institut für Biochemie und Biologie  
Universität Potsdam, Germany  
<https://figueiredolab.com/>

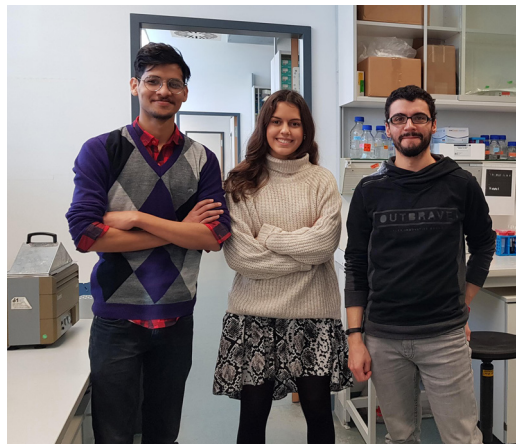
The Figueiredo lab was recently established in the Department of Genetics at the University of Potsdam, Germany. Duarte started his career working in abiotic stress signalling in the group of Nelson Saibo at the New University of Lisbon, Portugal. After his PhD, he moved to Sweden, to work as a post-doc in Claudia Köhler's group at the Swedish University of Agricultural Sciences. There, he became interested in plant reproduction, namely in what are the mechanisms that drive seed development following fertilization. This line of research ultimately led to identifying auxin as the post-fertilization signal that initiates development of both the endosperm and the seed coat in *Arabidopsis thaliana*.

In 2018, Duarte moved to Germany to establish his group at the University of Potsdam, after an invitation from the head of the Department of Genetics, Michael Lenhard. There, his group is following up on Duarte's post-doc work. Namely, they are working to understand what other post-fertilization mechanisms are necessary for the formation of a viable endosperm and seed coat. Additionally, the group is also branching away from *Arabidopsis*, to figure out what are the mechanisms necessary for seed initiation in non-model species.

If you want to know more about what the team is doing, or if you are interested in joining them, you can find out more on their Duarte's website or follow him on Twitter @duarte\_d.f. Duarte has been a member of the IASPRR since 2013 and has participated in all IASPRR meetings since then, so you are most welcome to come say hi to him or to any of the team members.



Figueiredo group



### Dr. Chao Li

Professor  
School of Life Sciences  
East China Normal University, China  
<https://faculty.ecnu.edu.cn/s/3337/t/34245/main.jsp>

The Li lab can be found in the East China Normal University, a highly renowned and top ranked normal university, located in the southwest corner of the lively city, Shanghai. Chao received her PhD in the Institute of Genetics and Developmental Biology at the Chinese Academy of Sciences and then continued as a postdoc with Alice Cheung and Hen-Ming Wu at the University of Massachusetts. Her research group uses a variety of genetic, genomic, biochemical, and cell biological techniques to study receptor like kinase-mediated signaling pathways. The ultimate goal of this research is to reveal the complex intrinsic growth and development principles underlying the plant adaptation to environment, and to promote the application of the green plant for improving the ecological environment. Her current research focuses on two major areas: 1) studying polarized tip growth including pollen tube and root hair; and 2) performing functional and evolutionary analyses on male-female interactions during plant sexual reproduction, largely by focusing on peptide-receptor-regulated signal transduction.

Chao's group is spirited in research. They actively participate or organize the annual Shanghai Youth Workshop on Plant Biology. They also enjoy get inspirations from field trips.



Li group photos: Enjoying some karaoke (top), and celebrating their first publication on pollen tube growth (PMID:31541739) and looking forward to more achievements in the upcoming year (bottom).

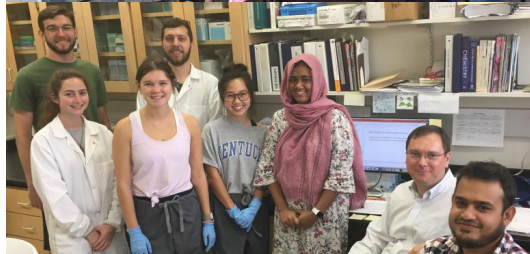
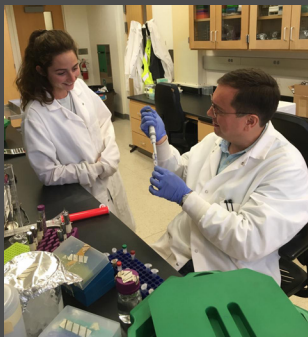
**Dr. Tomokazu Kawashima**

Assistant Professor  
Department of Plant and Soil Sciences  
University of Kentucky, USA  
<http://kawashimalab.ca.uky.edu/>

The Kawashima lab at the University of Kentucky has been up and running for three years. Using *Arabidopsis thaliana*, soybean, and the liverwort, *Marchantia polymorpha*. Tomo is investigating the molecular mechanisms, cellular dynamics, and evolution of land plant sexual reproduction. He is primarily focused on the following three questions: (i) What are the molecular and cellular mechanisms that control the precise processes of fertilization in plants? (ii) How do plants control early-stage endosperm development and final seed size? (iii) How did plants evolve sexual reproduction during land plant evolution? By combining confocal live-cell imaging, genetics, genomics, and biochemistry, the Kawashima group integrates molecular, cellular, and developmental biology to further understand the fundamentals of plant sexual reproduction.

The Kawashima lab is a diverse, enthusiastic group of people from around the world. Tomo has brought together people from the US, UK, Japan, Bangladesh, South Korea, and China so far. In the lab, Tomo always challenges lab members by promoting their critical thinking and scientific planning. All lab members help with research and are completing their own projects. The group also socializes together: going out to restaurants; inviting one another over for meals; hiking in the beautiful Kentucky countryside and going to local concerts. If you like Bourbon whiskey, horse racing, caving, basketball, or fried chicken, Kentucky is also a place for you! Please visit the lab website and contact Tomo if you have any questions ([tomo.k@uky.edu](mailto:tomo.k@uky.edu)).

Kawashima group photos:  
Enjoying a group outing (top),  
and lab photos (bottom).



**Dr. Cora MacAlister**

Assistant Professor  
Department of Molecular, Cellular, and  
Developmental Biology  
University of Michigan, USA  
<https://sites.lsa.umich.edu/macalister-lab/>

The MacAlister lab studies the contribution of glycoproteins (proteins post-translationally modified by the addition of sugars) to plant fertility. Plants are able to produce several unique types of glycosylation and despite their abundance, the function of these glycoproteins and the significance of their modification remain largely unknown. Cora's group has shown that pollen is particularly sensitive to the absence of one particular class of glycosylation, hydroxyproline O-arabinylation. Both *Arabidopsis* and tomato mutants lacking hydroxyproline o-arabinylation transferase enzyme activity have poor male fertility due to pollen structure and pollen tube elongation defects. Current projects in the lab focus on understanding the molecular basis for this phenotype and the evolutionary history of these enzymes.

Following the recent move of her department to the new Biological Sciences Building, Cora's group has taken advantage of their new neighbors at the University of Michigan Natural History Museum to participate in several museum-organized outreach activities for the local community. PhD students Steven Beuder and Cecilia Lara Mondragon have both presented interactive activities related to their research for the general public. Steven demonstrated DNA extractions and Cecilia grew live pollen tubes in vitro. Their most recent lab outing was lunch at NeoPapolis Pizza in beautiful Ann Arbor, Michigan. Lab manager Ali Dorchak, technician Ashwini Bhide, and graduate students Steven, Cecilia and Roop Fatima all braved the cold November rain to make the trip for pizza and salad.



MacAlister lab  
graduate student  
photos: Steven Beuder  
being very excited  
about his plants  
(top), and Cecilia Lara  
Mondragon preparing  
for PCR (bottom).



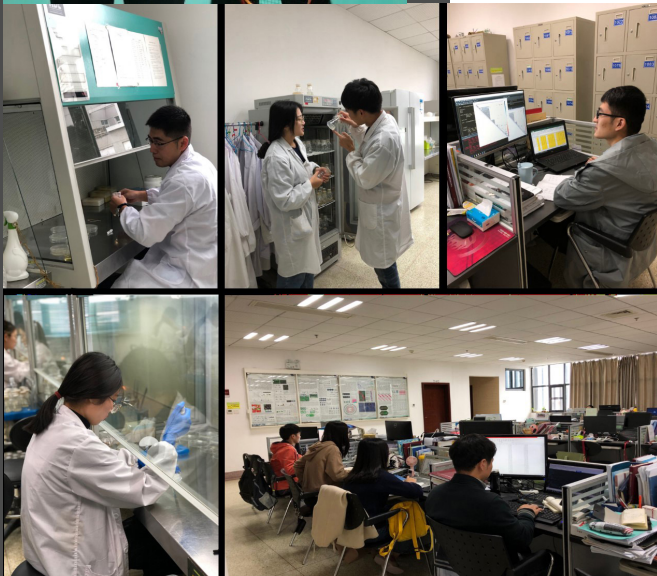
## Dr. Ling Min

Associate Professor  
National Key Laboratory of Crop Genetic  
Improvement  
Huazhong Agricultural University, China  
<https://orcid.org/0000-0003-4278-0626>

Research in the Min lab focuses on the mechanism of cotton reproductive organ development, the identification of genes involved in male reproductive organ responses to high temperature stress. Cotton is the most important crop in providing a natural raw textile fiber for humans. Proper male reproductive organ development in crops is one of the main limited factors for crop production and is threatened by high temperature injury and male sterility with global warming.

Ling's research has focused on deciphering the mechanisms of the male sterility under high temperature and to isolate genes that will improve the high temperature tolerance of cultivars. Ling's group also studies the effect of high temperature on reproduction-related agronomic traits (pollen grain activity, anther dehiscence, young bud dropping) by using a diverse and national-wide population of cotton to conduct a genome-wide association study, ultimately to find the key genes to create high temperature-tolerant cotton lines. The goal is to combine this with an understanding of the genetic and molecular basis of cotton male sterile lines and heterosis to create strong dominant hybrid cotton cultivars. Finally, her future research interests are to more fully understand cotton sexual reproduction to determine the effects of high temperature on the recognition of pollen to the stigma, pollen tube growth, and fertilization, and to determine the sensitivity differences between the plant male and female gametes under high temperature.

Min group photos: Enjoying a round of badminton (top), and students in the lab (bottom).



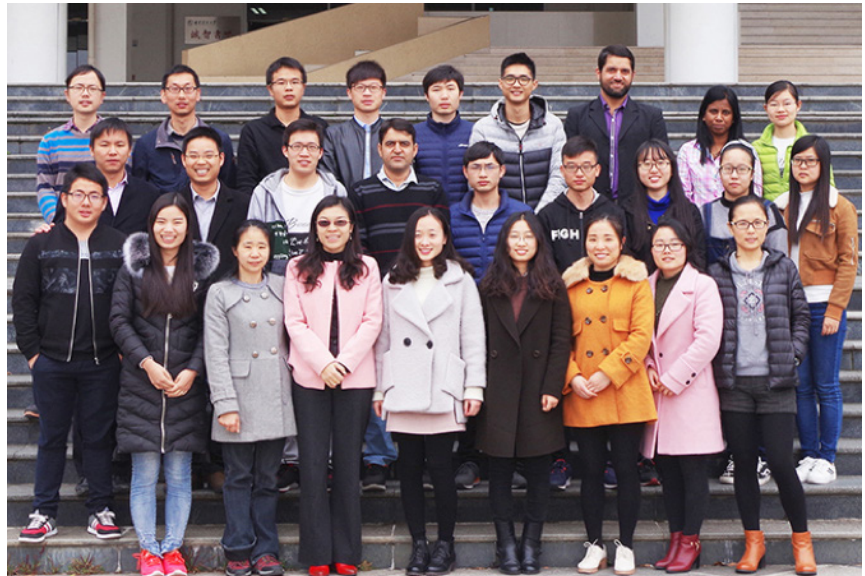
## Dr. Yuan Qin

Professor, Deputy Dean of Haixia Institute of  
Science and Technology  
Center for Genomics and Biotechnology  
Fujian Agriculture & Forestry University, China  
<http://www.qinlab.net/>

The Qin lab is interested in understanding the molecular mechanisms underlying ovule development in higher plants. They use *Arabidopsis*, rice, and pineapple as their experimental material. Using forward genetics, comparative gene profiling and directed reverse genetics, Yuan's group has identified several mutants that affect female fertility in *Arabidopsis*. They are exploring the involvement of the chromatin remodeling complex SWR1 in female meiosis and ovule development. The Qin lab is also searching for new components of the SWR1-regulated ovule development pathways and dissecting the molecular mechanisms controlling ovule development. The major projects of the Qin lab have the following theme: 1) Studying the mechanisms of female germline specification; 2) Understanding the mechanisms controlling ovule patterning; and 3) Defining the epigenetic regulation of female gametophyte development.

The Qin lab is a family of several students, researchers, and collaborators from all around the world. Yuan provides excellent opportunities for students and early career researchers, to encourage and motivate them to pursue a research career. Her group discusses science every week during lab meetings and exchanges ideas. They also don't miss any opportunity to celebrate together and often go for free tours. Yuan welcomes you to her website to learn know more about the Qin lab.

Qin group





**Dr. Thomas Widiez**

Group Leader, Laboratoire de Reproduction et Développement des Plantes  
Univ Lyon, ENS de Lyon, CNRS, INRA, Lyon  
<http://www.ens-lyon.fr/RDP/spip.php?rubrique15>

The Widiez lab is part of the SeedDev team and aims to understand the molecular mechanisms that govern seed development (embryo, endosperm and maternal tissues) using the crop plant maize (*Zea mays*), but also the model plant *Arabidopsis thaliana* in collaboration with Gwyneth Ingram. Both the embryo and the endosperm undergo a very precise and tightly regulated development from a single cell into a multi-cellular, highly differentiated organism, permanently co-ordinating their growth with that of the other parts of the seed. The team generally aims to decipher the signalling pathways important for the seed biology. The Widiez lab is also working on the establishment of maternal haploid embryos in maize (in vivo gynogenesis), thanks to the use of haploid inducer lines. This is a unique tool for unraveling the respective contributions of the male and the female genetic information to successful embryo development and signalling events between the two fertilization products. Thomas' expertise includes seed biology, haploid induction, genetics, functional genomics, live cell imaging, cell signaling, and maize transformation.

The SeedDev team is fully integrated within the whole plant department (Reproduction et développement des plantes <http://www.ens-lyon.fr/RDP/>) which consist of 9 teams working on plant development. Thomas feels that their strength comes from a spirit of sharing both space (offices and benches) and some resources between the teams (e.g. purchasing and maintaining equipment, sharing consumables). This maximizes exchanges between the teams, leading to collaborations and a nice atmosphere, both at scientific and friendship level, as exemplified by our department outing last October (below).

**Dr. Yan Zhang**

Professor of Plant Cell Biology  
College of Life Sciences  
Shandong Agricultural University, China  
[http://life.sdau.edu.cn/life\\_en/2018/0604/c9377a130900/page.htm](http://life.sdau.edu.cn/life_en/2018/0604/c9377a130900/page.htm)

Yan set up her Plant Reproductive Biology Laboratory at the Shandong Agricultural University in 2010 after a four-year postdoc training in Sheila McCormick's lab at UC Berkeley. The Zhang lab research is focussed on reproductive processes, including male and female gametophytic development, pollen tube growth, guidance, and reception. The development of male and female gametophytes depends on communications between gametophytes and their surrounding sporophytic cells, either the tapetum or integument cells whereas pollen tube growth, guidance, and reception depend on communications between the male gametophyte pollen and female tissues/cells. The Zhang group is also fascinated by the process of pollen tubes, like root hairs, achieving their final shape by tip growth. By studying these processes, Yan hopes to gain a better understanding of two fundamental biological questions: how do cells communicate and reach their final morphology.

The Zhang lab now has 3 postdoc fellows, 4 PhD students, and 12 MS students. Because Mt. Tai is just one km away from the campus, a trip to Mt. Tai is their regular team activity. The Zhang group usually gets up early and climbs along a trail that tourists would never find because you get much better views when it's not so crowded. After an exhausting/exhilarating morning, time for a delicious meal and roasted whole lamb is their favorite. Back to work after their yummy meal!

Yan Zhang at the Chrysanthemum Festival in Kai-Feng



Zhang group on Mt. Tai



Widiez lab photos: Nathanaël Jacquier (new PhD student on haploid induction in maize) and Thomas Widiez within the maize growth chamber (top) and Team in charge of the social events during our plant department outing (bottom, photo courtesy of Vincent Moncorgé).





**Dr. Namrata Sharma**

Professor and Head  
Department of Botany  
University of Jammu, India

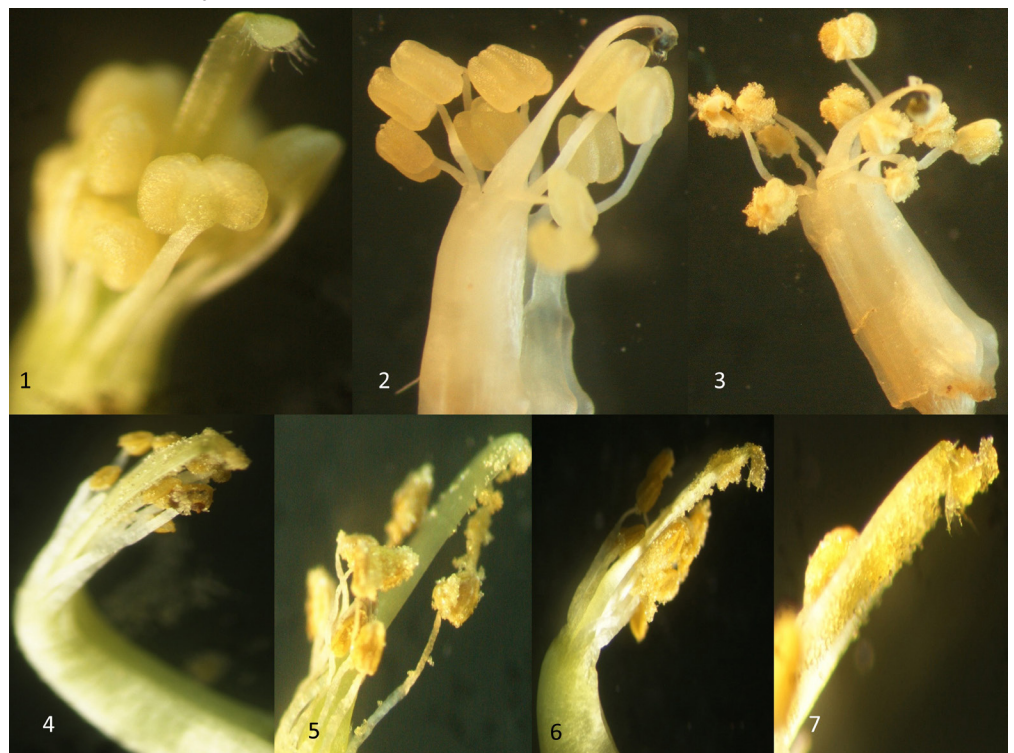
[https://www.researchgate.net/profile/Namrata\\_Sharma7](https://www.researchgate.net/profile/Namrata_Sharma7)

Namrata Sharma undertook her Post Graduation in Botany from Department of Botany, University of Jammu, in 1985, securing the 1st position in order of merit, for which she was awarded a merit certificate. In the same year, she qualified for both the National eligibility test and the Junior research fellowship and started research under the supervision of Prof. A.K.Koul. Namrata completed her M Phil with an outstanding grade and was later awarded a Doctorate degree in Botany in 1991. Namrata remained engaged in research as a Research Associate (CSIR), Pool officer (CSIR) and Research scientist (DST-New Delhi). Her teaching career started in 1997 as lecturer in the Department of Botany at the University of Jammu where she is now a Professor and Head of the department. Namrata has trained 16 PhDs and 12 M. Phils and published 88 research papers in national and international journals. She has been awarded Young Scientist Awards of Indian Science congress, DST, J&K and P.N. Mehra memorial trust. In addition to several best paper presentations awarded to her and her students also, she has been awarded Woman Botanist of the year award by Indian Botanical Society of which she served as a councillor. Dr. Sharma also has some popular writeups, e-chapters and book chapters to her credit. Presently she is an active member of Indian Society of Plant Reproductive Biologists and National academy of Science and serves as

an editor for their publications.

The Sharma lab research interests include plant reproduction and cytogenetics of higher plants. Concealment of ovules inside the ovary has made pollen-pistil interaction an inseparable part of sexual reproduction in angiosperms. In most cases, this interaction initiates with the release of pollen from the anthers and their landing on the receptive part of pistil i.e., stigma. This landing may be autonomous because of the close proximity of the two structures as happens in many autogamous taxa or may involve a vector in cross-pollinated ones. The pistil in all these cases remains a static structure while the pollen is mobile. During their work on pollination mechanisms in several flowering plants, the lab has encountered several cases which defy these rules (e.g., in-situ pollen germination in *Fumaria indica*).

Similarly, in a recent case in *Tephrosia purpurea*, they discovered that the pistil exhibits beautiful movements to capture the pollen which is being released by the anthers situated below the level of stigma. Although stylar movements have been previously reported, this study shows definitive phases of interaction between pollen and stigma facilitated by regular movements of both stigma and style. What stimulates these movements prior to successful fertilization remains an open question. Namrata speculates that some sort of signalling mechanism is operative in these movements and is interested in presenting this example to get clues to the possible mechanisms involved in such interactions.



## Update on the 26<sup>th</sup> IASPRR Conference

[www.prague2020.eu](http://www.prague2020.eu) @iaspr #ICSPR2020

*Promoting Knowledge and Progress in Plant Reproduction Research*

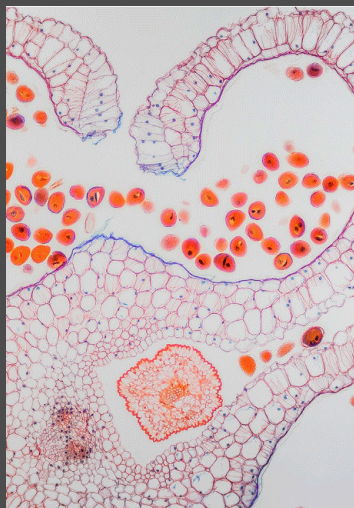
June 22-26, 2020 Hotel Pyramida, Prague, Czech Republic



David Honys



Thomas Dresselhaus



### 26th International Conference on Sexual Plant Reproduction

June 22-26, 2020

Hotel Pyramida  
Prague / Czech Republic



[www.prague2020.eu](http://www.prague2020.eu)  
[prague2020@ueb.cas.cz](mailto:prague2020@ueb.cas.cz)

**Conference Organizers**  
David Honys / Institute of Experimental Botany CAS, Prague, Czech Republic  
Thomas Dresselhaus / University of Regensburg, Germany

After a very successful conference in Gifu (Japan) 2018 with more than 330 registered participants, we welcome you to attend the 26th IASPRR Conference in the beautiful city of Prague (Czech Republic) next June. The conference takes place at Hotel Pyramida Praha (<https://www.hotelpyramida.cz/en/>) and opens in the afternoon of Monday June 22nd and closes on Friday June 26th with lunch. There are eight scientific sessions covering all topics in plant reproduction research from flowering to seed development, and each session will be introduced by an excellent and well-known keynote speaker.

The scientific sessions will include topics such as flower organ development, gametogenesis, meiosis and apomixis, pollen-pistil interactions, pollen tube growth, fertilization mechanisms, embryogenesis, and endosperm and fruit development. As well, the evolution and ecology of plant reproduction, epigenetics, and the structural aspects of molecular mechanisms governing these processes will be discussed together with the application of the knowledge for plant breeding. In addition to the invited speakers, about 50 oral talks will be selected from abstracts. Two evening poster sessions

will provide additional possibilities to present and discuss research data. Please note that the deadline for abstract submission to be considered for an oral presentation is March 31st, 2020.

In addition to an exciting scientific program, we invite you to attend a guided city tour and explore the beauty of the 'Golden City'. Please note that the conference dinner will be held in the City of Prague Mayor's Residency. This building is exceptionally rich in late Art Nouveau and Art Deco interiors. This is a ticketed event and there is a limited number of seats available. Thus, we recommend to book tickets early at the registration site.

We especially encourage PhD students to attend the conference. A limited number of student travel awards (400 EUR each) will be available to support attendance of PhD students to the conference. If you wish to receive a travel award, send an application to the conference secretary no later than February 29th, 2020.

**Registration is now open**, and we strongly recommend to register before February 29th, 2020 as the fee increases by 80 € on March 1st. The registration fee includes a congress bag, abstract book, welcome reception, coffee breaks and lunches as well as a guided city tour and others, but – as indicated above - not the conference dinner.

Please see the Conference website for more information regarding scientific program, speakers, venue, registration and abstract submission, travel awards etc.

<http://www.prague2020.eu/>

We look forward seeing you all next summer in Prague,

David and Thomas  
Co-organizers of ICSPR2020

David Honys  
[david@ueb.cas.cz](mailto:david@ueb.cas.cz)

Thomas Dresselhaus  
[thomas.dresselhaus@ur.de](mailto:thomas.dresselhaus@ur.de)



From our IASPRR webmaster and social network manager

María Flores-Tornero  
maria.flores@ur.de  
University of Regensburg, Germany

## IASPRR Social Networks at a Glance ...



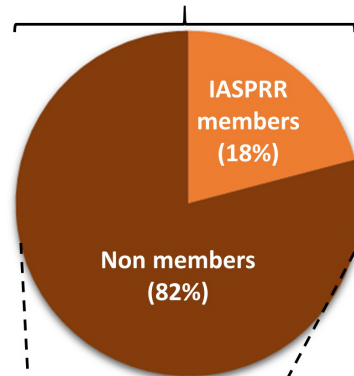
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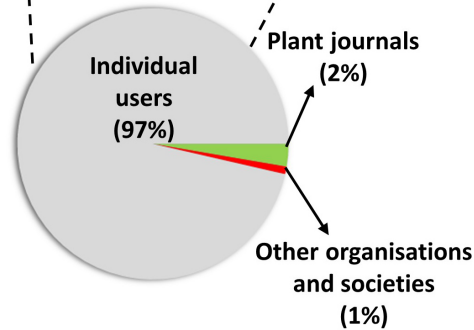
Tweet impressions → 6,612 /per month  
Visits to IASPRR profile → 92 /per month

= 393 followers



**IASPRR**  
@iaspr  
International Association for Plant Reproduction Research  
iaspr.org  
Joined June 2018  
166 Following 282 Followers

Tweets Tweets & replies Media Likes



María Flores-Tornero

Where do our members do research?



Research in 32 countries  
Source map: Metamario (CC BY 3.0)



\*Papers, congresses and open positions spread by the IASPRR accounts are related only to the field of plant reproduction and closely related subjects.

## In Memoriam – Roderick (Rod) John Scott, 1960-2018

My great friend and colleague Rod Scott, who was an internationally renowned plant reproductive biologist, died on the 18th of December 2018.

Rod was born in Runcorn, Cheshire (UK) and grew up just down the road in Warrington. Fascinated by the natural world, and plants in particular, he set his sights on a degree in Botany at the University of Nottingham. This experience opened his eyes to the then recent exciting advances in plant molecular genetics, and inspired, he stayed on at Nottingham to carry out his PhD under the guidance of Professor Edward (Ted) Cocking (FRS). His PhD focused on the heterologous expression of a kanamycin resistance gene, a start in research that paved the way for a successful career in plant science that almost always had an eye to plant biotechnology.

Following his PhD, in 1984 Rod moved to the Department of Botany at the University of Leicester to join Professor John Draper's lab where, as part of an enthusiastic and tight-knit team, he worked at the cutting-edge of the plant genetic transformation and gene discovery field. It was at this time that, as a final year undergraduate, I first met Rod and we became friends and colleagues the following year when I joined the Draper lab. His enthusiasm and drive was contagious and as some in our community may remember Rod was intimately involved with the famous 'Plant Genetic Transformation and Gene Expression' course that ran from Leicester in the 1980s where, along with in-depth training, fun was had by all and many lasting links and friendships were forged. It was during his time at Leicester that Rod developed his interest in plant reproductive biology, with a particular focus on male reproductive development. His early work identified genes that have furthered our understanding of pollen development and led to the discovery of a number of anther-specific genes whose promoters had utility in the generation of male sterile plant lines. I have clear memories of him making and screening anther cDNA libraries the hard way and painstakingly sequencing candidate developmentally expressed genes. Rod was in his element during those early days having fun in the lab, he was an excellent bench scientist who applied bucket loads of common sense to any problem. By 1995 Rod had secured his first permanent academic position at Leicester as a lecturer permitting him to share his enthusiasm for plant science research in the classroom.

In 1998 Rod spread his wings and made the



move to the University of Bath where he developed his growing interest in epigenetics into a highly successful research programme on genomic imprinting in seed development. His seminal paper on interploidy crosses in Arabidopsis, published in 'Development' (1998), set the stage for not only research in his own lab, that continues to this day, but also for a broader international effort in the field.

His work also touched on apomixis, hybridisation barriers and blocks to polyspermy. His expertise and productivity was recognised by the conferment of a personal chair (Full Professorship) in 2001.

By happy coincidence I ended up securing a lectureship at Bath where I witnessed first-hand his almost boyish enthusiasm for plant reproductive biology – he was certainly a workaholic but there was always a light fun side; he clearly loved what he did and the phrase 'work hard and play hard' certainly is applicable to Rod. This brings to mind some very happy times shared at many of the ICSPRR meetings over the years - for instance the epic snowball fight after the conference dinner in Banff (2000) that some of you may remember (he was a great shot). Many colleagues will also have shared just 'a few beers' with Rod that often translated into late night dancing! Rod was a great socialiser and many in our community will have precious memories of time spent with him.

Throughout his career Rod also worked with the plant biotechnology industry on a number of projects and his work generated novel IP that holds the potential to increase seed yield



in various crop species. Rod believed in the power of plant biotechnology and advanced conventional breeding to deliver improved crops in the future, and working with his friend John Landell Mills established Secure Harvests Ltd and BioPotatoes in 2009/10. He also worked closely with Crop Innovations, a not-for-profit venture that aims to promote under-utilised seed-bearing crops and increase diversity in agriculture. Although Rod's passion was plant reproductive biology, in recent years he also investigated the potential of certain algal species to produce biofuel, clean wastewater and provide valuable secondary products.

By the time Rod left us he had worked for nearly 20 years in the Department of Biology and Biochemistry at Bath. He was very much at home there and cared deeply about his colleagues and the department. He served as Head of Department for 5 years finishing in the summer of 2018 during which time he worked hard to support staff and students alike and strove to improve the working environment on multiple levels.

Rod was a passionate communicator of plant science, particularly plant development and biotechnology and undergraduates loved his teaching. Many PhD students benefitted from his supervision and will remember him fondly - I was always impressed with how he captured their imagination, instilled the importance of scientific rigour alongside the importance of also having fun doing research. He will be missed by us all.

On a personal note I will miss him for his great friendship, annual hikes in the mountains of the Lake District, innumerable games of squash, chats over beers and his amazing cups of tea.

Rod is survived by his three children, Kirandeep, Harinee and Sharmili, from his former marriage to Taj; and also by his partner, Tulay and their daughter Asya.

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## Plant Reproduction and Dispersal – an Interactive Course.

by Prof. Dr. Michiel Willemse and Dr. André van Lammeren

Laboratory of Cell Biology, Wageningen University, The Netherlands, 2019.

<https://library.wur.nl/WebQuery/I4I/6683>

You will encounter a course with a biological approach on plant reproduction and dispersal, containing aspects of development, form and function, and phylogeny. It considers developments in the plant kingdom, branched out in the groups of algae, mosses, ferns, seed ferns, gymnosperms and angiosperms each subdivided in a number of subsequent subjects resulting in 35 chapters (See Fig. 1). Within each plant group the focus is first on asexual reproduction and then on sexual reproduction subdivided in the topics 'Gamete induction', 'Gametogenesis', 'Fertilization', 'Dispersal' and 'Embryogenesis'. The course begins with definitions of reproduction and life cycle as basal concepts. Guiding notes on the organization and the setup of the program are included as well as questions, references for further reading, and web sites.

The chapter 'Asexual reproduction' shows the formation of mitospores, spore dispersal by vectors, and the moment of dispersal in the life cycle. Angiosperms have several types of organs in function of asexual reproduction and, in addition, they exhibit apomixis, and even apply normal fruit and seed dispersal strategies for apomictic seeds.

Chapter 'Gamete induction' treats the influence of external factors on gametogenesis, introduces the life cycle and elaborates the interaction with the environment.

Chapter 'Gametogenesis' deals with meiosis with genome renewal, multicellularity, and alternation of generations. Various moments of dispersal developed in algae during which cell-plant and plant-plant interactions play an important role. The position and development of the gametangia and the development of various types of spores is the main subject for land plants here.

Chapter 'Fertilization' presents, the attraction, recognition, and fusion of gametes as processes of cell-cell interaction which are already present in algae. The progamic phase, cross pollination and double fertilization are the main subjects for land plants here.

Chapter 'Dispersal' concerns dispersal in water and on land and points to the types of vectors, units of dispersal and dispersal organs and mechanisms. The interaction between plant and

animal during pollination and seed dispersal becomes striking in angiosperms.

Chapter 'Embryogenesis' includes the first steps to the formation of the plantlet by sporophyte-gametophyte interactions and a summary of the group under investigation.

The final summarising chapter 'Origin and history of plant life' presents the development of reproduction and dispersal in abiotic and biotic environments.

The interactive e-module can be downloaded for free on a computer with Windows. To find the source, click <https://library.wur.nl/WebQuery/141/6683> and select "Go to other" to find the "Read me.txt" and the ZIP file (176MB). It is recommended to use a 7-zip program or alike to unzip.

Plant reproduction and dispersal Menu

1. Definitions and organization 4

	Algae	Mosses	Ferns	Seedferns	Gymnosperms	Angiosperms
<b>Asexual:</b>	2.3	3.3	4.2	5.1	6.1	7.4
<b>Sexual:</b>						
Gamete induction	8.2	13.1	18.1	Towards seed plants	25.2	30.2
Gameto-genesis	9.3	14.2	19.2		28.13	31.22
Fertilization	10.6	15.4	20.2	23.1	27.4	32.14
Dispersal	11.2	16.3	21.7	24.2	28.4	33.17
Embryo-genesis	12.2	17.2	22.2		29.3	34.4
Summary					35.13	Origin and history

Water condition Land condition

**Ideas for Contributions:**

**Meetings, Workshops, Courses & Initiatives**

If you are organizing or if you know of meetings, conferences, research networks, workshops that may be of interest to IASPRR members (not necessarily directly related to Plant Reproduction), please forward the relevant information such as dates and web sites. They will be posted on the IASPRR website and included in the next newsletter.

Following the traditions established by our former Newsletter editor, Anja Geitmann, and described in the Issue 1 (Dec 2011), please contribute to these sections of the newsletter (next issue is Fall 2020):

**Inside the YourName Lab**

Feature your lab! Provide us with a text consisting of two paragraphs. One that briefly describes your research activities, and one that illustrates life in your lab. This could for example consist in a report on a lab outing or your involvement in outreach activities. Join at least two photographs (one scientific, one showing the lab members in action).

**From the Treasure Trove**

You were present at one of the early Plant Reproduction Meetings and you have pictures? Share them with the next generation! Submit the picture - ideally (but not mandatorily) accompanied by an anecdote.

**Picturesque**

Submit your most beautiful, funny, original, or plain weird micrograph. Provide a caption and author names and if your web site contains more images, you even get the chance to plug your URL. The editor's pick will appear in the next issue.

**Other ideas, contributions or commentaries?**

Please send them to Daphne Goring at [d.goring@utoronto.ca](mailto:d.goring@utoronto.ca)

**From the Communication Director**

First, I would like to give a big thank you to everyone who provided content for this newsletter. I am very pleased to have such a strong interest in contributing to the *Inside Plant Reproduction Labs* section. I would also like to point out that a number of young PIs are among the contributors. It is very enjoyable to read about plant reproduction research programs from around the world and see the next generation of researchers getting established.

For those of you who are interested in contributing to a future *Plant Reproduction Newsletter*, the next version will be send out in late Fall 2020 so please look out for my email requesting contributions sometime in October 2020.

Best wishes for the holidays and see you in Prague!

**Daphne Goring**  
*IASPRR Communication Director and Newsletter Editor*

University of Toronto, Canada



Daphne Goring



## Upcoming Events



The 26th International Conference on Sexual Plant Reproduction  
[www.prague2020.eu](http://www.prague2020.eu) @iaspr #ICSPR2020

June 22-26, 2020

Hotel Pyramida, Prague, Czech Republic

Contact: David Honys [david@ueb.cas.cz](mailto:david@ueb.cas.cz)

Thomas Dresselhaus [thomas.dresselhaus@ur.de](mailto:thomas.dresselhaus@ur.de)



*Symposium Down Under:  
Mechanisms controlling plant reproduction*

<https://downunderplantreproduction.wordpress.com/>

February, 3-4, 2020, at Adelaide (Australia)

Organized by the SexSeed consortium

Abstract submission Deadline: 15th December 2019

Registration Deadline: 31st December 2019

See [www.iaspr.org](http://www.iaspr.org) for more events

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