



MAd Land

Molecular Adaptation to Land:
plant evolution to change

Annual meeting and workshop 2021

Herzogenhorn, September 14th - 17th 2021

<https://4science.de/madland/>

DFG Priority Programme 2237

<http://madland.science>



Programme committee

| | |
|---------------------|--------------------------------|
| Erika Csiscely | Munich |
| Sven Gould | Düsseldorf/Marburg |
| Andreas Hiltbrunner | Freiburg |
| Stefan Rensing | Marburg/Freiburg (coordinator) |
| Susann Wicke | Berlin |
| Sabine Zachgo | Osnabrück |

Scientific advisory board

| | |
|--------------------|------------------|
| Pierre-Marc Delaux | Toulouse, France |
| Liam Dolan | Oxford, UK |
| Jill Harrison | Bristol, UK |
| Eva Sundberg | Uppsala, Sweden |

#MAdLand2021

Note: All times are Central European Summer Time (CEST)

Zoom sessions are open 10 minutes before start.

● will be recorded

Programme

Tuesday, September 14th

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|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10:30, 11:30 | Bus shuttles from Feldberg-Hebelhof bus station to venue |
| 10:00 – 13:00 | Registration open |
| 12:00 | Lunch |
| Session 1; Chair: | Sven Gould |
| 13:00 – 14:10 | ● <u>Workshop 1: The MAdLand RNA-seq pipeline (Fabian Haas, Marburg)</u> |
| 14:15 | ● <u>Workshop 2: NFDI4PLANTS (Timo Mühlhaus, Kaiserslautern) - DataPLANT - Provider of Tools and Services to structure the Data Jungle for Fundamental Plant Researchers</u> |
| 15:00 | Coffee break / Poster session |
| 15:30 | Welcome remarks (Stefan Rensing) |
| 15:45 – 18:00 | MAdLand project presentations, 12+3 min |
| 15:45 | ● Talk 1: Henrik Buschmann (Mittweida) - <i>On complexity, stasis and reductive evolution</i> |
| 16:00 | ● Talk 2: Alex MacLeod (Gould, Düsseldorf) - <i>The Plastid Biology of the Ancestral Embryophyte</i> |

16:15 ● **Talk 3:** Svenja Nötzold (Berlin, Wicke/Szövényi/Hippler) - *Plastid Biology of Hornworts*
 16:30 **Talk 4:** Stephanie Ruaud (Zurich, Szövényi/Wicke/Hippler) - *Pyrenoid formation in hornworts: genomic hints for green algal-like pyrenoid scaffolding mechanisms*

16:45 *fresh air break*

17:00 **Talk 5:** Pauline Duminil (Feussner, Göttingen) - *Investigating the evolution of sphingolipid synthesis and functions in plants*
 17:15 **Talk 6:** Yosuke Hoshino (Hallmann, Potsdam) - *Drought-modulated plant lipids in biomass and rocks — global Palaeozoic change in sesterterpenoid patterns and possible links to plant diversification*
 17:30 ● **Talk 7:** Tim Rieseberg (De Vries, Göttingen) - *CarotPhyte: Exploring the evolutionary roots for the biosynthesis of apocarotenoids and their role as signals in plastid-mediated stress response in streptophyte algae*
 17:45 **Talk 8:** Christoph Schwarze (Petersen, Marburg) - *Characterisation of phenylalanine ammonia-lyase from Chara braunii, Physcomitrium patens and Marchantia polymorpha*

18:00 *Supper*

Session 2; Chair: Stefan Rensing

19:00 – 20:45 **Invited Talk 1: Welcome lecture: Susana Coelho (Tübingen)**, 30+15 min
Switching It Up: Algal Insights into Sexual Transitions

#SciComm: Julia Wandt (Freiburg), talk and discussion, 30 + 30 min

Evening *Get together*

Wednesday, September 15th

7:30 – 9:00 *CoV-Test and Breakfast*

Session 3; Chair: Pauline Duminil

9:00 - 9:45 ● **Invited Talk 2: Fred Berger (Vienna)**, 30+15 min
Epigenetic regulation of life cycle transition in land plants

09:45 *Coffee break / Poster session*

10:15 – 12:00 **Topic introduction by the gender & ethics committee**
Movie: Picture a Scientist, 93 min

12:00 – 15:00 **Excursion with lunch: Hiking Tour Krunkelbach**

15:00 *Coffee break / Poster session*

Session 4; Chair: Erika Csicsely and Wenke Ludwig

15:30 – 16:45 ● **Workshop 3: Phylogenetic inference - How to infer my own phylogeny?** (Mona Schreiber, Stefan Rensing, Marburg)

16:45 *Group photo*

17:00 – 18:00 **Workshop 4: Reconstructing trait evolution in plant evo-devo studies** (Pierre-Marc Delaux, Castanet Tolosan; Jan de Vries, Göttingen)

18:00 *Supper*

19:00 **Panel discussion "Picture a Scientist"**, particularly including discussion on gender equality and diversity
 Moderation: MAdLand coordination team
 Panelists: Anielia Knoblich (Gender and Diversity, University of Freiburg)
 Anelis Kaiser Trujillo (Gender studies in STEM, University of Freiburg)
 Birgit Classen, Pauline Duminil, Henrik Buschmann (MAdLand Gender and Ethics committee)

Evening

Get together

Thursday, September 16th

7:30 – 9:00

Breakfast

Session 5; Chair:

Lukas Pfeifer

9:00 – 10:30

MAdLand project presentations, 12+3 min

09:00

Talk 9: Andrea Busch (Zachgo, Osnabrück) - *Generation of a comprehensive Marchantia polymorpha-Expression Atlas*

09:15

● Talk 10: Chiara Tessari (Theißen/Rümpler, Jena) - *MADS life on MAdLand: The role of floral quartet-like complexes during the transition of plants to land*

09:30

Talk 11: Lanassa Bassukas (Schwechheimer, München) - *Evolution of AGC1 kinase-mediated polarity modules in early land plant development*

09:45

[ONLINE] Talk 12: Jennifer Scherzer (Becker/Hedrich, Würzburg) - *The liverwort Marchantia polymorpha operates a depolarization-activated Slowpoke (SLO) K⁺ channel that recognises pH changes in the environment*

10:00

● Talk 13: Erika Csicsely (Frank, Munich) - *Comparative analysis of an autoregulatory loop in microRNA biogenesis that is crucial for stress adaption in early land plants*

10:15

● Talk 14: Daniel Heß (Hess, Freiburg) - *Regulatory RNA candidates in Charophycean green algae for governing developmental adaptations and acclimation responses*

10:30

[ONLINE] Talk 15: Saiko Yoshida (Tsiantis, Cologne) - TBA

10:45

Coffee break / Poster session

11:15

[ONLINE] **Invited Talk 3: Marcel Bucher (Cologne)**, 30+15 min
Unearthing the plant-microbe quid pro quo in root associations with beneficial fungi

12:00

lunch

Session 6; Chair:

Henrik Buschmann

13:00 – 18:00

MAdLand project presentations, 12+3 min

13:00

Talk 16: Katharina Melkonian (Nakagami/Melkonian, Cologne) - *TurboID-based proximity labeling for interactome profiling in Marchantia polymorpha*

13:15

Talk 17: Lukas Pfeifer (Classen, Kiel) - *Search for arabinogalactan-proteins in charophyte green algae*

13:30

● Talk 18: Stephanie Frohn (Schippers, Gatersleben) - *Appearance and role of CuZnSOD proteins during early land plant evolution*

13:45

Talk 19: Andreas Hiltbrunner (Freiburg) - *CRISPR/Cas9-generated phytochrome higher order mutants reveal a highly complex set of light responses in the moss Physcomitrium patens*

14:00

● Talk 20: Melanie Kreiss (Höcker, Cologne) - *Evolution of light signaling: The role of the COP1/SPA complex in Physcomitrium patens*

14:15-14:30

fresh air break

14:30

● Talk 21: Wenke Ludwig (Quint, Halle) - *On the evolution of plant thermomorphogenesis*

14:45

● Talk 22: Linus Wegner (Ehlers, Gießen) - *The evolution of plasmodesmata*

15:00

Talk 23: Annika Bischoff (Schünemann, Bochum) - *Adaptations of chloroplast protein transport mechanisms during land plant evolution*

15:15

● Talk 24: Evelyn Vollmeister (Rensing, Marburg) - *The importance of the male germline for the alternation of generations*

15:30

Coffee break / Poster session

16:00 – 16:30

MAdLand and the public (e.g. botanical garden exhibition, #scicomm)

Sven Gould, Sabine Zachgo

16:30 – 17:00

BoGa session continued (volunteers) / Poster session

17:00 – 17:55

Discussions and wrap-up (Stefan Rensing)

Wrap-up, 15 min

[ONLINE] **Comments by the Scientific Advisory Board**, 15 min

MAdLand timeline and second funding period

Best talk prizes

Final remarks

18:00

Supper

Evening

Farewell event with Silent Disco

Friday, September 17th

7:30 – 9:00

Breakfast

9:00

Shuttle from venue to Feldberg-Hebelhof bus station

Thank you!

The MAdLand annual meeting 2021 is organized by 4Science e.V. (Freiburg/Marburg, Germany) in the framework of the DFG SPP 2237, as a joint action with the University of Marburg and University of Freiburg; support by The Plant Journal and the companies shown below is gratefully acknowledged.

