Table of Contents

Fungal Genetics Policy Committee ................................................................. 2
GSA Mission and Board of Directors .............................................................. 3
Schedule of Events .......................................................................................... 4
Sponsors Acknowledgements ........................................................................... 7
General Information and Exhibits ................................................................... 8
Plenary and Platform Listings .......................................................................... 12
Poster Listings ................................................................................................ 29
Presenting Author index .................................................................................. 56
Keyword Index .................................................................................................. 62

Cover image courtesy of Wenjun Li, Ci Fu, Michael J. Hoy, Zanetta Chang and Joseph Heitman, Duke University and Valerie Lapham, North Carolina State University Center for Electron Microscopy.
Tshirt design courtesy of Adriana Maria Rico Ramirez.
Fungal Genetics Policy Committee
Joseph Heitman, Duke University, Chair, 2017-2019
Deborah Bell-Pedersen, Texas A&M University, (2017-2023)
Amy Gladfelter, University of North Carolina, (2017-2023)
Erika Kothe, Institute of Microbiology, (2017-2023)
Natalia Requena, Karlsruhe Institute of Technology - KIT, (2015-2021)
Jason Stajich, University of California, (2013-2019)
Gero Steinberg, University of Exeter, (2015-2021)
Ex Officio
John Leslie, Director, Fungal Genetics Stock Center
Marc Orbach, (FGC Grant Coordinator), University of Arizona

Chairs of the Scientific Program
Luis M. Corrochano, Universidad de Sevilla
Xiaorong Lin, University of Georgia
About the Genetics Society of America

The Genetics Society of America (GSA) is an international scientific society representing more than 5,000 researchers and educators around the world.

We work to advance the field and foster the research community. The Society has a deep commitment to supporting the next generation of geneticists, providing professional development opportunities, training, travel grants, and more. We work with our members and partner organizations to communicate the value of genetics and fundamental research to the public and policymakers; we advocate for our scientific community and the vital work they do.

As well as encouraging communication among researchers through conferences, GSA publishes two peer-edited scholarly journals:

**GENETICS** has been innovating since 1916, publishing high quality original research across the breadth of the field.

**G3: Genes|Genomes|Genetics** is an open access journal that publishes high quality, useful results regardless of perceived impact.

2019 GSA Board of Directors

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**Early Career Director**
- Jordan D. Ward

**Trainee Advisory Representative**
- Didem P. Sarikaya
## SCHEDULE OF EVENTS

### MONDAY, March 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 pm - 10:00 pm</td>
<td>Asperfest 16</td>
<td>Merrill Hall</td>
</tr>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Dinner</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>7:30 pm - 8:30 pm</td>
<td>Ustilago-Smut Convergence Workshop Welcome Reception</td>
<td>Chapel</td>
</tr>
</tbody>
</table>

### TUESDAY, March 12

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 12:00 am</td>
<td>Nursing Mothers Room</td>
<td>Triton</td>
</tr>
<tr>
<td>9:00 am - 3:00 pm</td>
<td>Asperfest 16</td>
<td>Merrill Hall</td>
</tr>
<tr>
<td>9:00 am - 5:00 pm</td>
<td>WORKSHOPS*</td>
<td>Chapel</td>
</tr>
<tr>
<td></td>
<td>Ustilago-Smut Convergence Workshop</td>
<td>Kiln</td>
</tr>
<tr>
<td></td>
<td>Rust Workshop</td>
<td>Fred Farr Forum</td>
</tr>
<tr>
<td></td>
<td>Fusarium Workshop</td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td>Dothideomycetes Comparative Genomics Workshop</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Lunch is available in Crocker Hall for workshop attendees staying at Asilomar. Lunch tickets can be bought at the Front Desk for those staying off site.</td>
<td></td>
</tr>
<tr>
<td>2:00 pm - 6:00 pm</td>
<td>GENETICS Peer Review Training Workshop</td>
<td>Scripps</td>
</tr>
<tr>
<td>3:30 pm - 9:30 pm</td>
<td>Registration</td>
<td>Surf and Sand</td>
</tr>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Dinner</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>7:00 pm - 8:30 pm</td>
<td>Gene Action 2019: Honoring Charley Yanofsky</td>
<td>Chapel</td>
</tr>
<tr>
<td>8:00 pm - 10:00 pm</td>
<td>Opening Mixer</td>
<td>Merrill Hall</td>
</tr>
</tbody>
</table>

### WEDNESDAY, March 13

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 hours</td>
<td>Nursing Mothers Room</td>
<td>Triton</td>
</tr>
<tr>
<td>7:30 am - 8:30 am</td>
<td>Breakfast</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>8:00 am - 5:00 pm</td>
<td>Registration</td>
<td>Surf and Sand</td>
</tr>
<tr>
<td>8:45 am - 9:00 am</td>
<td>Welcome and Opening Remarks</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td></td>
<td>Luis Corrochano and Xiaorong Lin, Conference Organizers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Genetics Society of America Welcome</td>
<td></td>
</tr>
<tr>
<td>9:00 am - 12:00 noon</td>
<td>Plenary Session I: From model organisms to applied science</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>12:00 noon - 1:00 pm</td>
<td>Lunch</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>12:15 pm - 1:45 pm</td>
<td>WORKSHOPS</td>
<td>Chapel</td>
</tr>
<tr>
<td></td>
<td>Grant Workshop Part 1</td>
<td>Merrill Hall</td>
</tr>
<tr>
<td></td>
<td>Working with JGI and EMSL</td>
<td></td>
</tr>
<tr>
<td>3:00 pm - 6:00 pm</td>
<td>CONCURRENT SESSIONS</td>
<td>Merrill Hall</td>
</tr>
<tr>
<td></td>
<td>The fungal genome: structure, stability and evolution</td>
<td>Chapel</td>
</tr>
<tr>
<td></td>
<td>Human pathogenic fungi</td>
<td>Fred Farr Forum</td>
</tr>
<tr>
<td></td>
<td>Primary metabolism and metabolic engineering</td>
<td>Kiln</td>
</tr>
<tr>
<td></td>
<td>Intracellular mobility, traffic and secretion</td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td>Fungal diversity, ecology and evolution</td>
<td>Nautilus</td>
</tr>
<tr>
<td></td>
<td>Circadian rhythms and photobiology</td>
<td>Scripps</td>
</tr>
<tr>
<td></td>
<td>Fungal dimorphism</td>
<td></td>
</tr>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Dinner</td>
<td>Crocker Hall</td>
</tr>
</tbody>
</table>
### SCHEDULE OF EVENTS

**7:30 pm - 10:30 pm**  
**Poster Session I and Exhibits**  
*Odd number W posters 7:30 pm - 8:30 pm  
Even numbered W posters 8:30 pm - 9:30 p.m.*  
*Evening Social Sponsored by Ginkgo Bioworks*  
Fireside Pavilion

**THURSDAY, March 14**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 8:30 am</td>
<td>Breakfast</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>8:30 am - 2:00 pm</td>
<td>Registration</td>
<td>Surf and Sand</td>
</tr>
</tbody>
</table>
| 8:45 am - 9:00 am | Presentation of GSA Edward Novitski Prize to Joseph Heitman  
Community Announcements  
including FungiDB/EuPathDB | Merrill Hall and Chapel |
| 9:00 am - 12:00 noon | Plenary Session II: Fungal communities and interactions with other organisms | Merrill Hall and Chapel |
| 12:00 pm - 1:00 pm | Lunch                                                               | Crocker Hall              |
| 12:15 pm - 1:45 pm | Grant Workshop Part 2                                                | Chapel                    |
| 3:00 pm - 6:00 pm | **CONCURRENT SESSIONS**  
- Plant pathogenic fungi  
- Secondary metabolism and production of useful metabolites  
- Fungal stress  
- Cell walls and polysaccharides  
- RNA biology  
- Early diverging fungi  
- Multicellular development | Merrill Hall  
Chapel  
Fred Farr Forum  
Kiln  
Heather  
Nautilus  
Scripps |
| 6:00 pm - 7:00 pm | Dinner                                                               | Crocker Hall              |
| 7:30 pm - 10:30 pm | **Poster Session II and Exhibits**  
*Odd number T posters 7:30 pm - 8:30 pm  
Even numbered T posters 8:30 pm - 9:30 pm*  
*Evening Social Sponsored by Zymergen* | Fireside Pavilion |

**FRIDAY, March 15**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 8:30 am</td>
<td>Breakfast</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>8:30 am - 1:00 pm</td>
<td>Registration</td>
<td>Surf and Sand</td>
</tr>
<tr>
<td>8:45 am - 9:00 am</td>
<td>Presentation of the Metzenberg Award and Community Announcements</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>9:00 am - 12:00 noon</td>
<td>Plenary Session III: Fungal development and signaling</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>12:00 noon - 1:00 pm</td>
<td>Lunch</td>
<td>Crocker Hall</td>
</tr>
</tbody>
</table>
| 12:15 pm - 1:45 pm | **WORKSHOPS**  
- Publishing Q&A  
- Neurospora Business Meeting | Chapel  
Kiln |
### SCHEDULE OF EVENTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 pm - 6:00 pm</td>
<td><strong>CONCURRENT SESSIONS</strong></td>
<td>Merrill Hall</td>
</tr>
<tr>
<td></td>
<td>Fungal cell biology and hyphal growth</td>
<td>Chapel</td>
</tr>
<tr>
<td></td>
<td>Cool tools for fungal biology</td>
<td>Fred Farr Forum</td>
</tr>
<tr>
<td></td>
<td>Fungal-bacterial interactions and the microbiome</td>
<td>Klin</td>
</tr>
<tr>
<td></td>
<td>Mechanisms of fungal communication: effectors and volatiles</td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td>Mating and sexual reproduction</td>
<td>Nautilus</td>
</tr>
<tr>
<td></td>
<td>Biofuels and bioenergy</td>
<td>Scripps</td>
</tr>
<tr>
<td></td>
<td>Fungal pathogens of organisms other than plant and humans</td>
<td></td>
</tr>
<tr>
<td>6:00 pm - 7:00 pm</td>
<td>Dinner</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>7:30 pm - 10:30 pm</td>
<td>Poster Session III and Exhibits</td>
<td>Fireside Pavilion</td>
</tr>
<tr>
<td></td>
<td>*Odd numbered F posters 7:30 pm - 8:30 pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>*Even numbered F posters 8:30 pm - 9:30 pm</td>
<td></td>
</tr>
<tr>
<td><strong>SATURDAY, March 16</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 hours</td>
<td>Nursing Mothers Room</td>
<td>Triton</td>
</tr>
<tr>
<td>7:30 am - 8:30 am</td>
<td>Breakfast</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>8:30 am - 11:00 am</td>
<td>Registration</td>
<td>Surf and Sand</td>
</tr>
<tr>
<td>8:45 am - 9:00 am</td>
<td>Fungal Community Meeting and election of new FGPC officers</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>9:00 am - 12:00 noon</td>
<td>Plenary Session IV: Genomes and evolution</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>12:00 noon - 1:00 pm</td>
<td>Lunch</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>12:15 pm - 1:45 pm</td>
<td>Fungal Genetics Policy Committee Meeting</td>
<td>Surf and Sand</td>
</tr>
<tr>
<td>2:00 pm - 5:00 pm</td>
<td><strong>CONCURRENT SESSIONS</strong></td>
<td>Merrill Hall</td>
</tr>
<tr>
<td></td>
<td>Fungal genetics updated: genome sequencing, mutant screens and recombination analysis</td>
<td>Chapel</td>
</tr>
<tr>
<td></td>
<td>Epigenetics and post-transcriptional regulation</td>
<td>Fred Farr Forum</td>
</tr>
<tr>
<td></td>
<td>Host evasion of symbiosis during fungal colonization or pathogenesis</td>
<td>Klin</td>
</tr>
<tr>
<td></td>
<td>System biology and biotechnology</td>
<td>Heather</td>
</tr>
<tr>
<td></td>
<td>The fungal spore: development, dormancy and germination</td>
<td>Nautilus</td>
</tr>
<tr>
<td></td>
<td>Fungicides, antifungals and antifungal resistance</td>
<td>Scripps</td>
</tr>
<tr>
<td></td>
<td>Sensory perception and signal transduction</td>
<td></td>
</tr>
<tr>
<td>5:30 pm - 5:45 pm</td>
<td>Fungal Conference and GSA Poster Award Presentations</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td>5:45 pm - 6:30 pm</td>
<td>Perkins/Metzenberg Lecture:</td>
<td>Merrill Hall and Chapel</td>
</tr>
<tr>
<td></td>
<td>John Taylor, University of California, Berkeley</td>
<td></td>
</tr>
<tr>
<td>6:30 pm - 7:30 pm</td>
<td>Dinner</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>8:30 pm - 12:00 am</td>
<td>Closing Party featuring the Amplified DNA Band</td>
<td>Merrill Hall</td>
</tr>
<tr>
<td><strong>SUNDAY, March 17</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:30 am - 8:30 am</td>
<td>Breakfast</td>
<td>Crocker Hall</td>
</tr>
<tr>
<td>12:00 am - 12:00 noon</td>
<td>Nursing Mothers Room</td>
<td>Triton</td>
</tr>
</tbody>
</table>

*For those staying at Asilomar, or those who have bought meal tickets, lunch is available in Crocker Hall and box lunches are available on the Main Lodge deck.*
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Evening Social Sponsors

Silver Sponsors

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Fungal Biology and Biotechnology
Noble Research Institute
Mobile App
Download the GSA mobile app to your smartphone (available on both iOS and Android platforms) to have meeting information at your fingertips. Once you download the app, you will only need access to the internet to download updates. You will not need an internet connection to access previously downloaded information. Blackberry users and Windows Mobile Device users will have full access to the Program through the web version available on the conference website.

Badges
For admission to the sessions, posters, exhibits, and reception, you must have an official conference badge. If lost, you may request a replacement at the conference registration desk.

Oral Presenters
Please arrive 45 minutes before the start of your session to load your presentation on the conference computer. Label your presentation with your presentation number and last name, i.e. 27Smith.

Poster Sessions and Exhibits
All posters will be displayed in the Fireside Pavilion under Fred Farr Forum. Set up your poster after 9:30 am the day of your presentation. All posters will be up for one day. Authors will present according to the following schedule:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Presentation Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, March 13</td>
<td>7:30 pm – 8:30 pm</td>
<td>Odd-numbered posters</td>
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<tr>
<td></td>
<td>8:30 pm – 9:30 pm</td>
<td>Even-numbered posters</td>
</tr>
<tr>
<td>Thursday, March 14</td>
<td>7:30 pm – 8:30 pm</td>
<td>Odd-numbered posters</td>
</tr>
<tr>
<td></td>
<td>8:30 pm – 9:30 pm</td>
<td>Even-numbered posters</td>
</tr>
<tr>
<td>Friday, March 15</td>
<td>7:30 pm – 8:30 pm</td>
<td>Odd-numbered posters</td>
</tr>
<tr>
<td></td>
<td>8:30 pm – 9:30 pm</td>
<td>Even-numbered posters</td>
</tr>
</tbody>
</table>

Posters should be removed at 10:30 pm. After that time, remaining posters will be removed and may be lost or thrown away. The meeting does not take responsibility for posters that are not removed on time.

Exhibits
Representatives will be available during the poster sessions. Please be sure to stop by and visit.

FungiDB – www.fungidb.org
FungiDB integrates whole genome sequence and annotation and also includes experimental and environmental isolate sequence data. The database includes comparative genomics, analysis of gene expression, supplemental bioinformatics analyses and a web interface for data mining.

Gingko Bioworks - www.ginkgobioworks.com, 617-875-2104
Headquartered in Boston, Ginkgo Bioworks uses the most advanced technology on the planet – biology – to grow products instead of manufacturing them. We design custom microbes for customers across multiple markets, and build our foundries to scale the process of organism engineering using software and hardware automation.

Union Biometrica, Inc. - www.unionbio.com, 508-893-3115
Union Biometrica provides flow cytometry for objects that are too large for traditional cytometers, such as fungal pellets, and offers an alternative to manual sorting. These instruments analyze and dispense objects based on size and fluorescent parameters.
AUTOMATING THIS PROCESS OFFERS INCREASED SPEED, SENSITIVITY, QUANTIFICATION, AND REPEATABILITY OF EXPERIMENTS.

PARENTS OR GUARDIANS MUST ACCOMPANY CHILDREN AT ALL TIMES IN THE POSTER AND EXHIBIT AREA LOCATED IN FIRESIDE PAVILION. PARENTS OR GUARDIANS MAY BRING CHILDREN UNDER THE AGE OF 18 TO EDUCATIONAL AND SOCIAL EVENTS PROVIDED THE CHILDREN DO NOT DISRUPT THE EVENT. UNDER NO CIRCUMSTANCES ARE CHILDREN UNDER THE AGE OF 18 ALLOWED IN THE EXHIBIT HALL DURING SET-UP AND DISMANTLE TIMES.

REGISTRATION
Pick up registration materials and Certificates of Attendance at the registration desk in Surf and Sand during the following times:

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, March 12</td>
<td>3:30 p.m. – 9:30 p.m.</td>
</tr>
<tr>
<td>Wednesday, March 13</td>
<td>8:00 a.m. – 5:00 p.m.</td>
</tr>
<tr>
<td>Thursday, March 14</td>
<td>8:30 a.m. – 2:00 p.m.</td>
</tr>
<tr>
<td>Friday, March 15</td>
<td>8:30 a.m. – 1:00 p.m.</td>
</tr>
<tr>
<td>Saturday, March 16</td>
<td>8:30 a.m. – 11:00 a.m.</td>
</tr>
</tbody>
</table>

SOCIAL MEDIA/PHOTO/VIDEO POLICY
You may live tweet (#Fungal19) presentations unless the speaker explicitly opts out by stating so at the start of his or her talk. You may only take or share photos or videos of posters with the presenter’s consent during the assigned poster session. Taking photos of posters while the presenter is not present is strictly prohibited.

Please be respectful of your colleagues by turning off or muting your mobile devices before entering meeting rooms.

INTERNET ACCESS
Complimentary wifi is available in the meeting rooms. Instructions to connect to wifi:
1. Locate – Network name “Asilomar Conference”
2. Enter Network Passcode: conference (all lower case).
3. Once connected, open your browser.
4. You should see Asilomar Conference Grounds logon page.
5. Scroll to the bottom of the page and use the Username and Password below:
   Username: conf8690
   Password: conf8690

SECURITY/LOST AND FOUND
For all emergencies and lost and found items contact Asilomar security by dialing 0 from any house phone. The conference registration desk will be able to assist you as well.

MEALS
Meals are not included in the registration fee.

PARKING
Parking is complimentary on the Asilomar grounds.

CHILDicare/FAMILY ROOM
The Family Room for nursing mothers is located in Triton. Please note that parents and guardians are responsible for providing infant care supplies. The Family Room is unsupervised.
and the Genetics Society of America is not responsible for any accidents or injuries that may occur.

Visit Care.com for help locating a babysitter. Please note that GSA has no affiliation with their services. The parent(s), guardian, legal guardian, or individual requesting childcare services is responsible for screening caregivers and determining whether caregivers are appropriate. The Genetics Society of America does not screen any of the childcare services and assumes no responsibility with respect to these services and accepts no liabilities.

**Code of Conduct**
The Genetics Society of America Conferences foster an international community of geneticists and provide an opportunity to discuss scientific advances and form new collaborations.

GSA values your attendance and wants to make your experience productive and inspiring by fostering an open exchange of ideas in a professional setting. Our Code of Conduct was established to communicate a transparent set of standards and guidelines for acceptable behavior at GSA Conferences and to provide a positive, safe, and welcoming environment for all attendees, vendors, volunteers, and staff.

All conference participants (regardless of their role) are expected to follow the Code of Conduct while attending any portion of the meeting, including but not limited to meeting rooms, the exhibit/poster hall, meeting areas in the official conference venue, and social events provided by the meeting or vendors.

**Unacceptable Behaviors**

Unacceptable behaviors include, but are not limited to:

- Intimidating, harassing, abusive, discriminatory, derogatory, or demeaning speech or actions by any participant and at all related events
- Harmful or prejudicial verbal or written comments or visual images related to gender, gender expression, gender identity, marital status, sexual orientation, race, religion, political orientation, socioeconomic, disability or ability status, or other personal characteristics, including those protected by law
- Inappropriate use of nudity and/or sexual images in public spaces (including presentation slides and posters)
- Deliberate intimidation, stalking, or following
- Violating the rules and regulations of the conference hotel
- Sustained disruption of scientific sessions or other events
- Unwelcome and uninvited attention or contact
- Physical assault (including unwelcome touching or groping)
- Real or implied threat of physical harm
- Real or implied threat of professional or financial damage or harm
- Harassing or unwanted photography
- Photographing slides of oral presentations and posters without permission
- Recording of scientific and other sessions without permission
GENERAL INFORMATION

Taking action or making a report

- If you feel threatened, witness someone being threatened, or observe behavior that presents an immediate or serious threat to public safety, please contact venue staff/security or call 911 immediately.
- GSA staff is available to assist participants in contacting hotel/university security or local law enforcement, and otherwise assist those experiencing harassment.
- If you see someone taking photographs or videos of a presentation or poster (where permission has not been granted), you may choose to remind them of the Code of Conduct policy and ask them to stop photographing the presentation or poster.
- You may also report unauthorized photography to GSA Staff.
- Need to file a complaint? Please contact any member of GSA Staff (indicated by red ribbon on their badge) or email Tracey DePellegrin at tracey.depellegrin@genetics-gsa.org. All reports will be handled confidentially.

Consequences of non-compliance

Anyone asked by GSA, the venue or security staff, or law enforcement officers to stop unacceptable behavior is expected to comply immediately. Retaliation toward GSA or toward someone reporting an incident or after experiencing any of the following consequences will not be tolerated and may result in additional sanctions.

The consequences of non-compliance with GSA’s Code of Conduct may include:

- Immediate removal from the meeting without warning or refund
- Restrictions from future GSA meeting attendance
- Termination of GSA membership or positions on GSA Boards or Committees
- Incidents may be reported to the proper authorities
Wednesday, March 13  8:45 A.M. – 9:00 A.M.
Merrill Hall and Chapel

Welcome and Opening Remarks

Wednesday, March 13  9:00 A.M. – 12:00 NOON
Merrill Hall and Chapel

Plenary Session I: From model organisms to applied science
Co-chairs: Hailing Jin, University of California, Riverside, and Aaron Mitchell, Carnegie Mellon University

1 9:00    On Virulence. Arturo Casadevall

2 9:30    Synonymous but not silent: codon usage as genetic codes that regulate gene expression and protein structure. Yi Liu

3 10:00   Harnessing engineering to understand and optimize fungal biology. Vera Meyer

10:30    Break.

4 11:00   Systematic functional analysis of pathobiological signaling networks in the human fungal pathogen Cryptococcus neoformans. Yong-Sun Bahn

5 11:30   Looking for replication origins: a conserved mechanism from fungi to humans. Bik-Kwoon Tye

12:15 P.M. – 1:45 P.M.

Workshops
Grant Workshop 1, Chapel
Working with JGI and EMSL: How to access cutting edge capabilities at DOE User Facilities, Merrill Hall

PLENARY AND PLATFORM LISTINGS

Wednesday, March 13  3:00 P.M. – 6:00 P.M.
Merrill Hall

The fungal genome: structure, stability and evolution
Co-chairs: Michael Freitag, Oregon State University, and Christina Cuomo, Broad Institute

6 3:00    Genome evolution in the globally emergent multi-drug resistant fungus Candida auris. Jose Munoz

7 3:20    Histone modifications affect the mutation rate in Zymoseptoria tritici. Michael Habig

8 3:40    Chromatin rewiring mediates programmed evolvability via aneuploidy. Suzanne Noble

9 4:00    Chromosome transfer, histone modifications and sequence divergence define the multi-speed genome of Fusarium oxysporum. Like Fokkens

4:20    Break.

10 4:40   Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. Jacob Steenwyk

11 5:00   Erosion from the chromosome end provides natural diversity of indole-diterpenes produced by Epichloë species. Carolyn Young

12 5:20   Evolution and population structure of the oat crown rust fungus Puccinia coronata f. sp. avenae in the US. Melania Figueroa

13 5:40   A chromosome-scale reference assembly provides insight into genome biology and fungicide resistance in Phytophthora infestans. Michael Matson
Wednesday, March 13  3:00 P.M. – 6:00 P.M.  
Chapel

**Human pathogenic fungi**

**Co-chairs:** Andy Alspaugh, Duke University Medical Ctr, and Stephanie Diezmann, University of Bristol

**14 3:00** The *Cryptococcus neoformans* Titan cell is an inducible and regulated morphotype underlying pathogenesis. **Elizabeth Ballou**

**15 3:20** A new lineage of *Cryptococcus gattii* (VGV) discovered in the Central Zambezian miombo woodlands. **Rhys Farrer**

**16 3:40** Filamentation is two distinct, but overlapping, processes in the pathogenic fungus *C. albicans*. **Jill Blankenship**

**17 4:00** Mapping genome microevolution in *Candida albicans* — a story of gains and losses. **Iuliana Ene**

4:20 Break.

**18 4:40** Host immune function impacts genome instability in an opportunistic fungal pathogen. **Amanda Shurzinske**

**19 5:00** Fungal proteins with anti-bacterial properties secreted during infection. **Silke Machata**

**20 5:20** The opportunistic pathogen *Aspergillus fumigatus* coats its infectious propagules with antimicrobial peptides. **Sven Krappmann**

**21 5:40** Inositol utilization in *Cryptococcus* development and virulence. **Chaoyang Xue**

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**Wednesday, March 13  3:00 P.M. – 6:00 P.M.  
Fred Farr Forum

**Primary metabolism and metabolic engineering**

**Co-chairs:** Alistair Brown, University of Aberdeen, and Ronald De Vries, Westerdijk Fungal Biodiversity Institute

**22 3:00** Engineering mould for the conversion of pectin rich biomass to useful chemicals. **Peter Richard**

**23 3:20** Unraveling the genetics of pentose catabolism in *Aspergillus niger*. **Tania Chroumpi**

**24 3:40** Engineering of the citrate exporter protein enables high citric acid production in *Aspergillus niger*. **Alice Rassinger**

**25 4:00** Carbon metabolic flux distributions in oidia, sclerotia and fruiting bodies formation of *Coprinopsis cinerea*. **Hoi Shan Kwan**

4:20 Break.

**26 4:40** Secondary metabolite biosynthesis in *Aspergillus niger*: awakening gene clusters combined with transcriptome analysis. **Adrian Tsang**

**27 5:00** LncRNA and transactivator meet for regulation of cellulase-encoding gene expression. **Astrid Mach-Aigner**

**28 5:20** The 20 amino acid region located near the C-terminus of carbon catabolite regulator CreA is critical for rapid degradation of CreA in *Aspergillus oryzae*. **Mizuki Tanaka**

**29 5:40** Generation and comparison of 130 genome-scale fungal metabolic models. **Sara Calhoun**
**Intracellular mobility, traffic and secretion**

Co-chairs: Xin Xiang, USUHS, and Miguel Penalva, CSIC

30 3:00 The molecular machinery and cellular role of early endosome motility. Gero Steinberg

31 3:20 Function of CORVET complex in *Ustilago maydis*. Karina Schneider

32 3:40 Supergrowth: Coordinating rates of biomass synthesis with cell growth. Fred Chang

33 4:00 The Role of Endocytosis in Appressorium Formation in *Colletotrichum graminicola*. Joseph Vasselli

4:20 Break.

34 4:40 Regulatory switches in the exocytic routes followed by secreted proteins in *Aspergillus nidulans*. Miguel Penalva

35 5:00 Investigating the mechanism of effector secretion and delivery by the rice blast fungus *Magnaporthe oryzae*. Clara Rodriguez-Herrero

36 5:20 Vesicular cargoes and receptors in *Neurospora crassa*. Meritxell Riquelme

37 5:40 The unfolded protein response is linked with Ca²⁺ homeostasis to mediate stress adaptation and cell wall integrity in *Aspergillus fumigatus*. Martin Weichert

**Fungal diversity, ecology and evolution**

Co-chairs: Jana U’Ren, University of Arizona, and Joseph Spatafora, Oregon State University

38 3:00 The evolution of ectomycorrhizal transcriptomes: species-specific genes and gene co-option as major modes. Annegret Kohler

39 3:20 Anaerobic gut fungi (Neocallimastigomycota)—cryptic evolution and cross-kingdom gene transfers in the rumen of herbivorous mammals. Yan Wang

40 3:40 Elucidating Molecular determinants of *Coccidioides* (Valley Fever) infections in the Southwestern United States using genome wide association studies. Jessie Uehling

41 4:00 Diversity and Evolution of Fungal Parasites and Symbionts of Nematodes. Kathryn Bushley

4:20 Break.

42 4:40 Unexpected production of rhizobium signaling molecules across the Fungal Kingdom. Tomas Rush

43 5:00 Anthropogenic pine-ectomycorrhizal fungi co-introduction altering root and soil microbiome assemblies across a California-Australia invasion gradient. Ko-Hsuan Chen

44 5:20 Species in the genus *Backusella* (Mucoromycota), as defined by whole genome sequence comparisons, morphology, physiology and reproductive isolation, are both common and highly diverse in South-Eastern Australia. Andrew Urquhart

45 5:40 Comparative study of microbial community dynamics during wood decomposition. Yanmei Zhang
Wednesday, March 13   3:00 P.M. – 6:00 P.M.
Nautilus

Circadian rhythms and photobiology
Co-chairs: Jennifer Hurley, Rensselaer Polytechnic Institute, and Monika Schmoll, Austrian Institute of Technology AIT

46 3:00 Light dependent gene regulation and its connection to glucose sensing and nucleosome rearrangements in T. reesei. Monika Schmoll

47 3:20 Transcriptional and post-transcriptional clock regulation of metabolic pathways in Neurospora crassa includes damped and forced circadian rhythms. Meaghan Jankowski

48 3:40 The role of histone acetylation in blue light perception and oxidative stress in Trichoderma atroviride. Sergio Casas-Flores

49 4:00 Structural and Chemical Mechanisms of Fungal Circadian Photoreceptors. Brian Zoltowski

4:20 Break.

50 4:40 Two heme oxygenases are required for chromophore biosynthesis of Alternaria alternata phytochrome. Christian Streng

51 5:00 Combining transcriptomics and proteomics reveals potential post-transcriptional control of gene expression after light exposure. Guilherme Brancini

52 5:20 Circadian clock control of translation elongation in Neurospora crassa. Kathrina Castillo

53 5:40 Mislocalization of frequency mRNA contributes to a long period phenotype in the Neurospora molecular clock. Brad Bartholomai

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Wednesday, March 13   3:00 P.M. – 6:00 P.M.
Scripps

Fungal dimorphism
Co-chairs: Chad Rappleye, Ohio State University, and Leah Cowen, University of Toronto

54 3:00 Histone lysine methylation controls growth and pathogenicity in Sporisorium reilianum. Christian Müller

55 3:20 Dissecting the contribution of dimorphism to parasitic fitness of the Dutch elm disease fungus Ophiostoma novo-ulmi. Louis Bernier

56 3:40 Comparative genomics reveals the origin of hyphal morphogenesis and fungal multicellularity. Eniko Kiss

57 4:00 Ammonium signalling in Cryptococcus neoformans. Siobhan Lister

4:20 Break.

58 4:40 Morphogenesis and Cryptococcosis. Xiaorong Lin

59 5:00 Coping with stress: morphological changes in response to environmental stimuli in a fungal plant pathogen. Javier Palma-Guerrero

60 5:20 Global Analysis of Circuitry Governing Candida albicans Morphogenesis within Host Immune Cells. Leah Cowen

61 5:40 A novel resistance pathway for calcineurin inhibitors in the human pathogenic Mucorales Mucor circinelloides. Sandeep Vellanki
Thursday, March 14  8:45 A.M. – 9:00 A.M.
Merrill Hall and Chapel

Presentation of GSA
Edward Novitski Prize to
Joseph Heitman, Duke University

Thursday, March 14  9:00 A.M. – 12:00 NOON
Merrill Hall and Chapel

Plenary Session II: Fungal communities and interactions with other organisms

Co-chairs: Deborah Hogan, Geisel School of Medicine at Dartmouth, and Bart Thomma, Wageningen University

62  9:00   The global movement of fungal and oomycete crop pathogens: models, predictions and perils. Sarah Gurr

63  9:30   Definitely not IKEA: self-assembling fungal symbioses and the search for the missing instructions. Toby Spribille

64  10:00  Mycobiome in IBD. David Underhill

10:30  Break.

65 11:00  Greenland black bloom fungi. Nina Gunde-Cimerman

66 11:30  Historical contingency in community assembly: insights from nectar yeasts and their interactions with bacteria, plants, and animals. Tadashi Fukami

12:15 P.M. – 1:45 P.M.

Workshop
Grant Workshop 2, Chapel

Thursday, March 14  3:00 P.M. – 6:00 P.M.
Merrill Hall

Plant pathogenic fungi

Co-chairs: Yong-Hwan Lee, Seoul National University, and Julia Schumacher, Federal Institute for Materials Research and Testing (BAM)

67  3:00   Plant surface signal responses for infection-related morphogenesis mediated by the NDR kinase pathway of Colletotrichum orbiculare. Yasuyuki Kubo

68  3:20   The Tox3 effector protein represses PR-1 mediated host defence. Peter Solomon

69  3:40   Fusarium graminearum effector targeting plant nucleus is associated with wheat head blight. Guixia Hao

70  4:00   How light determines the life of the plant pathogen Botrytis cinerea. Julia Schumacher

4:20   Break.

71  4:40   Regulation of fungal development and pathogenesis through histone acetylation/deacetylation in the rice blast fungus. Junhyun Jeon

72  5:00   Implication of membrane protein complexes, the eisosomes, during the infectious process of Alternaria brassicicola. Justine Colou

73  5:20   The Verticillium transcription activator of adhesion (VTA) network controls sequential steps of plant root penetration and colonization to induce disease as well as microsclerotia formation. Rebekka Harting

74  5:40   Biotrophic and necrotrophic oomycetes exhibit divergent metabolism due to variation in gene content, nutrient accessibility, and evolution of enzymes and transcriptional regulators. Howard Judelson
Thursday, March 14   3:00 P.M. – 6:00 P.M.
Chapel

Secondary metabolism and production of useful metabolites
Co-chairs: Nancy Keller, University of Wisconsin, Madison, and Corby Kistler, University of Minnesota

75 3:00   HEx: A computational and synthetic biology platform for the discovery of bioactive compounds from fungi. Colin Harvey

76 3:20   Exploitation and quantitative estimation of universal regulatory elements to unlock the fungal natural product treasure. Wenbing Yin

77 3:40   ‘Unnatural’ natural products, new small molecules from endophytic fungi. Sandra Loesgen

78 4:00   The reader protein SntB is involved in regulating secondary metabolism in Aspergillus flavus. Claudio Greco

4:20   Break.

79 4:40   Discovery of natural products from anaerobic gut fungi. Candice Swift

80 5:00   Unveiling Victorin’s Secret. Yit Heng Chooi

81 5:20   Peptidyl compound synthetic factors widely conserved and highly diverse in the Fungi kingdom. Maiko Umemura

82 5:40   Flexible assembling platform built up for heterologous expression of secondary metabolites in filamentous fungi. Jun Lin

Thursday, March 14   3:00 P.M. – 6:00 P.M.
Fred Farr Forum

Fungal stress
Co-chairs: Robert Cramer, Geisel School of Medicine at Dartmouth, and Jesus Aguirre, I de Fisiologia Celular-UNAM

83 3:00   Light and stress sensing in Aspergillus nidulans and Alternaria alternata. Reinhard Fischer

84 3:20   Roles of the Candida albicans plasma membrane in resisting stressful conditions in the host. James Konopka

85 3:40   Understanding the role of pH in the control of MAPK signaling. Antonio Di Pietro

86 4:00   The rice blast fungus Magnaporthe oryzae uses a turgor-dependent, septin-mediated mechanism to invade rice cells. Nick Talbot

4:20   Break.

87 4:40   Fungal Collagen Dictates Colony and Biofilm Morphology through Filament Interactions to impact A. fumigatus Disease Progression. Caitlin Kowalski

88 5:00   Fungi encode a unique superoxide dismutase enzyme important for fungal biology and pathogenesis. Natalie Robinett

89 5:20   Global proteomic analyses define an environmentally contingent Hsp90 interactome and reveal chaperone-dependent regulation of stress granule proteins and the R2TP complex in a fungal pathogen. Teresa O’Meara

90 5:40   NsdD GATA factor-dependent regulation of fungal development and spore-specific gene expression of Aspergillus nidulans. Kap-Hoon Han
Cell walls and polysaccharides
Co-chairs: Vincent Bulone, The University of Adelaide (Australia), and Jessica Brown, University of Utah

91 3:00  Biosynthesis of the cell wall galactomannan in Aspergillus fumigatus. Thierry Fontaine

92 3:20  A secreted fungal polysaccharide alters fungal cell morphology and facilitates dissemination within the mammalian host. Jessica Brown

93 3:40  Phylogenomic analysis of enzymes responsible for nucleotide-sugar formation in Fungi. Alan Little

94 4:00  Formation of cell wall melanin in Neurospora crassa. Stephen Free

4:20  Break.

95 4:40  Phanerochaete chrysosporium fiber-forming OSIP1 protein belongs to a new class of Small secreted Proteins that prevents cell wall damages under stress condition. Mélanie Morel-Rouhier

96 5:00  Septins and stress response signaling pathways in A. nidulans. Alexander Mela

97 5:20  Remodelling of the cell wall of endophytic hyphae of Epichloë festucae in the symbiotic interaction with Lolium perenne. Arvina Ram

98 5:40  Evolutionary history and function of glycoside hydrolases GH131 related to plant tissue colonization in Dikarya and Oomycetes. Marie-Noëlle Rosso

RNA biology
Co-chairs: Francisco Nicolas, University of Murcia, and Guilhem Janbon, Institut Pasteur

99 3:00  Single-cell measurement and control to unravel yeast gene expression heterogeneity. Megan McClean

100 3:20  A to I RNA Editing in Filamentous Ascomycetes. Jin-Rong Xu

101 3:40  Fission yeast transcriptional heterogeneity surveyed by single cell RNA sequencing. Samuel Marguerat

102 4:00  Insight into the RNA degradation mechanism in the non-canonical RNAi pathway of Mucor circinelloides. Victoriano Garre

4:20  Break.

103 4:40  New insights on small RNAs in the rice blast fungus, Magnaporthe oryzae. Hyunjun Lee

104 5:00  Protein Arginine Methylation regulates Long Non-coding RNA Expression in Cryptococcus neoformans. Murat Kalem

105 5:20  Identification and Characterization of microRNA-like RNA during the early fruiting body development in Coprinopsis cinerea. Yuet Ting Lau

Thursday, March 14 3:00 P.M. – 6:00 P.M.

**Nautilus**

### Early diverging fungi

**Co-chairs:** Kerstin Voight, University of Jena, and Nicolas Corradi, University of Ottawa

- **107 3:00** Soil fungi under threat: should they be targeted for conservation? **Miranda Hart**
- **108 3:20** Early diverging insect pathogenic fungi of the order Entomophthorales possess diverse and unique subtilisin-like serine proteases. **Henrik De Fine Licht**
- **109 3:40** Hidden fungi: diversity and abundance of the enigmatic Cryptomycota across habitats and niches. **Catherine Quandt**
- **110 4:00** Genomic diversity of Mortierellomycotina fungi and their symbioses with bacteria and algae. **Gregory Bonito**
- **4:20** Break.
- **111 4:40** Daily rhythms and enrichment patterns in the transcriptome of the zombie ant fungus *Ophiocordyceps kimflemingiae*. **Charissa de Bekker**
- **112 5:00** Prediction and identification of secondary metabolism production in the cosmopolitan gut-associated zygomycete *Basidiobolus* (Basidiobolaceae, Zoopagomycota). **Javier Tabima**
- **113 5:20** Single nucleus sequencing reveals evidence of inter-nucleus recombination in arbuscular mycorrhizal. **Eric Chen**
- **114 5:40** *Mucor circinelloides* non-canonical RNAi mechanism coordinates a response to host innate immunity. **Maria Isabel Navarro Mendoza**

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**Scripps**

### Multicellular development

**Co-chairs:** Florian Hennicke, Senckenberg Gesellschaft für Naturforschung, Germany, and Stefanie Poeggeler, Georg-August-Universität Göttingen, Germany

- **115 3:00** Functional analysis of a novel defense protein from the cultivated edible mushroom *Agrocybe aegerita* which is expressed during fruiting. **Florian Hennicke**
- **116 3:20** A novel STRIPAK component mediating multicellular development in filamentous fungi. **Stefanie Poeggeler**
- **117 3:40** Evolution of plant penetration strategies in pathogenic fungi. **Frances Trail**
- **118 4:00** Functional genomics of mushroom development in *Schizophyllum commune*. **Robin Ohm**
- **4:20** Break.
- **119 4:40** DNA Methylation and Gene Expression During Heterokaryosis in the Mushroom Forming Basidiomycetes. **Robert Powers**
- **120 5:00** A-to-I mRNA editing alters protein targeting signals and protein domains during sexual development in *Sordaria macrospora*. **Ines Teichert**
- **121 5:20** An AoFus3-interacting protein FipC is a novel regulator of cell fusion in *Aspergillus oryzae*. **Takuya Katayama**
- **122 5:40** Inositol signaling in Schizophyllum commune and signaling pathways cross-talk. **Erika Kothe**

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19
PLENARY AND PLATFORM LISTINGS

Friday, March 15  8:45 A.M. – 9:00 A.M.  
Merrill Hall and Chapel  

**Presentation of the Metzenberg Award and Community Announcements**

Friday, March 15  9:00 A.M. – 12:00 NOON  
Merrill Hall and Chapel  

**Plenary Session III: Fungal development and signaling**  
Co-chairs:  
**Kirsten Nielsen**, University of Minnesota, and  
**Luis Larondo**, Pontificia Universidad Catolica de Chile

123 9:00  Chytrid fungi and our evolving view of cell motility.  **Lillian Fritz-Laylin**

124 9:30  Endocytosis at the hyphal tip.  **Brian Shaw**

125 10:00  Aspergillus as model for coordinated fungal development and secondary metabolite biosynthesis.  **Gerhard Braus**

10:30  Break.

126 11:00  Regulation of cell shape in response to temperature in the fungal pathogen *Histoplasma capsulatum*.  **Anita Sil**

127 11:30  Modulation of host immunity by *Ustilago maydis*.  **Gunther Doehlemann**

12:15 P.M. – 1:45 P.M.  

**Workshops**  
Publishing Q&A, Chapel  
Neurospora Business Meeting, Kiln

Friday, March 15  3:00 P.M. – 6:00 P.M.  
Merrill Hall  

**Fungal cell biology and hyphal growth**  
Co-chairs:  
**Greg Jedd**, Temasek Life Sciences Laboratory, and  
**Rosa Mourino Perez**, CICESE

128 3:00  Cargo adapter-mediated dynein activation needs LIS1 in *Aspergillus nidulans*.  **Xin Xiang**

129 3:20  Membrane traffic during *Candida albicans* hyphal growth.  **Martine Bassilana**

130 3:40  Meiotic development in *Podospora anserina* requires the endoplasmic reticulum-shaping protein RTN1.  **Leonardo Peraza-Reyes**

131 4:00  Ordered assembly of the Spitzenkörper’s protein core.  **Gregory Jedd**

4:20  Break.

132 4:40  TEA complex and apical organization in *Neurospora crassa*.  **Rosa Mouriño-Pérez**

133 5:00  A spore awakes.  **Peter Philippsen**

134 5:20  A novel gelsolin-like protein required for proper septum formation by regulating contractile actin ring formation.  **Md. Abdulla Al Mamun**

135 5:40  Life in the fast lane: fungi that crawl and swim and what they tell us about cell motility.  **Tim Stearns**
Friday, March 15  3:00 P.M. – 6:00 P.M.

Chapel

**Cool tools for fungal biology**

Co-chairs: Amy Gladfelter, University of North Carolina, Chapel Hill, and Minou Nowrousian, Ruhr-University Bochum

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>136</td>
<td>Analysis of secondary structures of mRNA and the structure of cytoplasm.</td>
<td>Amy Gladfelter</td>
</tr>
<tr>
<td>137</td>
<td>Stable genetic transformation of the zoosporic fungus <em>Spizellomyces punctatus</em>: A window into a fungal evolutionary transitional form.</td>
<td>Edgar Medina</td>
</tr>
<tr>
<td>138</td>
<td>Dissection of the chemical defense of a mushroom against bacteria and nematodes using microfluidics and other tools.</td>
<td>Markus Kunzler</td>
</tr>
<tr>
<td>139</td>
<td>Using proximity? dependent biotin labeling to analyze protein-protein interactions in the filamentous ascomycete <em>Penicillium chrysogenum</em>.</td>
<td>Tim Dahlmann</td>
</tr>
</tbody>
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4:20 Break.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>CRISPR-based functional genomic platforms for gene deletions and modulating gene expression in <em>Candida</em> pathogens.</td>
<td>Rebecca Shapiro</td>
</tr>
<tr>
<td>141</td>
<td>CRISPR-mediated expression platform for multi-species Aspergilli.</td>
<td>Zofia Dorota Jarczynska</td>
</tr>
<tr>
<td>142</td>
<td>Innate immunity proteins mediate allore cognition and cell death in <em>N. crassa</em>.</td>
<td>Jens Heller</td>
</tr>
<tr>
<td>143</td>
<td>Generating an accurate picture, literally, of light-sensing dynamics in Neurospora.</td>
<td>Luis Larrondo</td>
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Friday, March 15  3:00 P.M. – 6:00 P.M.

Fred Farr Forum

**Fungal-bacterial interactions and the microbiome**

Co-chairs: Patrick Van Dijck, K U Leuven, VIB, and Teresa Pawlowska, Cornell University

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
<tr>
<td>144</td>
<td>Secondary metabolites: facilitation or inhibition of intimate bacterial-fungal symbioses?</td>
<td>Nancy Keller</td>
</tr>
<tr>
<td>145</td>
<td>Endohyphal bacteria modulate saprotrophy by endophytic fungi <em>in vitro</em> and under field conditions.</td>
<td>A. Elizabeth Arnold</td>
</tr>
<tr>
<td>146</td>
<td>Animal model systems to study mixed bacterial-fungal biofilm infections and screen for novel antimicrobial compounds from essential oils and soil bacteria.</td>
<td>Patrick Van Dijck</td>
</tr>
<tr>
<td>147</td>
<td>Fungal-bacterial interactions in the cystic fibrosis lung.</td>
<td>Deborah Hogan</td>
</tr>
</tbody>
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4:20 Break.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>148</td>
<td>The secondary metabolism regulator LaeA in <em>Penicillium sp.</em> influences the cheese rind community assembly.</td>
<td>Joanna Tannous</td>
</tr>
<tr>
<td>149</td>
<td>Live cell imaging analysis of fungal-bacterial interaction.</td>
<td>Norio Takeshita</td>
</tr>
<tr>
<td>150</td>
<td>Interactions between mycobiome and bacteriome in inflammatory bowel diseases and irritable bowel syndrome.</td>
<td>Soo Chan Lee</td>
</tr>
<tr>
<td>151</td>
<td>Study of the interaction between vaginal lactobacilli, <em>Candida albicans</em> and <em>Candida glabrata</em>: from physiological aspects to OMICs analyses.</td>
<td>Nuno Mira</td>
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Friday, March 15   3:00 P.M. – 6:00 P.M.  
Kiln

**Mechanisms of fungal communication: effectors and volatiles**

Co-chairs: Joan Bennett, Rutgers University, and Chang-Hyun Khang, University of Georgia

152 3:00 Molecular mechanisms of communication mediated by fungal volatile organic compounds. Artemio Mendoza

153 3:20 From mobile genes to mobile proteins: effectors in Magnaporthe oryzae. Barbara Valent

154 3:40 Multiple forms of secreted metabolite-mediated fungal-fungal and fungal-bacterial interactions and their roles in biocontrol and fungal ecology. Seogchan Kang

155 4:00 Effectors to go: unexpected essential functions of core effectors in smut fungi. Regine Kahmann

4:20 Break.

156 4:40 *Pseudomonas aeruginosa*-derived volatile sulphur compounds promote distal *Aspergillus fumigatus* growth and a synergistic pathogen-pathogen interaction that increases pathogenicity in co-infection. Jorge Amich

157 5:00 Epigenetic control of effector genes in the wheat pathogen *Zymoseptoria tritici*. Lukas Meile

158 5:20 A Small Secreted Protein of *Sclerotinia sclerotiorum* Specifically Interacts with and Mitigates the Inhibitory Effect of Plant Polygalacturonase-Inhibiting Protein (PGIP). Wei Wei

159 5:40 Functional analysis of *AvrLm10a* and *AvrLm10b*, two neighbor effector genes from *L. maculans* displaying a ‘two genes for one gene’ interaction with the resistance gene *Rlm10* from *Brassica nigra*. Isabelle Fudal

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Friday, March 15   3:00 P.M. – 6:00 P.M.  
Heather

**Mating and sexual reproduction**

Co-chairs: Sheng Sun, Duke University Medical Center, and Ting-Fang Wang, Academia Sinica

160 3:00 *Trichoderma reesei*, an Emerging Model For Uncovering Diverse Mechanisms of Fungal Meiosis. Ting-Fang Wang

161 3:20 Selfish genetic elements versus the host genome: antagonistic coevolution drives the evolution of DNA methylation in Neurospora. Hanna Johannesson

162 3:40 Quorum sensing-governed sexual reproduction in a ubiquitous fungal pathogen. Linqi Wang

163 4:00 Sordaria crossover interference requires the STUbL proteins Slx5, Slx8 and sirtuin Sir2. Eric Espagne

4:20 Break.

164 4:40 Meiosis occurs and contributes to ploidy reduction of titan cells during cryptococcal infection. Youbao Zhao

165 5:00 Analysis of RIP in *Podospora anserina*. Pierre Grognet

166 5:20 A suppressor of a *wtf* poison-antidote meiotic driver acts via mimicry of the driver’s antidote. Maria Bravo Nunez

167 5:40 Identification of a genetic element required for spore killing in *Neurospora*. Nicholas Rhoades
Friday, March 15  3:00 P.M. – 6:00 P.M.  
**Nautilus**

**Biofuels and bioenergy**

Co-chairs: Louise Glass, University of California, Berkeley, and Dawn Thompson, Ginkgo Bioworks

168 3:00 Tool development to exploit Neocallimastigomycota for bioenergy. **Kevin Solomon**

169 3:20 Developing new yeasts for industrial applications. **Michelle Oeser**

170 3:40 Sugars “in-sight” – towards a new view of carbohydrate signaling and perception by ‘omics analyses of *Neurospora crassa*. J. Philipp Benz

171 4:00 Carbohydrate-selective wood decay by brown rot fungi: Gene losses, efficiency gains, and mission relevance. **Jonathan Schilling**

4:20 Break.

172 4:40 Systematic perturbation of yeast essential genes using base editing. **Philippe Després**

173 5:00 Engineered peroxisomes as a new platform for the production of monoterpenoids in yeast. **Jennifer Gerke**

174 5:20 A yeast optogenetic toolkit for control of intra- and intercellular signaling. **Stephanie Geller**

175 5:40 Establishing *Ustilago maydis* as a basidiomycete production platform for sesquiterpene production via pathway engineering. **Jungho Lee**

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Friday, March 15  3:00 P.M. – 6:00 P.M.  
**Scripps**

**Fungal pathogens of organisms other than plant and humans**

Co-chairs: Chengshu Wang, Chinese Academy of Sciences, China, and Yen-Ping Hsueh, Academia Sinica

176 3:00 Nematode pheromone-mediated prey sensing is highly polymorphic among the wild isolates of nematode-trapping fungi. **Yen-Ping Hsueh**

177 3:20 Fungus-insect interactions mediated by small molecules. **Chengshu Wang**

178 3:40 Secrets of the zombie fly: Determining the neurological basis of behavioral manipulation in *Drosophila*.* **Carolyn Elya**

179 4:00 *Batrachochytrium salamandrivorans* infections in amphibians. **An Martel**

4:20 Break.

180 4:40 Evolution of virulence and traits associated with environmental responses in *Basidiobolus*. **Daniel Henk**

181 5:00 Developing chytrid fungi as a model for studying eukaryotic cell biology. **Krishnakumar Vasudevan**

182 5:20 Analysis of putative virulence factors in the nematode trapping fungus *Duddingtonia flagrans*. **Nicole Hensel**

183 5:40 Role of Low-Affinity Calcium System Member *fig1* Homologous Proteins in Conidiation and Trap-Formation of Nematode-trapping Fungus *Arthrobotrys oligospora*. **Xingzhong Liu**
Saturday, March 16  8:45 A.M. – 9:00 A.M.  
Merrill Hall and Chapel

Fungal Community  
Meeting and election of new FGPC officers

Saturday, March 16  9:00 A.M. – 12:00 NOON  
Nautilus

Plenary Session IV:  
Genomes and evolution

Co-chairs:  
Hanna Johannesson, University of Uppsala, Sweden, and  
Toni Gabaldon, Centre for Genomic Regulation

184  9:00   Lineage-specific chromosomes of the *Fusarium oxysporum* species complex. Li-Jun Ma

185  9:30   Beyond resistance: insights into subpopulation responses to antifungals. Judith Berman

186  10:00  Recombination-independent recognition of DNA homology for Repeat-Induced Point mutation (RIP) and Meiotic Silencing by Unpaired DNA (MSUD). Eugene Gladyshev

10:30  Break.

187  11:00  Recombination versus mutation as the fuel for rapid evolution across the fungal tree of life. Timothy James

188  11:30  The genomic and metabolic making of budding yeast biodiversity. Chris Hittinger

Satrday, March 16  2:00 P.M. – 5:00 P.M.  
Merrill Hall

Fungal genetics updated:  
genome sequencing, mutant screens and recombination analysis

Co-chairs:  
Alex Idnurm, University of Melbourne, and  
Michael Bromley, The University of Manchester

189  2:00   Specialization and gene flow among North American anther-smut fungi. Fanny Hartmann

190  2:20   Understanding nuclear diversity within a single spore of arbuscular mycorrhizal fungi. Marisol Sanchez-Garcia

191  2:40   Using codon usage bias to predict ecologically adaptive metabolic pathways in the budding yeast subphylum. Abigail LaBella

192  3:00   Functional genomics in *Candida albicans*: tools for genome-wide overexpression screens and their application to the study of host-fungus interactions *in vivo*. Christophe D’Enfert

3:20  Break.

193  3:40   Whole genome analysis illustrates global clonal population structure of the dermatophyte pathogen *Trichophyton rubrum*. Christina Cuomo

194  4:00   Inducible cell fusion permits use of competitive fitness profiling in the human pathogenic fungus *Aspergillus fumigatus*. Michael Bromley

195  4:20   Genome-wide functional profiling of phosphatase networks in *Cryptococcus neoformans*. Jae-Hyung Jin

196  4:40   High-throughput functional genomics analysis in *Neurospora crassa*. Alexander Carrillo
Saturday, March 16  2:00 P.M. – 5:00 P.M.
Chapel

Epigenetics and post-transcriptional regulation
Co-chairs:  Zack Lewis, University of Georgia, and John Panepinto, University at Buffalo, SUNY

197 2:00  Maintenance of cytosine methylation for millions of years after loss of the de novo enzyme. Hiten Madhani

198 2:20  Chromatin-mediated regulation of genome plasticity in the human fungal pathogen Candida albicans. Alessia Buscaino

199 2:40  Codon usage biases co-evolve with transcription termination machinery to suppress premature cleavage and polyadenylation. Zhipeng Zhou

200 3:00  Comparative studies on chromosome structure and gene silencing in fungi. Michael Freitag

3:20  Break.

201 3:40  Histone mRNA is subject to 3' tagging and readenylation in Aspergillus nidulans. Mark Caddick

202 4:00  Determining genetic signatures of the cryptococcal response to Zoloft (Sertraline) by an integrated approach combining transcriptome and translatome. Ananya Dasgupta

203 4:20  A new role of retrotransposons in fungal pathogenicity. Antoine Porquier

204 4:40  A mosaic of point and regional centromere properties is the hallmark of Mucor circinelloides, an early diverging fungus lacking centromere-specific histone CENP-A. Carlos Pérez Arques

Saturday, March 16  2:00 P.M. – 5:00 P.M.
Fred Farr Forum

Host evasion of symbiosis during fungal colonization or pathogenesis
Co-chairs:  Angie Gelli, University of California, and Alga Zuccaro, University of Cologne

205 2:00  The root endophyte Serendipita vermifera modulates extracellular nucleotide levels to transition from biotrophy to cell death-associated root colonization. Hanna Rovenich

206 2:20  Effector biology of the vascular wilt fungus Verticillium dahliae. Bart Thomma

207 2:40  Candida albicans displays anticipatory responses that promote immune evasion. Alistair Brown

208 3:00  Recent progress on genomics and effectoromics of poplar rust fungi. Sebastien Duplessis

3:20  Break.

209 3:40  Pathogenicity chromosomes in Fusarium oxysporum determine host range. Jiming Li

210 4:00  Emergence of a novel effector function through gene duplication and functional diversification in the fungal Avr4 core effector family. Ioannis Stergiopoulos

211 4:20  Clathrin-dependent endocytosis mediates internalization of Magnaporthe oryzae effectors into rice cells. Ely Garcia

212 4:40  The AP-1 like transcription factor ChAP1 balances tolerance and cell death in the response of the maize pathogen Cochliobolus heterostrophus to a plant phenolic. Benjamin Horwitz
PLENARY AND PLATFORM LISTINGS

Saturday, March 16  2:00 P.M. – 5:00 P.M.
Heather
The fungal spore: development, dormancy and germination
Co-chairs:  Christina Hull, University of Wisconsin, Madison, and Anne Pringle, University of Wisconsin-Madison

221 2:00 An introgressed gene causes meiotic drive in Neurospora sitophila. Jesper Svedberg
222 2:20 Strategies for fungal spore dispersal. Agnese Seminara
223 2:40 Hydrophobins constitute the major part of the massive extracellular matrix of the conidiating Trichoderma colony and influence its fitness by modulating spore dispersal and survival. Feng Cai
224 3:00 Native and invasive populations of the death cap Amanita phalloides are highly sexual but dispersal limited. Anne Pringle
3:20 Break.
225 3:40 Lifestyles and infection strategies of two C. graminicola spore types. Daniela Nordzieke
226 4:00 Pathways of Pathogenicity: Transcriptional Stages of Germination in the Fatal Fungal Pathogen Rhizopus delenar. Poppy Sephton Clark
227 4:20 Sporulation environment alters conidial transcriptome and germination potential. Earl Kang
228 4:40 Germination of Cryptococcus spores. Christina Hull

Saturday, March 16  2:00 P.M. – 5:00 P.M.
Kiln
System biology and biotechnology
Co-chairs:  Michelle O’Malley, University of California, Santa Barbara, and Miia Makela, University of Helsinki

213 2:00 The white-rot fungus Obba rivulosa as a source of biotechnically promising laccase enzymes. Kristiina Hilden
214 2:20 Exploiting anaerobic fungi within microbial consortia for biomass breakdown and sustainable chemistry. Michelle O’Malley
215 2:40 Sequencing a fungal genus and applying hundreds of genomes for biotechnology and basic research. Mikael Andersen
216 3:00 Impacts of relative abundance of Candida albicans and Candida glabratain co-culture biofilms on biofilm structure, formation, and transcriptional regulation. Katy Kao
3:20 Break.
217 3:40 Developing the thermophilic filamentous fungus Thermoascus aurantiacus into a thermostable cellulase production platform. Raphael Gabriel
218 4:00 High throughput genetic engineering of filamentous fungi using automated liquid handling robotics. Kenneth Bruno
219 4:20 Manipulating lipid production and fatty acid profiles to support a palm oil substitute using the yeast Metschnikowia pulcherrima. Deborah Gore-Lloyd
220 4:40 Effects of manganese (II) ion transporter mutations in citric acid accumulation in Aspergillus niger. Levente Karaffa
Saturday, March 16  2:00 P.M. – 5:00 P.M.  
Nautilus  

**Fungicides, antifungals and antifungal resistance**  
Co-chairs: Scott Moye-Rowley, University of Iowa, and Ted White, University of Missouri-Kansas City

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229 2:00  Evolution of fluconazole-resistant *Candida albicans* strains by drug-induced mating competence and parasexual recombination. Joachim Morschhäuser

230 2:20  Understanding the mechanism of 2-phenylethanol adjuvant activity. Lauren Ames

231 2:40  *Fusarium* Against the World: Xenobiotic Tolerance Mechanisms, a Kernel of Evidence. Scott Gold

232 3:00  Multi drug resistance in the wheat pathogen *Zymoseptoria tritici* - a question of repeated elements? Sabine Fillinger

3:20  Break.

233 3:40  AtrR is a critical determinant ofazole resistance in *Aspergillus fumigatus*. W. Scott Moye-Rowley

234 4:00  Pharmacologic inhibition of the UPR sensor IreA has antifungal effects in *Aspergillus fumigatus*. Jose P. Guirao Abad

235 4:20  Influence of conventional vs. organic agricultural practices on the ecology, population genomics, andazole resistance status of *Aspergillus fumigatus*. Amelia Barber

236 4:40  Delta3(E)-desaturation of glycosylceramides protects fungi against the antifungal protein AFP from *Aspergillus giganteus*. Norman Paege

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Saturday, March 16  2:00 P.M. – 5:00 P.M.  
Scripps  

**Sensory perception and signal transduction**  
Co-chairs: Katherine Borkovich, University of California, and Gustavo Goldman, Universidade de São Paulo

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237 2:00  Signal transduction mechanisms for carbon catabolite repression in filamentous fungi. Gustavo Goldman

238 2:20  STRIPAK-dependent phospho-regulation of signal transduction pathways in *Sordaria macrospora*. Ramona Märker

239 2:40  A sensor kinase controls turgor-driven plant cell invasion by the rice blast fungus *Magnaporthe oryzae*. Lauren Ryder

240 3:00  A integrated view of calcium signaling in response to azole antifungal stress in *Aspergillus fumigatus*. Ling Lu

3:20  Break.

241 3:40  Roles for a second Gβ subunit, a non-receptor GEF and RGS proteins in control of G protein signaling in *Neurospora crassa*. Katherine Borkovich

242 4:00  Analysis of the PKA-dependent phosphoproteome of *Aspergillus fumigatus* reveals novel kinase targets associated with diverse and essential cellular pathways. Elliot Shwab

243 4:20  Complex interplay of phosphorylation events regulate the Mth1 co-repressor in the Sensor/Repressor-Repessor glucose signaling pathway of *S. cerevisiae*. Mark Johnston

244 4:40  Comparative transcriptomic analysis revealing the conserved velvet-mediated gene regulatory network in *Aspergillus* spores. Hee-Soo Park
Saturday, March 16  5:30 P.M. – 5:45 P.M.  
Merrill Hall and Chapel  
**Fungal Meeting and GSA Poster Award Presentations**

Saturday, March 16  5:45 P.M. – 6:30 P.M.  
Merrill Hall and Chapel  

**Perkins/Metzenberg Lecture**

**Introduction:** Louise Glass, University of California, Berkeley

**Presented by**  
John Taylor, University of California, Berkeley
Poster Session Listings

Biochemistry and metabolism................................................................. 245-310
Biotechnology...................................................................................... 311-344
Cell biology and development......................................................... 345-442
Comparative and functional genomics................................. 443-558
Fungal diversity .............................................................................. 559-583
Gene regulation............................................................................. 584-678
Pathogenic and mutualistic interactions.............................. 679-802
Population and evolutionary genetics................................. 803-860
Synthetic biology ....................................................................... 861-873
Other ............................................................................................ 874-894

All posters will be displayed in the Fireside Pavilion under Fred Farr Forum. Display your poster after 9:30 am the day of your presentation. All posters will be up for one day. Authors will present according to the following schedule:

**Wednesday, March 13**
- 7:30 pm – 8:30 pm: Odd-numbered posters
- 8:30 pm – 9:30 pm: Even-numbered posters

**Thursday, March 14**
- 7:30 pm – 8:30 pm: Odd-numbered posters
- 8:30 pm – 9:30 pm: Even-numbered posters

**Friday, March 15**
- 7:30 pm – 8:30 pm: Odd-numbered posters
- 8:30 pm – 9:30 pm: Even-numbered posters

All presenters should remove their posters at 10:30 pm. After that time, remaining posters will be removed and may be lost or thrown away. The meeting does not take responsibility for posters that are not removed on time.
Biochemistry and metabolism

245W  Genome-wide analyses of Repeat-Induced Point (RIP) mutations in Ascomycota. Emma Steenkamp

246T  Ras2 affects the virulence of Fusarium circinatum on Pinus patula. Emma Steenkamp

247F  Persulfidation is important for Aspergillus fumigatus pathogenic potential and for the host defence. Jorge Amich

248W  Analysis of the PKA-dependent phosphoproteome of Aspergillus fumigatus reveals novel kinase targets associated with diverse and essential cellular pathways. Elliot Shwab

249T  The AGC kinase YpkA regulates sphingolipids biosynthesis and physically interacts with SakA MAP kinase in Aspergillus fumigatus. João Henrique Fabri

250F  Cell wall integrity pathway controls the asexual development of Aspergillus fumigatus. Marina Rocha

251W  Investigation of enhanced virulence mechanisms in Aspergillus fumigatus isolates from the International Space Station. Adriana Blachowicz

252T  Functional study on gfdB, putatively encoding a glyceraldehyde-3-phosphate dehydrogenase in Aspergillus nidulans. Éva Leiter

253F  The glutathione degrading pathway in Aspergillus nidulans. István Pócsi

254W  Discovery and elucidation of the biosynthesis of aspernidgulenes, novel polyenes from Aspergillus nidulans, using serial promoter replacement. Clay Wang

255T  Fungal-bacterial co-culture induces biosynthesis of cryptic natural products in the genus Aspergillus and leads to identification of BasR as key regulatory node for translating bacterial signals. Maria Stroe

256F  Characterisation of fungal enzymes responsible for xylan degradation in plant lignocellulose. Gregory Bulmer

257W  Unravelling the aromatic metabolic pathways of Aspergillus niger. Ronnie Lubbers

258T  Importance of the N-terminal region of the Aspergillus oryzae hydrophobin RolA in the ionic interaction with cutinase CutL1. Keietsu Abe

259F  Characterization of a new β-1,4-Mannanase belonging to a Glycoside Hydrolase Family 134 Aspergillus nidulans. Maho Sobue

260W  Phanerochaete chrysosporium fiber-forming OSIP1 protein belongs to a new class of Small secreted Proteins that prevents cell wall damages under stress condition. Mélanie Morel-Rouhier

261T  The circadian period length in Neurospora crassa is compensated to alterations in the external environment by distinct signaling pathways. Christina Kelliher

262F  Post-transcriptional Regulation of the Virulence Factor Urease in Cryptococcus neoformans. Anna Stovall

263W  Development of Fungal-Selective Molecules and Strategies to Target Hsp90. Emmanuelle LeBlanc

264T  Fungal competition reduces the virulence potential of the root rot pathogen Bipolaris sorokiniana. Alga Zuccaro

265F  Applied aspects of fumonisin sphingolipid inhibitor biosynthesis in Fusarium verticillioides: in vivo localization and in vitro precursor studies. Slavica Janevska

266T  Vertical inheritance, gene loss, horizontal gene transfer and the content of secondary metabolite biosynthetic genes in the Fusarium incarnatum-equiseti species complex. Robert Proctor

267W  Manganese superoxide dismutase is involved in oxidative stress defense and apoptosis prevention in Fusarium verticillioides. Éva Leiter

268F  Carbon metabolic flux distributions in oidia, sclerotia and fruiting bodies formation of Coprinopsis cinereae. Hoi Shan Kwan
269W Discovery and activation of a tetracycline-like producing gene cluster in *Aspergillus sydowii*. Peter Wolff

270T Two heme oxygenases are required for chromophore biosynthesis of *Alternaria alternata* phytochrome. Christian Streng

271F Investigating the crucial roles of metacaspase proteins in the rice blast fungus, *Magnaporthe oryzae*. Jessie Fernandez

272W A spermine-dependent structural checkpoint governs appressorial function. Raquel Rocha

273T Tracing monosaccharide degradation in the *Aspergillus niger* metabolic network. Maria Victoria Aguilar Pontes

274F Characterization of CYP505D6 belonging to the class 3 cytochrome P450 from the *Phanerochaete chrysosporium*. Lisa Wise

275W Contribution of maize polyamine and amino acid metabolism towards resistance against *Aspergillus flavus* infection and aflatoxin production. Raj Majumdar

276T Generation and comparison of 130 genome-scale fungal metabolic models. Sara Calhoun

277F Metabolome analysis of apoplastic fluid from a mutualistic grass-fungus interaction and identification of a novel *Epichloë festucae* amino acid glycoside. Barry Scott

278W Neurospora crassa* family GH72 glucanosyltransferases function to crosslink cell wall glycoprotein N-linked galactomannan to cell wall lichenin*Neurospora crassa* family GH72 glucanosyltransferases function to crosslink cell wall glycoprotein N-linked galactomannan to cell wall lichenin. Pavan Kripashankar Patel

279T The *Neurospora crassa* RVB-1/2 protein complex, two proteins belonging to the AAA+ ATPase protein family, plays a functional role in heat stress response. Jonatas Campanella

280F Surveying the conformational dynamics of the time keeper FREQUENCY at the heart of the circadian clock in *Neurospora crassa*. Jacqueline Pelham

281W Glucose-mediated carbon catabolite repression of CAZymes is widespread in the white-rot fungus *Dichomitus squalens*. Paul Daly

282T Proteomic analysis of differentially expressed proteins and pathways involved in lignocellulose degradation by *Trichoderma guizhouence* NJAU4742. Liu Dongyang

283F Rapid characterisation of the mechanism of action of antifungal molecules by high throughput analysis screening of a yeast deletion collection. Kathy Parisi

284W Multi-omic analysis of the *læA* regulome in *Aspergillus pseudoterreus*. Kyle Pomraning

285T Discovery of natural products from anaerobic gut fungi. Candice Swift

286F Unveiling Victorin’s Secret. Yit Heng Chooi

287W Erosion from the chromosome end provides natural diversity of indole-diterpenes produced by *Epichloë* species. Carolyn Young

288T Characterization of secondary metabolites of the filamentous fungus *Podospora anserina*, specifically induced in co-culture with bacteria from the genus *Serratia*. Insaf Essadik

289F Genetic basis of fusel alcohol biosynthesis in the Ceratocystidaceae. Magriet Van der Nest

290W Identification and characterization of the gene cluster for the synthesis of viriditoxin in *Paecilomyces variotii* (Eurotiiales). Andrew Urquhart

291T Convergence and divergence of gene function during the evolutionary history of trichothecene biosynthesis. Robert Proctor

292F Peptide bio-surfactants from *Mortierella alpina*. Markus Gressler

293W Development of a CRISPR-Cas9-based genetic system for Chernobyl isolated *Cladosporium cladosporioides*. Su Jeung Lim
294T  Isolation and characterization of secondary metabolites from *Cladosporium sphaerospermum*. Ngan Le Hong Pham

295F  Elucidating biosynthetic pathway of a compound isolated from *Aureobasidium pullulans*. Jingyi Wang

296W  Prediction and validation of functions of terpene synthases in the delicious mushroom *Agrocybe aegerita* and other higher fungi. Martin Ruehl

297T  Enhanced production of antimicrobial polyketides, violaceols in *Aspergillus nidulans* by co-culture with *Aspergillus fumigatus*. Akihiro Ninomiya

298F  Identification and characterisation of SMT, a biosynthetic gene cluster from *Epichloë* spp. involved in stroma development. Daniel Berry

299W  Functional characterization of the sterigmatocystin secondary metabolite gene cluster in the filamentous fungus *Podospora anserina*: involvements in oxidative stress response, sexual development and pigmentation. Ling Shen

300T  Dissecting novel secondary metabolites pathways in *Aspergillus homomorphus*. Malgorzata Futyma

301F  Flavonoids produced by the endophytic fungus *Epicoccum nigrum* through OSMAC experiment on green lentil medium. Harwoko Harwoko

302W  Distribution of secondary metabolites in *Aspergillus* and *Penicillium*. Jens Frisvad

303T  Elucidating the complete biosynthetic pathway of ascofuranone and ascochlorin in *Acremonium egyptiacum*. Yasuko Araki

304F  Cyclic AMP-Dependent G Protein Signaling is Required for Cellulose Degradation in *Neurospora crassa*. Logan Collier

305W  Transcriptome and metabolic pathways under aerobic and oxygen depleted, ethanol producing conditions on lignocellulose substrates by *Phlebia radiata*. Hans Mattila

306T  MMFI is the transporter of MEL biosurfactant in *Pseudozyma antarctica*. Yuze Xu

307F  Role of *Ustilago maydis* nitrite reductase gene, um03848, in mating and virulence. Sunita Khanal

308W  Genome wide association study of the plant pathogen *Ceratocystis albifundus*. Magriet Van der Nest

309T  Molecular recognition of wood extracts by omega glutathione transferases of *Trametes versicolor*. Thomas Perrot

310F  Isolation and characterization of extracellular vesicles produced by the halophilic/halotolerant fungus *Wallemia ichthyophaga* and *Hortaea werneckii*. Ana Plemenitas

Biotechnology

311W  Evolution and functionality of fungal monoxygenases in secondary metabolism. Andreas Vestergaard

312T  Engineering of the citrate exporter protein enables high citric acid production in *Aspergillus niger*. Alice Rassinger

313F  Effects of manganese (II) ion transporter mutations in citric acid accumulation in *Aspergillus niger*. Levente Karaffa

314W  High throughput genetic engineering of filamentous fungi using automated liquid handling robotics. Kenneth Bruno

315T  What’s in a spore? Comparative proteomics of the mycelia to the spore. Kyle Rothschild-Mancinelli

316F  Development of a high protein titer *Aspergillus niger* expression host which is available for licensing. Nigel Dunn Coleman

317T  The potential application of *Aspergillus oryzae* in the biosorption of rare earth element ions present in seepage waters from a post-uranium-mining area. István Pócsi
318W Controlling aflatoxin contamination and propagation of *Aspergillus flavus* by a soy-fermenting *Aspergillus oryzae* strain. **Ahmad Alshannaq**

319F Development and evaluation of activation tagging system for functional genetic analysis in *Aspergillus oryzae*. **Masafumi Tokuoka**

320W Heterologous production and the productivity enhancement of polyunsaturated free fatty acids by metabolic engineering of *Aspergillus oryzae*. **Koichi Tamano**

321T Surface analysis tools identify how *Aspergillus niger* and its enzymes modify lignocellulose. **Jolanda van Munster**

322F Characterization of new fungal CE1 proteins leads to the discovery of two dual feruloyl/acyetyl xylan esterases. **Adiphol Dilokpimol**

323W Dissecting the biology and pathology of the human fungal pathogen *Cryptococcus neoformans* with variants of the CRISPR-Cas9 system. **Yumeng Fan**

324T Automated Quantification of Biofilm-Related Phenotypes in Fungal Species. **Matthew Dunn**

325F Impact of variations in fermentation temperature and humidity on fungal diversity in Korean traditional fermentation starter *nuruk*. **Dae-Hyuk Kim**

326W Program number not assigned

327T Developing the thermophilic filamentous fungus *Thermoaascus aurantiacus* into a thermostable cellulase production platform. **Raphael Gabriel**

328F Quantitative gene expression of *Aspergillus* bidirectional histone promoters and application as gene expression platform. **Jakob Rendsvig**

329W Metabolic engineering of the thermophilic filamentous fungus *Myceliophthora thermophila* to produce fumaric acid. **Chaoguang Tian**

330T Using proximity-dependent biotin labeling to analyze protein-protein interactions in the filamentous ascomycete *Penicillium chrysogenum*. **Tim Dahlmann**

331F Effect of the monokaryotic and dikaryotic condition and the carbon source on the secretome composition and complexity of the white rot basidiomycete *Pleurotus ostreatus*. **Antonio Pisabarro**

332W Engineering anaerobic fungal transport proteins for enhanced lignocellulosic hydrolysate fermentation. **Igor Podolsky**

333T Engineered peroxisomes as a new platform for the production of monoterpenoids in yeast. **Jennifer Gerke**

334F Biosynthetic pathway elucidation of the fungal pigment xylindein. **Jérôme Collemare**

335W Flexible assembling platform built up for heterologous expression of secondary metabolites in filamentous fungi. **Jun Lin**

336T Fungi for 'Clean Biotech'. **Susan Kaminskyj**

337F Identifying and Characterizing Lignin-active Enzymes in Anaerobic Fungi. **Thomas Lankiewicz**

338W Mitochondrial citrate transporters CtpA and YhmA are involved in cytosolic acetyl-CoA biosynthesis in the white koji fungus, *Aspergillus luchuensis* mut. *kawachii*. **Chihiro Kadooka**

339T Metabolic engineering of *Aspergillus pseudoterreus* for aconitic acid production. **Shuang Deng**

340F Photoinactivation of bacteria and tumor with the phleichrome from the phytopathogenic fungus *Cladosporium phlei*. **Kum-Kang So**

341W Development of CRISPR/Cas9 system and genome editing technology for the non-model fungus, *Moniliella pollinis*. **Daiki Marusawa**

342T Alkaline thermostable recombinant laccase from *Coprinopsis cinerea* uses syringyl-type phenols as mediators and depolymerizes lignin. **Christina Lyra**
343F A single nucleotide polymorphism-based loop-mediated isothermal amplification (LAMP) method to detect fungicide resistance in the fungal pathogen *Cercospora beticola*. **Subidhya Shrestha**

344W Manipulating lipid production and fatty acid profiles to support a palm oil substitute using the yeast *Metschnikowia pulcherrima*. **Deborah Gore-Lloyd**

### Cell biology and development

345T Developing chytrid fungi as a model for studying eukaryotic cell biology. **Krishnakumar Vasudevan**

346F Intercellular communication is required for trap formation in the nematode-trapping fungus *Duddingtonia flagrans*. **Valentin Wernet**

347W An unconventional secretion of hydrophobins by aerial hyphae resembles autophagy and explains the conidiation landscape of *Trichoderma* colony. **Feng Cai**

348T Investigation of proteins associated with hyphal growth and endocytosis. **Blake Commer**

349F Dynamic expanding fungal networks: characterization of the spatio-temporal hyphal growth in the filamentous fungus *Podospora anserina* by an interdisciplinary approach. **Florence Chapeland-Leclerc**

350W Mechanistic insights into long-distance communication in *Neurospora crassa*. **Gabriel Rosenfield**

351T The Role of Endocytosis in Appressorium Formation in *Colletotrichum graminicola*. **Joseph Vasselli**

352F A sensor kinase controls turgor-driven plant cell invasion by the rice blast fungus *Magnaporthe oryzae*. **Lauren Ryder**

353W Defining the importance of protein prenylation in *A. fumigatus* growth and virulence: characterization of the α-(RamB) and β-(Cdc43) subunits of the Geranylgeranyltransferase-I complex. **Ana Oliveira Souza**

354T *Aspergillus fumigatus* RasGEF-mediated invasive growth. **Adela Martin-Vicente**

355F Sporulation environment alters conidial transcriptome and germination potential. **Earl Kang**

356W The Identification of novel mechanisms for cell wall biosynthesis in *Aspergillus fumigatus*. **Quasai Al Abdallah**

357T The early asexual development regulator fluG codes for two putative enzymes. **Mikel Iradi-Serrano**

358F Stress activated MAP kinases SakA and MpkC interact and show opposite functions on stress responses and development in *Aspergillus nidulans*. **Verónica Garrido**

359W Cargo adapter-mediated dynein activation needs LIS1 in *Aspergillus nidulans*. **Xin Xiang**

360T A Systems Biology Approach to Signal Transduction Gene Regulation Response to an Antifungal Drug in *Aspergillus nidulans*. **Samantha Reese**

361F The *sepD5* mutation in *Aspergillus nidulans* is located in the gene encoding PaxB. **Terry Hill**

362W MpkB MAP kinase pathway is required for sexual development but not for mycotoxin production in *Aspergillus nidulans* and *Aspergillus flavus*. **Kap-Hoon Han**

363T NsdD GATA factor-dependent regulation of fungal development and spore-specific gene expression of *Aspergillus nidulans*. **Kap-Hoon Han**

364F Septins and stress response signaling pathways in *A. nidulans*. **Alexander Mela**

365W The HamE scaffold positively regulates MAP kinase signal transduction to promote development and secondary metabolism in *Aspergillus nidulans*. **Dean Frawley**

366T Assembly of a heptameric STRIPAK complex at the nuclear envelope is required for coordination of light-dependent multicellular fungal development with secondary metabolism in Aspergillus nidulans. **Dean Frawley**
367F Analysis of sclerotia formation and morphology in *Aspergillus niger*. Valeria Ellena

368W An AoFus3-interacting protein FipC is a novel regulator of cell fusion in *Aspergillus oryzae*. Takuya Katayama

369T A novel gelsolin-like protein required for proper septum formation by regulating contractile actin ring formation. Md. Abdulla Al Mamun

370F Interaction between CreD and HulA involved in endocytic degradation of the maltose transporter MalP in *Aspergillus oryzae*. Katsuya Gomi

371W *Phakopsora pachyrhizi* spore inhibition as a tool for fungicide research. Sabine Kind

372T Fungi encode a unique superoxide dismutase enzyme important for fungal biology and pathogenesis. Natalie Robinett

373F Shear Force-Dependent Changes in Gene Expression in Candida albicans. Rabia Mehmood

374W Clustering of secretory vesicles in fungal filamentous cells does not require directional growth. Robert Arkowitz

375T *C. albicans* eisosome protein Sur7 as a model to study tetraspan protein functions. Sai Zhou

376F Cellular dynamics and genomic identity of centromeres in *Magnaporthe oryzae*. Md Reza

377W Genetic interactions between the essential NIMA and Cdc7 protein kinases suggests a partnership during mitosis and the DNA damage response. Orion Brock

378T Roles of MO25 Protein Pmo25 in Fission Yeast Cytokinesis. Jian-Qiu Wu

379F Life in the fast lane: fungi that crawl and swim and what they tell us about cell motility. Tim Stearns

380W SCF Complex Components Suppress Septation Near the Hyphal Tip, Regulate Cell Cycle Progression and Interact Genetically with γ-tubulin in *Aspergillus nidulans*. Berl Oakley

381T Formation of cell wall melanin in Neurospora crassa. Stephen Free

382F Molecular mass of α-1,3-glucan affects the degree of hyphal aggregation and its localization in *Aspergillus nidulans*. Ken Miyazawa

383W Defining the role of NcPMO16a in signaling and regulation of chemotropic interactions during cell fusion. Darae Jun

384T The central regulatory model of *Aspergillus* conidiation didn’t work in *Monascus ruber*. Wanping Chen

385F The Velvet Regulators in *Aspergillus flavus*. Hee-Soo Park

386W Genome-wide analysis of velvet target genes in *Aspergillus nidulans*. Hee-Soo Park

387T Regulation and stability of the velvet complex during development in *Neurospora crassa*. David Canovas

388F Clinical isolates reveal the heterogeneity and underlying molecular mechanisms of *Cryptococcus neoformans* yeast-to-Titan transition. Xin Zhou

389W Exploiting fungal farnesyl transferases as drug targets. Connie Nichols

390T Autophagy regulates sexual reproduction and virulence in *Cryptococcus neoformans*. Tongbao Liu

391F Identifying triggers of pathogenic fungal spore germination. Sébastien Ortiz

392W *Cryptococcus neoformans* anillin-like protein CnBud4 is essential for septin assembly and growth at human body temperature. Congyue Peng

393T Fetal bovine serum-triggered Titan cell formation and growth inhibition are unique to the *Cryptococcus species* complex. Rodney Colón-Reyes

394F Photoreaction and photosensory mechanisms of *Cordyceps militaris*, an edible and medicinal fungus. Caihong Dong
395W Analysis of volatilomes and transcriptomes of *Agrocybe aegerita* during different stages of monokaryotic and dikaryotic fruiting. **Axel Orban**

396T Pathways of Pathogenicity: Transcriptional Stages of Germination in the Fatal Fungal Pathogen *Rhizopus delemar*. **Poppy Sephton Clark**

397F A spore awakes. **Peter Philippsen**

398W DNA Methylation and Gene Expression During Heterokaryosis in the Mushroom Forming Basidiomycetes. **Robert Powers**

399T What Makes Fungi so Resistant to Ionizing Radiation - An Investigation Using Melanized Yeasts. **Zachary Schultzhaus**

400F Gravity sensing through horizontal gene transfer and high-order protein assembly. **Anh Nguyen**

401W A-to-I mRNA editing alters protein targeting signals and protein domains during sexual development in *Sordaria macrospora*. **Ines Teichert**

402T The cargo receptor SmNBR1 is required for pexophagy in *Sordaria macrospora*. **Stefanie Poeggeler**

403F Insights into protein functions during primordia development of *Coprinopsis cinerea* through proteomics analyses. **Ursula Kües**

404W Nuclear squeezing through narrow spaces: Dynamics of the nuclear envelope and microtubules during rice infection by the rice blast fungus *Magnaporthe oryzae*. **Mariel Pfeifer**

405T A non-canonical role of DASH proteins during interphase in *Magnaporthe oryzae* development. **Hiral Shah**

406F Investigating the mechanism of effector secretion and delivery by the rice blast fungus *Magnaporthe oryzae*. **Clara Rodriguez-Herrero**

407W Coping with stress: morphological changes in response to environmental stimuli in a fungal plant pathogen. **Javier Palma-Guerrero**

408T A transcriptomics approach to understanding mechano-transduction by *Epichloë* symbionts of grasses. **Christine Voisey**

409F Fishing for fungi: marine fungi provide new models of cell division. **Jose Vargas-Muniz**

410W Chlamydospore formation in *Zymoseptoria tritici*. **Carolina Francisco**

411T Tea1 and cell morphogenesis in *Ustilago maydis*. **Flora Banuett**

412F Screening *N.crassa* Knockouts for Genes Important to Cold Adaptation. **Michael Watters**

413W The Cold Shock Response of *Neurospora crassa*: Influence of light vs temperature. **Michael Watters**

414T GUL-1 mediates cell wall remodelling via the COT-1 pathway in *Neurospora crassa*. **Inbal Herold**

415F Mislocalization of frequency mRNA contributes to a long period phenotype in the *Neurospora* molecular clock. **Brad Bartholomai**

416W AP180 is part of a clathrin-independent endocytosis endocytic pathway in the subapical collar of *Neurospora crassa*. **Marisela Garduño-Rosas**

417F Analysis of RGS proteins in *Neurospora crassa*. **Alexander Carrillo**

418T Characterization of indole-3-pyruvic acid pathway-mediated biosynthesis of auxin in *Neurospora crassa*. **Frank Kempken**

419W Analysis of putative adapters associated with the class V myosin in *Neurospora crassa*. **Ariane Ramirez-del Villar**

420T TEA proteins during polarized growth in *Neurospora crassa*. **Fausto Villavicencio-Aguilar**

421F Imaging of CBS-5 and BUD-7, putative exomer components, in hyphae of *Neurospora crassa*. **Adriana Rico Ramirez**
422W Cyc8p and Tup1p antagonistically regulate complexity of yeast biofilms. Zdena Palkova

423T How to survive in the wild? Form a differentiated yeast biofilm with specific metabolic features. Libuse Vachova

424F Liquid-like droplets in Ashbya gossypii maintain material properties across environments by selection on primary sequence. Benjamin Stormo

425W Conserved septin residues are located in interfaces between monomers. Michelle Momany

426T STRIPAK-dependent phospho-regulation of signal transduction pathways in Sordaria macrospora. Ramona Märker

427F Global proteomic analyses define an environmentally contingent Hsp90 interactome and reveal chaperone-dependent regulation of stress granule proteins and the R2TP complex in a fungal pathogen. Teresa O’Meara

428W Induction of sesquiterpene toxin synthesis results in distinctive cellular changes and a greatly altered transcriptome in Fusarium graminearum. H. Kistler

429T “Expanding the fungal color chart: a novel PK-NRP conidial pigment acts together with Asp-melanin to give Aspergillus aurantiobrunneus its characteristic orange-brown color”. Elise de Reus

430F Inositol signaling in Schizophyllum commune and signaling pathways cross-talk. Erika Kothe

431W Revealing parts of the transcriptional network behind sexual development of Sordaria macrospora. Ramona Lütkenhaus

432T Sex prepares Botrytis cinerea for host plant invasion. Jan van Kan

433F Unisexual reproduction promotes foraging for mating partners in Cryptococcus deneoformans. Ci Fu

434W Chemical communication upon mating is associated with distinct, partner dependent gene regulation and metabolite patterns and involves G-protein coupled receptors and VEL1. Wolfgang Hinterdobler

435T Non-model species challenging the norm: A mating-type locus case study. Markus Wilken

436F The mating-type locus of Ophiostoma quercus. Markus Wilken

437W Remodelling of the cell wall of endophytic hyphae of Epichloë festucae in the symbiotic interaction with Lolium perenne. Arvina Ram

438T Function of CORVET complex in Ustilago maydis. Karina Schneider


440W Effects of centromere-mediated chromosomal translocations on genome dynamics and sexual evolution. Vikas Yadav

441T A mosaic of point and regional centromere properties is the hallmark of Mucor circinelloides, an early diverging fungus lacking centromere-specific histone CENP-A. Carlos Pérez Arques

442F Stable genetic transformation of the zoosporic fungus Spizellomyces punctatus: A window into a fungal evolutionary transitional form. Edgar Medina

Comparative and functional genomics

443W Recombination-independent recognition of DNA homology for Repeat-Induced Point mutation (RIP) and Meiotic Silencing by Unpaired DNA (MSUD). Nicholas Rhoades

444T Comparative transcriptome analysis of Pleurotus ostreatus strains with different linear growth rate suggest a role for genes similar to others involved in mitochondrial and actin positioning in neurone axons. Lucia Ramirez

445F Using a full genome protein distance tree to review fungal genome classifications at NCBI RefSeq. Barbara Robbertse
446W  Idiosyncrasies of the mating type (MAT) locus in Capnodiales genomes. Janneke Aylward

447T  Phylogenomics of *Teratosphaeria* leaf and stem pathogens. Janneke Aylward

448F  GEP and G-OnRamp: Enabling collaborative annotations of fungal genomes in research and educational settings. Shan Hays

449W  Influence of conventional vs. organic agricultural practices on the ecology, population genomics, andazole resistance status of *Aspergillus fumigatus*. Amelia Barber

450T  Examination of ploidy in *Aspergillus fumigatus*. Brent Shuman

451F  A new approach to Cas9-based genome editing in *Aspergillus niger* that is precise, efficient and selectable. Laure Leynaud-Kieffer

452W  Comparative genomics of *Aspergillus oryzae* strains originated from a Korean fermenting starter. Yoojin Kwon

453T  Dual RNA-seq of *Puccinia graminis* f. sp. *tritici* infected barley identifies candidate fungal suppressors/elicitors that modulates *rgp4*-mediated stem rust resistance. Roshan Sharma Poudel

454F  Brown rot fungi - efficient carbohydrate-converting machinery with targeted arsenals. Jiwei Zhang

455W  Tracing the expansion of the ‘one-speed’ powdery mildew genomes. Lamprinos Frantzeskakis

456T  Colletotrichum acutatum secretes effector CEP3 though a highly branched structure to manipulates plant immune response. Meng-Yi Lin

460F  Hydrophobins constitute the major part of the massive extracellular matrix of the conidiating *Trichoderma* colony and influence its fitness by modulating spore dispersal and survival. Feng Cai

461W  Centromeres of *Kwoniella*, the sister genus of *Cryptococcus*. Marcia David Palma

462T  Molecular characterization of the N-acetylglucosamine catabolic pathways in *Cryptococcus neoformans*. Guojian liao

463F  Deciphering the Signaling Networks Associated with the Developmental Process of *Cryptococcus neoformans*. Jin-Young Kim

464W  Genome-wide functional profiling of phosphatase networks in *Cryptococcus neoformans*. Jae-Hyun Jin

465T  Promiscuous retrotransposition and intron evolution in the fungal *Cryptococcus* genus. Robert Billmyre

466F  Mating-type switching in the pathogenic yeast *Candida glabrata*. Laetitia Maroc

467W  Extensive loss of cell cycle and DNA repair genes in an ancient lineage of bipolar budding yeasts. Jacob Steenwyk

468T  Genomic signatures of ectomycorrhizal host specificity. Lotus Lofgren

469F  Root interactions pathways in Archaeorhizomycetes. Anna Rosling

470W  Comparative genomics of Ascomycete pyrophilous fungi. Akiko Carver

471T  Comparative Analysis of Oomycete Genome Evolution using the Oomycete Gene Order Browser (OGOB). Jamie McGowan

472F  Molecular evolution of MAX effectors in the rice blast fungus *Pyricularia oryzae*. Pierre Gladieux

473W  Genomics and the making of biodiversity across the budding yeast subphylum. Antonis Rokas

474T  Using codon usage bias to predict ecologically adaptive metabolic pathways in the budding yeast subphylum. Abigail LaBella
<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>475</td>
<td>Evolutionary history and function of glycoside hydrolases GH131 related to plant tissue colonization in Dikarya and Oomycetes.</td>
<td>Marie-Noëlle Rosso</td>
</tr>
<tr>
<td>476</td>
<td>Mitochondrial genome evolution among selected Cryphonectriaceae.</td>
<td>Albe van der Merwe</td>
</tr>
<tr>
<td>477</td>
<td>Comparative genomics reveals the origin of hyphal morphogenesis and fungal multicellularity.</td>
<td>Eniko Kiss</td>
</tr>
<tr>
<td>478</td>
<td>The comparative genomics of the most common Trichoderma species reveals the unique pattern of the ankyrin domain-containing proteins in orphomes of individual Trichoderma species.</td>
<td>Irina Druzhinina</td>
</tr>
<tr>
<td>479</td>
<td>Functional genomic analysis of the order Russulales reveals major trends in the shift from saprotrophic to ectomycorrhizal lifestyle.</td>
<td>Brian Looney</td>
</tr>
<tr>
<td>480</td>
<td>Acquisition of the sequestrate (truffle-like) habit by basidiomycete macrofungi.</td>
<td>David Catcheside</td>
</tr>
<tr>
<td>481</td>
<td>Exploring QTLs linked to growth rate differences in Fusarium.</td>
<td>Brenda Wingfield</td>
</tr>
<tr>
<td>482</td>
<td>Genetic investigations into pathogenicity and growth of a South African population of Fusarium circinatum.</td>
<td>Lieschen De Vos</td>
</tr>
<tr>
<td>483</td>
<td>Genome comparisons reveal processes implicated in host specificity in the Fusarium fujikuroi species complex.</td>
<td>Lieschen De Vos</td>
</tr>
<tr>
<td>484</td>
<td>Elucidating the Pangenome of Fusarium.</td>
<td>Sajeet Haridas</td>
</tr>
<tr>
<td>485</td>
<td>Dispensable chromosomes involved in vegetative growth and virulence in Fusarium oxysporum f. sp. conglutinans.</td>
<td>Yu Ayukawa</td>
</tr>
<tr>
<td>486</td>
<td>Comparative genomic analysis of Fusarium wilt isolates associated with virulence on cotton.</td>
<td>Seungyeon Seo</td>
</tr>
<tr>
<td>487</td>
<td>Few genomic differences are associated with the distinct host specificities of Fusarium oxysporum f. sp. apiic races 3 and 4, and f. sp. coriandrii.</td>
<td>Lynn Epstein</td>
</tr>
<tr>
<td>488</td>
<td>Expansion of the Pac/Rim101 gene family in Fusarium oxysporum.</td>
<td>He Yang</td>
</tr>
<tr>
<td>489</td>
<td>Identification of genomic regions involved in production of nematicidal compounds in the biocontrol fungus Clonostachys rosea through genome-wide association mapping.</td>
<td>Mudassir Iqbal</td>
</tr>
<tr>
<td>490</td>
<td>Cross-kingdom detection of nucleosome organizing DNA signatures.</td>
<td>Stephen Mondo</td>
</tr>
<tr>
<td>491</td>
<td>Profiling epigenome of Phytophthora species provide insight into pathogen adaptability on host plant.</td>
<td>Suomeng Dong</td>
</tr>
<tr>
<td>492</td>
<td>Lessons from genomic and transcriptomic analysis of five marine-derived fungi.</td>
<td>Frank Kempken</td>
</tr>
<tr>
<td>493</td>
<td>Killing multiple stone fruits with one fungus: the effector repertoire of Monilinia fructicola.</td>
<td>Laura Vilanova Torren</td>
</tr>
<tr>
<td>494</td>
<td>Overcoming skewed GC content to derive high quality fungal genome assemblies from mixed samples.</td>
<td>Gulnara Tagirdzhanova</td>
</tr>
<tr>
<td>495</td>
<td>Shaping Basidiomycete genomes.</td>
<td>Lucia Ramirez</td>
</tr>
<tr>
<td>496</td>
<td>Ecological genomics of bioluminescent fungi.</td>
<td>Huei-Mien Ke</td>
</tr>
<tr>
<td>497</td>
<td>Improving the genome assembly of Phytophthora sojae and exploring the nature of oomycete centromeres.</td>
<td>Yufeng Fang</td>
</tr>
<tr>
<td>498</td>
<td>A chromosome-scale reference assembly provides insight into genome biology and fungicide resistance in Phytophthora infestans.</td>
<td>Michael Matson</td>
</tr>
<tr>
<td>499</td>
<td>A genome wide association study to identify mutations associated with DMI fungicide resistance and virulence in Cercospora beticola.</td>
<td>Rebecca Spanner</td>
</tr>
<tr>
<td>500</td>
<td>Phlebioid Polyporales comparative genomics, ecophysiology and interactions: sustainable bioconversions and second-generation bioethanol from lignocelluloses and wastes.</td>
<td>Taina Lundell</td>
</tr>
</tbody>
</table>
501T Enrichment of G4DNA and a large inverted repeat coincide in the mitochondrial genomes of Termitomyces. Mathijs Nieuwenhuis

502F A novel proteogenomic approach to considerably improve the annotation of a fungal genome. Ulrich Kück

503W Phylogenetic relationships distinguish animal and human clinical isolates of the fungal pathogen Histoplasma. Hannah Reynolds

504T Genomics of endophytic fungi associated with Populus roots. Jorge Rojas

505F Comparative genomics unveil key aspects of the role of Non-Saccharomyces species in wine fermentation. Nuno Mira

506W Exploring the genome of the black yeast Knufia petricola. Julia Schumacher

507T Comparative genomics and transcriptomics provide insight into pollen-mimicking floral infection by the blueberry pathogen Monilinia vaccinii-corymbosi. Kamaldeep Bansal

508F Understanding gene regulatory mechanisms in Magnaporthe oryzae by integrating multi-dimensional omics data. Wei Zhang

509W Evolution and function of a virulence factor of Pyricularia. Daniel Ebbole

510T Metchnikowia pulcherrima Snf2 regulates antifungal activity and pulcherriminic acid biosynthesis. Florian Freimoser

511F From Ecology to Genomics: Utilizing multivariate approaches to understand types of growth forms in Fungi. Teeratas Kijpornyongpan

512W Understanding nuclear diversity within a single spore of arbuscular mycorrhizal fungi. Marisol Sanchez-Garcia

513T Genome evolution, transposable elements, and defense in Neurospora species. Diem Nguyen

514F High-throughput functional genomics analysis in Neurospora crassa. Alexander Carrillo

515W Investigation and Refinement of the Coccidioides posadasii Arizona population structure. Heather Mead

516T Transcriptional profiling elucidates the essential role of glycogen synthase kinase 3 to fruiting body formation in Coprinopsis cinerea. Kathy Chan

517F Phylogenetics and comparative transcriptomics of Gymnosporangium species. Siqi Tao

518W De novo transcriptome assembly and analysis of differentially expressed genes of Cryphonectria parasitica infected with Cryphonectria hypovirus 1 (CHV1). Jeesun Chun

519T MAPK-mediated regulation of sectorization in Cryphonectria parasitica was revealed by RNA-seq transcriptional analysis. Jeesun Chun

520F The syntenic pangenome of Saccharomyces cerevisiae. Charley McCarthy

521W Comparative genomics at the Saccharomyces Genome Database. Kevin MacPherson

522T Associating Yeast Genes with Human Disease-related Genes at SGD. Barbara Dunn

523F Genomic analysis provides insight into secondary metabolism of two novel, biosynthetically talented of Aspergillus from Australia. Cameron Gilchrist

524W Diversified transcriptional regulation of secondary metabolic gene clusters in closely related Aspergillus species. Daisuke Hagiwara

525T Harnessing phylogenetic information to direct genome mining of biosynthetic gene clusters. Jorge Navarro

526F Metabolic gene clusters associated with metazoan neural signaling. Jason Slot
527W  Agrobacterium tumefaciens-mediated transformation of endophytic fungus, Xylaria grammica, which has antinematodal activity. Sook-Young Park

528T  Peptidyl compound synthetic factors widely conserved and highly diverse in the Fungi kingdom. Maiko Umemura

529F  Core Biosynthetic Gene Swapping between Secondary Metabolic Gene Clusters within the Fungus Tolypocladium inflatum. Rodrigo Olarte

530W  Convergent evolution towards fused mating type loci in basidiomycete yeasts of the sister orders Trichosporonales and Tremellales. Minou Nowrousian

531T  Schizophyllum commune Aα mating-type revisited: comparative analysis of haploid genomic sequences suggests nine mating-type identities and reveals an evolutionary pattern of divergence. Kirk Bartholomew

532F  Characterization and regulation of accessible chromatin regions in Neurospora crassa. Aileen Ferraro

533W  Plant biomass degradation related intraspecies diversity in the white-rot basidiomycete Dichomitus squalens. Miia Mäkelä

534T  Comparative transcriptomics of difenconazole-resistant and sensitive Penicillium expansum isolates to elucidate fungicide resistance mechanisms. Franz Lichtner

535F  Leveraging metatranscriptomics and synthetic biology to enhance our understanding of the biomass-degrading machinery of anaerobic fungi. Itai Brand-Thomas

536W  Transcriptomic and proteomic analyses of differentially expressed genes related to micoviral infection in the edible mushroom Lentinula edodes. Hayeon Song

537T  Comparative genomics and transcriptomics to understand the divergence of aggressiveness of Zymoseptoria tritici isolates on the wheat cultivar Longbow. Hesham Gibriel

538F  Multiple independent events of chromosome fusion in Kwniella, the sister genus of Cryptococcus. Marco Coelho

539W  Transposon mediated horizontal transfer of a host-specific virulence gene. Megan McDonald

540T  Phylogenomic and pangenomic analyses to understand the evolutionary history of Claviceps purpurea and the Claviceps genus. Stephen Wyka

541F  Genome-wide association mapping identifies membrane efflux transporters as a key component in fungicide tolerance in the biocontrol fungus Clonostachys rosea. Magnus Karlsson

542W  Fusarium verticillioides Italian isolates are characterized by unique regions. Alessandro Grottoli

543T  Program number not assigned

544F  Genomics of genus Lentinula: Insights in wood decay and evolution of shiitake mushroom relatives. Byoungnam Min

545W  The Bonnets (Mycena sp.): small mushrooms with big genomes. Alan Kuo

546T  Comparative analysis of ~300 Agaricomycete genomes. Steven Ahrendt

547F  Comparative analysis of mitochondrial genomes across Dikarya. Michael MacKillop

548W  Genomic Analysis of a Cluster of Rhizopus microsporus Infections Associated with Surgical Procedures in Argentina. Jolene Bowers

549T  Fungal Core Genomes – Starting with Saccharomyces cerevisiae. Fred Dietrich

550F  Developing a high-throughput functional genomics platform for filamentous fungi. Lori Huberman

551W  Horizontal gene transfer in the human skin commensal and pathogenic Malassezia: NO resistance is mediated by a bacterially-derived flavohemoglobin. Giuseppe Ianiri
Centromere deletion in Cryptococcus deuterogattii leads to neocentromere formation and chromosome fusions. Klaas Schotanus

Distinguishing the pangenomic evolution of clonally and sexually reproducing fungi. Emile Gluck-Thaler

Phylogenomic incongruence in Ceratocystis: A clue to hybridization? Brenda Wingfield

Estimating ploidy variation from yeast genome data. Eduardo Scopel Ferreira da Costa

Functional genomics of pyrophilous fungi - determining the fate of pyrolyzed carbon in post-fire soils. Andrei Stecca Steindorff

Defining landmarks of Coprinopsis cinerea centromeric regions. Marilee Ramesh

Insertional mutagenesis using fungal TC1-mariner transposon impala in the wheat fungal pathogen Zymoseptoria tritici. Marc-Henri Lebrun

Phylogenetic overview of Basidiomycota with divergence times of higher taxa and a phyloproteomics perspective. Rui-Lin Zhao

Morphological, Molecular and antimicrobial activity of endophytic fungi isolated from forest plants at Taif region in Saudi Arabia. Rukaia Gashgari

scgid, a bioinformatic tool for scaffold binning and genome prediction from single-cell sequencing libraries. Kevin Amses

Evaluating ITS length statistics and an interactive distance tree as tools to guide NCBI RefSeq ITS curation. Barbara Robbertse

Comparison of Fungal Diversity in Fermentation Starters Nuruk and Banh men. Seojin Ahn

Molecular identification of Phytophthora species causing pineapple heart rot disease in central Uganda. Bosco Bua

Species in the genus Backusella (Mucoromycota), as defined by whole genome sequence comparisons, morphology, physiology and reproductive isolation, are both common and highly diverse in South-Eastern Australia. Andrew Urquhart

Identification of fungal endophytes and mycotoxins from warm-season grasses in Florida pastures. Ko-Hsuan Chen

Fungal diversity in whale fall chemosynthetic ecosystems. Yuriko Nagano

Diversity and distribution of fungi from deep-sea sediments of the Gulf of Mexico. Lluvia Vargas Gastelum

Analysis of Genetic Variations and Post-translational Modifications of Translation-associated Proteins RKM1, RKM4 and RKMS in Sordaria fimicola. Muhammad Saleem

Genetic and Virulence diversity in Alternaria carthami isolates of India. Garima Anand

Role of Low-Affinity Calcium System Member fig1 Homologous Proteins in Conidiation and Trap-Formation of Nematode-trapping Fungus Arthrobotrys oligospora. Xingzhong Liu

Ribosomal 18S and 28S marker selection for NCBI Fungi RefSeq projects expedited with the ribodmaker pipeline, using hidden Markov and covariance models. Barbara Robbertse

Anthropogenic pine-ectomycorrhizal fungi co-introduction altering root and soil microbiome assemblies across a California-Australia invasion gradient. Ko-Hsuan Chen

Culture-free and culture-based approaches reveal similar drivers of endophyte community structure in southwestern montane forests. Elizabeth Bowman

Comparative study of microbial community dynamics during wood decomposition. Yanmei Zhang
576 T  Influence of host phylogeny and leaf chemistry on foliar endophytic communities of Quercus. Jana U'Ren

577 F  A novel Fusarium induces putative pseudoflowers on yellow-eyed grass (Xyris spp.) in Guyana. Imane Laraba

578 W  Environmental Distribution of the Mycoprotein™ Fungus Fusarium venenatum and Evidence for a Heterothallic Lifestyle. Robert Johnson

579 T  A four-year survey of pathogens causing Fusarium head blight of wheat in Nebraska. Esteban Valverde Bogantes

580 F  The function of long non-coding RNA IncR6731 in a plant pathogenic fungus Fusarium graminearum. Jie Wang

581 W  Lineage specific regions and effectors in Fusarium oxysporum f.sp. pisi. Saidi Achari

582 T  The role of aecial hosts in the population dynamics of cereal rusts. Anna Berlin

583 F  Unexpected production of rhizobium signaling molecules across the Fungal Kingdom. Tomas Rush

Gene regulation

584 W  Genome-wide analyses of cadmium stress response in Aspergillus nidulans. Eva Leiter

585 T  Stage-specific A-to-I mRNA editing during sexual reproduction in Fusarium graminearum. Zhuyun Bian

586 F  Molecular Mechanisms Involved in Paradoxical Growth Induced by Caspofungin in Aspergillus fumigatus. Ana Colabardini

587 W  The Zn2Cys6-type transcription factor LeuB-involved interconnection between BCAA biosynthesis and the Ca2+ signaling pathways in Aspergillus fumigatus. Jing Ye


589 F  The monothiol glutaredoxin GrxD interacts with the iron regulator HapX and CmtA, a protein with yet unknown function, in Aspergillus fumigatus. Mareike Scheven

590 W  Mating-type factor-specific regulation of the fumagillin/pseurotin secondary metabolite supercluster in Aspergillus fumigatus. Sven Krappmann

591 T  Carbon catabolite repression of cellulase genes via protein kinase A pathway in Aspergillus nidulans. Emi Kunitake

592 F  The bZIP transcription factor MetR regulates light responses in Aspergillus nidulans via strictly controlling the fphA expression. Zhenzhong Yu

593 W  Histone mRNA is subject to 3’ tagging and readenylation in Aspergillus nidulans. Mark Caddick

594 T  Multi-tiered regulation of nuclear accumulation of the GATA transcription factor AreA in Aspergillus nidulans. Cameron Hunter

595 F  Activation of Silent Gene Clusters in Aspergillus nidulans using Hybrid Transcription Factors. Christian Rabot

596 W  The VosA/VelB-activated McrA governs cellular and metabolic integrity in Aspergillus nidulans. Mi Kyung Lee

597 T  Genetic engineering of the Aspergillus niger regulatory system using CRISPR/Cas9 technology. Roland Kun

598 F  The 20 amino acid region located near the C-terminus of carbon catabolite regulator CreA is critical for rapid degradation of CreA in Aspergillus oryzae. Mizuki Tanaka


600 T  Exosome-like vesicle-mediated cross-kingdom small RNA trafficking contributes to plant immunity. Qiang Cai

601 F  Yeast Casein Kinase 2 is Involved in Nutrient Sensing and Starvation Response of Candida albicans. Karl Liboro
602W  Echinocandin and Azole Drug Stress Increases Genome Instability of Multiple *Candida albicans* Ploidy States. **Ognenka Avramovska**

603T  Development of *Candida tropicalis* biofilms on silicones in a synthetic urine medium. **Yi-Kai Tseng**

604F  N-Acetylglucosamine regulation of hyphal growth in *Candida albicans*. **Kyunghun Min**

605W  Natural variation in functional impact of *Candida albicans* biofilm regulators. **Manning Huang**

606T  Circadian clock regulation of translation initiation through eIF2α phosphorylation. **Shanta Karki**

607F  ECHO and COE: Applications Utilizing Extended Harmonic Oscillators to Identify and Understand Non-Harmonic Circadian Oscillations in Large Datasets. **Hannah De los Santos**

608W  The transcriptional regulator HbxA governs development in *Aspergillus nidulans* and *Aspergillus fumigatus*. **Tim Satterlee**

609T  Transcription factor Znf2 coordinates with SWI/SNF chromatin remodeling complex in sexual development of *Cryptococcus neoformans*. **Jianfeng Lin**

610F  The mechanosensitive calcium ion channel protein Csm1 regulates caspofungin resistance in *Cryptococcus neoformans*. **Chengjun Cao**

611W  Unwinding the role of pseudouridylation in a human fungal pathogen *Cryptococcus neoformans*. **Seung-Heon Lee**

612T  Role of cell wall integrity in echinocandin resistance in *C. neoformans*. **Abigail Ragsdale**

613F  Determining genetic signatures of the cryptococcal response to Zoloft (Sertraline) by an integrated approach combining transcriptome and translatome. **Ananya Dasgupta**

614W  Investigating the *Neurospora crassa* ortholog of Ariadne. **Anan Abusharekh**

615T  Effectors at play: metatranscriptomic approaches to decipher the life cycle of a fungal phytopathogen. **Elise Gay**

616F  Epigenetic control of effector genes in the wheat pathogen *Zymoseptoria tritici*. **Lukas Meile**

617W  An update on “euchromatic” marks in filamentous fungi: only H3K4me3 is limited to euchromatin, while H3K36me3 is involved in genome stability in *Fusarium fujikuroi*. **Slavica Janevska**

618T  Characterization of FvatfA encoding a bZIP-type transcription factor in the maize pathogen *Fusarium verticillioides*. **István Pócsi**

619F  Oxylipins differentially impact *Fusarium* gene expression. **Daren Brown**

620W  G beta-like protein FvGbb2, a putative receptor for activated C kinase 1, plays important roles in *Fusarium verticillioides* hyphal development and secondary metabolism. **Huijuan Yan**

621T  Comparative transcriptomics of sugar beet pathogens *Fusarium oxysporum* f. sp. *betae* and *F. secorum* to identify and characterize effectors. **Subidhya Shrestha**

622F  FlbA serves as a negative regulator for trichothecene biosynthesis of *Fusarium graminearum*. **Hun Kim**

623W  Cryptic activation of secondary metabolic clusters by constitutive expression of a transcription factor in *Fusarium graminearum*. **Kristina Shostak**

624T  Fng1, a homolog of human tumor suppressor Ing1, is functionally related to the Sin3/Rpd3 histone deacetylase complex in *Fusarium graminearum*. **Cong Jiang**

625F  The transcriptional landscape of *Fusarium graminearum* revealed by Iso-Seq. **Huiquan Liu**

626W  A Panel of Histone H3 Mutations to Investigate Centromere Maintenance and Gene Silencing. **Mark Geisler**
**POSTER SESSION LISTINGS**

627T  FgBud14 mediated polarized growth plays an important role in sexual development in *Fusarium graminearum*. Guanghui Wang

628F  Detecting DNA-based signals for histone H3 methylation and gene silencing. Kendra Jackson

629W  Histone variant H2A.Z is critical in *Fusarium graminearum* for regulating the development and production of mycotoxins. Zhenhui Chen

630T  Expression profiling of a yeast-locked mutant of *Histoplasma capsulatum*. Dror Assa

631F  Protein Arginine Methylation regulates Long Non-coding RNA Expression in *Cryptococcus neoformans*. Murat Kalem

632W  Gene regulation of spliceosome proteins in *Trichophyton rubrum* in response to different stimuli. Nilce M. Martinez-Rossi

633T  The adaptive response of the dermatophyte *Trichophyton rubrum* shifted from glucose to keratin occurs via nitrogen catabolite repression. Antonio Rossi

634F  Insight into the RNA degradation mechanism in the non-canonical RNAi pathway of *Mucor circinelloides*. Victoriano Garre

635W  Control of gene regulation by Polycomb Repressive Complex 2 and its partners. Allyson Erlendson

636T  Characterization of chromatin accessibility and of a binding site for transcriptional activator NIT4 in the nit-6 promoter of *Neurospora crassa*. Shan Hays

637F  Light dependent gene regulation and its connection to glucose sensing and nucleosome rearrangements in *T. reesei*. Monika Schmoll

638W  Investigating the role of histone modification dynamics at H3K27 for regulating effector gene expression in *Magnaporthe oryzae*. Jun Huang

639T  New insights on small RNAs in the rice blast fungus, *Magnaporthe oryzae*. Hyunjun Lee

640F  Characterization of Myb transcription factor genes in the rice blast fungus, *Magnaporthe oryzae*. Sehee Lee

641W  Transcriptional and epigenetic regulations of *Magnaporthe oryzae* effector gene expression. Jie Zhu

642T  A novel resistance pathway for calcineurin inhibitors in the human pathogenic Mucorales *Mucor circinelloides*. Sandeep Vellanki

643F  Circadian clock control of translation elongation in *Neurospora crassa*. Kathrina Castillo

644W  Genome-wide analyses of the *Neurospora crassa* FLB-3 transcription factor. Rodrigo Gonçalves

645T  A clock-regulated transcription factor network controls the phase of ADV-1 and its downstream clock-controlled genes. Jennifer Jung

646F  The role of hydrogen peroxide in wars between related fungi. Jian Zhang

647W  eIF2α Phosphorylation Promotes Oxidative Stress Adaptation and Virulence in *C. neoformans*. Jay Leipheimer

648T  Investigating the involvement of the chromatin state in the control of gene expression in *Leptosphaeria maculans*. Colin Clairet

649F  Using transcriptomic and phosphoproteomic analyses to develop dynamic mathematical models of signal transduction in *Aspergillus nidulans*. Mark Marten

650W  Identification and Characterization of microRNA-like RNA during the early fruiting body development in *Coprinopsis cinerea*. Yuet Ting Lau

651T  Combining transcriptomics and proteomics reveals potential post-transcriptional control of gene expression after light exposure. Guillerme Brancini

652W  Dissecting the role of catalytic residues of Human peroxiredoxins using yeast model. Ashu Mohammad

653W  F-box motif encoding gene SAF1 and RLM1 together mediates the stress response in *S. cerevisiae*. Narendra Bairwa
654T The reader protein SntB is involved in regulating secondary metabolism in *Aspergillus flavus*. Claudio Greco

655F Genome Mining of the Biosynthetic Gene Cluster of Citrinalin A in *Penicillium citrinum* using CRISPR-Cas9. Bo Yuan

656W Timing of unfolded protein response (UPR) activation is required for pathogenicity and sexual development of *Ustilago maydis*. Lara Schmitz

657T Complex interplay of phosphorylation events regulate the Mth1 co-repressor in the Sensor/Receptor-Repressor glucose signaling pathway of *S. cerevisiae*. Mark Johnston

658F Transcriptional profiling of *Neurospora crassa* reveals secrets of plant cell wall degradation by filamentous fungi. Lori Huberman

659W Deciphering the regulatory mechanism of the Zn2Cys6 transcription factor PnPf2 in *Parastsgonospora nodorum*. Evan John

660T Genome-wide analysis of a transcriptional network of the sterol regulatory element binding protein, Sre1, in the human fungal pathogen *Cryptococcus neoformans*. Won Hee Jung

661F The transcription factor VdCmr1 is required for pigment production and protection from UV irradiation in *Verticillium dahliae*. Steve Klosterman

662W Identification and functional characterization of essential transcription factors in *Cryptococcus neoformans*. Kyung-Tae Lee

663T Functional evolution of transcriptional factor clr-2 in the degradation of plant cell wall by filamentous fungi. Lina Qin

664F Regulation of Leucine Biosynthesis and a Key Nitrogen Assimilation Gene by the Transcription Factor LeuR in *Aspergillus nidulans*. Joel Steyer

665W Hybrid Transcription Factor Engineering Activates Expression and Helps to Elucidate the Biosynthesis of the Silent (+)-Asperlin Gene Cluster in *Aspergillus nidulans*. Michelle Grau

666T Transcriptional response of the white-rot basidiomycete *Dichomitus squalens* to lignin-related aromatic compounds. Joanna Kowalcyzk

667F The Major Role of Carbon Catabolism in Developmental Paths Differentiation of *Coprinopsis cinerea*. Yichun Xie

668W Identification of a histone crotonylation reader homolog Yeats1 and its function in *Cryptococcus neoformans* JEC21. Chenxi Li

669T Circadian clock control of ribosome heterogeneity. Rachel Porter

670F The impact of evolutionarily conserved upstream translation initiation on gene expression in fungi. Matthew Sachs

671W Specificity in temperature-responsive translatome reprogramming: a role for Hsp70? Corey Knowles

672T Stage-specific hierarchical transcriptional control in *Ustilago maydis*. Joerg Kaemper

673F Hdp2 - relief of Rbf1 as regulator during early plant infection in *Ustilago maydis*. Matteo Jurca

674W Identifying mechanisms of gene expression control during *Ustilago maydis* teliospore germination. Amanda Seto

675T Analysis of a pathogenesis-related and hypovirus-specific MAPK transcription factor cpst12 of *Cryptonectria parasitica*. Kum-Kang So

676F Development of a bacterial-based platform for the targeted delivery of gene silencing in fungal pathogens. Jonatan Niño Sanchez

677W The translational landscape of fungal stress responses. Juan Mata

678T Signaling pathways through VdSsk2 and VdSte11 with distinct functions in pathogenicity, stress responses and microsclerotial development in *Verticillium dahliae*. Yonglin Wang
Pathogenic and mutualistic interactions

679F  Pathogenicity chromosomes in *Fusarium oxysporum* determine host range. Jiming Li

680W  *Fusarium verticillioides* denitrification pathway affects hypoxia tolerance and nitrogen substrate utilization. Blake Oakley

681T  Lifestyles and infection strategies of two *C. graminicola* spore types. Daniela Nordzieke

682F  The role of lipid signaling in the recruitment and activation of the Nox complex in the fungal endophyte *Epichloë festucae*. Berit Hassing

683W  Fungal Collagen Dictates Colony and Biofilm Morphology through Filament Interactions to impact *A. fumigatus* Disease Progression. Caitlin Kowalski

684T  A Low-Oxygen Responsive Alanine Aminotransferase is Important for *Aspergillus fumigatus* Biofilm Formation, Germination, and Growth During Infection. Joshua Kerkaert

685F  Fungal strategy of virulence by counteracting lipid-raft microdomain formation of phagolysosomes. Thorsten Heinekamp

686W  *Pseudomonas aeruginosa*-derived volatile sulphur compounds promote distal *Aspergillus fumigatus* growth and a synergistic pathogen-pathogen interaction that increases pathogenicity in co-infection. Jorge Amich

687T  The unfolded protein response is linked with Ca²⁺ homeostasis to mediate stress adaptation and cell wall integrity in *Aspergillus fumigatus*. Martin Weichert

688F  Fungal determinants in the interaction of eosinophils with *Aspergillus fumigatus* in the context of allergic bronchopulmonary aspergillosis (ABPA). Sven Krappmann

689W  Fungal proteins with anti-bacterial properties secreted during infection. Silke Machata

690T  Rapid evolutionary adaptation of phytopathogenic powdery mildew fungi to highly selective plant environments. Stefan Kusch

691F  The Reductive Iron Assimilation (RIA) System of *Botrytis cinerea*: the impact of iron on the plant-pathogen interaction. Paulo Canessa

692W  Botrytis secret EVs to deliver small RNAs into host plant cells. Baoye He

693T  Host immune function impacts genome instability in an opportunistic fungal pathogen. Amanda Shurzinske

694F  Host immune function modulates fungal pathogen virulence and genome stability. Meleah Hickman

695W  Understanding the mechanism of 2-phenylethanol adjuvant activity. Lauren Ames

696T  Posttranscriptional modification of an iron repressor defines a novel detoxification role in *Candida albicans* commensalism. Changbin Chen

697F  Identifying the regulatory network controlling *Candida albicans* interactions with mucin. Ashley Valle Arevalo

698W  Dissecting β-glucan-triggered immunity in different plants. Alan Wanke

699T  The spatiotemporal control of different pathogenic factors confers host and cell types specificity during *Fusarium graminearum* infection. Ni Zuo

700F  Daily rhythms and enrichment patterns in the transcriptome of the zombie ant fungus *Ophiocordyceps kimflemingiae*. Charissa de Bekker

701W  Investigating the role of the Circadian Clock in the wheat fungal pathogen, *Zymoseptoria tritici*. Anna Tiley

702T  The White Collar Complex and FREQUENCY drive pathogenesis in *Cercospora zeae-maydis*. John Ridonour
703F Identification of Host-Protective Antigens on the Surface of Cryptococcus neoformans. Kenton Hipsher

704W Inositol utilization in Cryptococcus development and virulence. Chaoyang Xue

705T Cryptococcus neoformans Cda1 and Cda2 coordinate deacetylation of chitin during infection to control fungal virulence. Rajendra Upadhya

706F Functional Characterization of Microbotryum lychnidi-dioicae effectors. Mike Perlin


708T Exploring the variety of interactions between Fungi and Bacteria. Kaluhat Gayan Dakshitha De Abeysinghe

709F Campers and hitchhikers in fungal chlamydospores. Nandhitha Venkatesh

710W Soybean (Glycine max) hosts nematicidal fungal community in soybean cyst nematode-infested fields. Noah Strom

711T Polyeextremotolerant fungi, Trebouxioi algae, and Methylobacterium bacteria: a Symbiotic Trifecta of Biological Soil Crusts. Erin Carr

712F Evolution of virulence and traits associated with environmental responses in Basidiobolus. Daniel Henk

713W Discovering effector proteins in necrotrophic fungal onion pathogens. Maikel Steentjes

714T Development of the first genetic linkage map in the wheat pathogen Pyrenophora tritici-repentis and its utilization in the mapping of toxC locus and comparative genomics. Zhaohui Liu

715F A Small Secreted Protein of Sclerotinia sclerotiorum Specifically Interacts with and Mitigates the Inhibitory Effect of Plant Polygalacturonase-Inhibiting Protein (PGIP). Wei Wei

716W Colletotrichum ribonuclease-type virulence effectors potentiate host immune responses. Naoyoshi Kumakura

717T Functional analysis of AvrLm10a and AvrLm10b, two neighbor effector genes from L. maculans displaying a “two genes for one gene” interaction with the resistance gene Rlm10 from Brassica nigra. Isabelle Fudal

718F Emergence of a novel effector function through gene duplication and functional diversification in the fungal Avr4 core effector family. Ioannis Stergiopoulos

719W Identification and characterization of AvrSen1 from Synchytrium endobioticum, the causal agent of potato ward disease. Bart van de Vossenberg

720T Stomata have a major role in effector-triggered defence against the necrotrophic pathogen Zymoseptoria tritici. Andrea Sánchez-Vallet

721F Host response of Agaricus bisporus to mushroom virus X infection. Eoin O’Connor

722W Colonization of rotational crops reveals fungal transcriptional plasticity. Amy Baetsen-Young

723T Comprehensive functional analysis of putative lipase-encoding genes in the plant pathogenic fungus Fusarium graminearum. Sieun Kim

724F A bZIP transcription factor Fgbzip007, an ortholog of Cys-3, is crucial for oxidative stress responses by regulating enzymatic and non-enzymatic antioxidants in the plant pathogenic fungus Fusarium graminearum. Jiyeun Park

725W Genome-wide functional analyses of WD40 proteins in the plant pathogenic fungus Fusarium graminearum. Soyoung Choi

726T Fusarium graminearum effector targeting plant nucleus is associated with wheat head blight. Guixia Hao

727F Fungal G-protein coupled receptors promote Fusarium Head Blight disease on wheat. Neil Brown
728W Identification of putative Pattern Recognition Receptors involved in perception of Fusarium graminearum. Nimrat Manes

729T Identification of candidate Fusarium graminearum effector proteins during infection of Arabidopsis thaliana using BioID. Mary Miltenburg

730F F. graminearum pathogenic factor CFEM1 confer host specificity during infection. Wan Wang

731W The CCAAT-DNA binding transcription factors, Fct1 and Fct3, play important role in fungal development and virulence in Fusarium graminearum. Jung-Eun Kim

732W Relevance of copper and zinc homeostasis in Fusarium oxysporum pathogenicity. Manuel Sanchez Lopez-Berges

733F Understanding the biotrophic dialogue of Fusarium oxysporum with Tomato root cells during wilt interaction. Amey Redkar

734W Sod5 from Fusarium oxysporum f.sp. vasinfectum contributes to fungal pathogenicity and localizes based on environmental stimuli. Qiang Wang

735T Identification and characterization of virulent strains of Fusarium oxysporum f. sp. lycopersici race 2, affecting commercial tomato (Solanum lycopersicum L.) crops in the Andean Region of Colombia. Jaime Simbaqueba

736F Characterization of a conserved alkaline pH-sensing pathway in the commensal fungus Malassezia sympodialis. Kaila Pianalto

737W Development of Phoma tracheiphila malecella null mutant, using the CRISPR/Cas9 system. Maayan Grinberg Baran

738T Hybrid assembly of a novel Zombie Ant Fungus (Ophiocordyceps) genome and discovery of candidate manipulation genes using mixed transcriptomics. Ian Will

739F Dialect or common language? Using gene expression to understand ectomycorrhizal host range in Thelephora terrestris. Laura Bogar

740W Investigating pathogenesis gene expression in Ustilago maydis and Sporisorium reilianum hybrids. Emilee Storfie

741T Genomics as a way to elucidate the interactions between behavior manipulating fungi and their ant hosts. Charissa de Bekker

742F Comparative genomics of endoparasitic fungi, Esteya vermicola. Jaemin Sung

743W N-Acetylglucosamine influences the pathogenicity of Magnaporthe oryzae. Dharmendra Bhatt

744T The WD40 protein MoWd3 is essential for plant infection in the rice blast fungus Magnaporthe oryzae. Guotian Li

745F Clathrin-dependent endocytosis mediates internalization of Magnaporthe oryzae effectors into rice cells. Ely Garcia

746W Phosphoproteomic identification of Pmk1 MAP kinase targets during invasive growth by the rice blast fungus Magnaporthe oryzae. Neftaly Cruz Mireles

747T Characterization of the papain-like protease p29 of the hypovirus CHV1-CN280 in its natural host fungus Cryphonectria parasitica and nonhost fungus Magnaporthe oryzae. Qin Xiong

748F Biotrophic and necrotrophic oomycetes exhibit divergent metabolism due to variation in gene content, nutrient accessibility, and evolution of enzymes and transcriptional regulators. Howard Judelson

749W Endosymbiotic bacterial diversity across arbuscular mycorrhizal fungi. Chase Mayers

750T Am I my brother’s keeper? Revealing the pathogenomic differences between Aspergillus fumigatus and a (mostly) innocent relative. Matthew Mead

751F A transposable element in the wheat pathogen Zymoseptoria tritici involves in pycnidia formation during infection. Chen Wang
752W  The wheat-rust conflict: Shifty enemies and the long reach of genomics. **Diane Saunders**

753T  Localization and Function of *Histoplasma capsulatum* Secreted Protein Effectors During Macrophage Infection. **Dinara Azimova**

754F  Using forward genetics to uncover principles of macrophage susceptibility to *Histoplasma capsulatum* infection. **Allison Cohen**

755W  The Verticillium transcription activator of adhesion (VTA) network controls sequential steps of plant root penetration and colonization to induce disease as well as microsclerotia formation. **Rebekka Harting**

756T  Mitogen-activated protein kinase pathways play a role during trap morphogenesis in the nematode-trapping fungus *Arthrobotrys oligospora*. **Sheng-An Chen**

757F  *Saprolegnia* diversity and pathogenic impact. **Ida Skaar**

758W  Exploring how a family of small-secreted effectors manipulates macrophages during *Histoplasma capsulatum* infection. **Rosa Rodriguez**

759T  Highly efficient CRISPR/Cas9 mediated gene disruption in *Histoplasma capsulatum*. **Bastian Joehnk**

760F  Implication of membrane protein complexes, the eisosomes, during the infectious process of *Alternaria brassicicola*. **Justine Colou**

761W  Testing a two-phase infection model in *Sclerotinia sclerotiorum* through comparative transcriptome profiling of wild type and oxalic acid – minus mutants. **PEI-LING YU**

762T  The role of a hydrophobic surface protein in virulence of the humanpathogenic fungus *Lichtheimia corymbifera* revisited. **Kerstin Voigt**

763F  Analysis of small RNAs in the *Zymoseptoria tritici* – wheat interaction. **Graeme Kettles**

764W  Molecular Basis of Pathogenesis and Host Determination in *Cercospora sojina*: from Phenotypic to Genotypic Patterns. **Burton Bluhm**

765T  The oral mycobiome of children and its role in the development of dental caries. **Wieland Meyer**

766F  Identification of candidate virulence genes from *Neonectria ditissima*, the causal agent of European Canker. **Joanna Bowen**

767W  Deciphering the tripartite interaction *Leptosphaeria maculans-Leptosphaeria biglobosa-Brassica napus*. **Elise Gay**

768T  RNA-seq Analysis of *Aspergillus flavus* during infection of resistant and susceptible cultivars of maize reveals gene networks correlating with host resistance. **Matthew Gilbert**

769F  Intra-specific aflatoxin inhibition profile by atoxigenic *Aspergillus flavus* reveals touch-independent inhibition. **Rebecca Sweany**

770W  The secondary metabolism regulator LaeA in *Penicillium sp.* influences the cheese rind community assembly. **Joanna Tannous**

771T  How do Microbes Choose their Neighbors? **Kurt Dahlstrom**

772F  Live cell imaging analysis of fungal-bacterial interaction. **Norio Takeshita**

773W  Narnaviruses, novel symbionts of *Rhizopus microsporus*. **Astrid Espino**

774T  Alien chromatin from Hordeaeae grasses enhances the compatibility of *Epichloë* endophyte symbiosis with the hexaploid wheat *Triticum aestivum*. **Richard Johnson**

775F  Syntrophy between anaerobic fungi and methanogenic archaea dominate highly efficient lignocellulolytic consortia. **Xuefeng Peng**
The H3K9 and H3K36 methyltransferases ClrD and SetB regulate *Epichloë festucae* infection of perennial ryegrass. **Yonathan Lukito**

*Fusarium* Against the World: Xenobiotic Tolerance Mechanisms, a Kernel of Evidence. **Scott Gold**

Comparative dual-transcriptomics of myco- and photobionts in model “Franken-Lichens”. **Michael Clear**

Chemical inhibition of bark beetle fungal symbionts. **David Butler**

Sphingolipid metabolism and programmed cell death: the pivotal role of the fumonisins produced by *Fusarium verticillioides*. **Marzia Beccaccioli**

Signal Peptide Peptidase (Spp1) activity connects the Unfolded Protein Response to Plant Defense Suppression by *Ustilago maydis*. **Kai Heimel**

Virulence functions for two T2 type extracellular ribonucleases of *Ustilago maydis*. **Dibya Mukherjee**

The functional analysis of late effectors in the maize pathogen *Ustilago maydis*. **Fumi Fukada**

The biology of smut fungi is shaped by their effector repertoires. **Gunther Doehlemann**

Investigating the role of autophagy in supporting early symptomless colonisation of *Zymoseptoria tritici* on wheat. **Harry Child**

Analysis of putative virulence factors in the nematode trapping fungus *Duddingtonia flagrans*. **Nicole Hensel**

Whole-genome sequencing of a sexual population of the wheat stripe rust pathogen identified candidates for avirulence genes. **Xianming Chen**

The opportunistic pathogen *Aspergillus fumigatus* coats its infectious propagules with antimicrobial peptides. **Sven Krappmann**

Effects of cytosine-5 DNA methyltransferases on morphology and pathogenicity of a phytopathogen *Cryphonectria parasitica*. **Yo-Han Ko**

A single necrotrophic effector from *Parastagonospora nodorum* has two susceptibility targets in wheat. **Timothy Friesen**

Using Virulence Mutants to Identify Avr Genes in the wheat stem rust fungus, *Puccinia graminis* f. sp. *tritici*. **Peter Dodds**

Genome-wide DNA methylation analysis provides insight on regulation of necro-/saprotroph lifestyles and developmental stages in *Heterobasidion parviporum*. **Fred Asiegbu**

The *Sporisorium reilianum* effector SAD1 leads to loss of apical dominance by interfering with the function of a plant E3 ubiquitin ligase. **Nisha Agrawal**

Study of the interaction between vaginal lactobacilli, *Candida albicans* and *Candida glabrata*: from physiological aspects to OMICs analyses. **Nuno Mira**

Histone lysine methylation controls growth and pathogenicity in *Sporisorium reilianum*. **Christian Müller**

*Mucor circinelloides* non-canonical RNAi mechanism coordinates a response to host innate immunity. **María Isabel Navarro Mendoza**

Interaction of extremotolerant fungi with algae – roles for sugar alcohols and phytohormones. **Steven Harris**

Interactions between mycobiome and bacteriome in inflammatory bowel diseases and irritable bowel syndrome. **Soo Chan Lee**

A small cysteine-rich protein from filamentous pathogens is recognized as a novel pathogen-associated molecular pattern. **Jiajun Nie**
800W  Does common barberry play a role in escalating cereal rust diversity in the UK? Elizabeth Orton

801T  The AP-1 like transcription factor ChAP1 balances tolerance and cell death in the response of the maize pathogen Cochliobolus heterosporus to a plant phenolic. Benjamin Horwitz

802F  A new role of retrotransposons in fungal pathogenicity. Antoine Porquier

Population and evolutionary genetics

803W  Increased Hypoxia fitness of clinical Aspergillus fumigatus isolates from chronic Aspergillosis patients. Brandon Ross

804T  Population genetic structure of azole-resistant and sensitive Aspergillus fumigatus from agricultural environments in the southeastern U.S. Marin Brewer

805F  TOR Kinase Governs the Generation of Phenotypic Diversity. Dana Davis

806W  Gene expression noise accelerates the evolution of a biological oscillator. Nicolas Buchler

807T  Single nucleotide polymorphisms are associated with strain specific virulence changes in Cryptococcus neoformans. Katrina Jackson

808F  Phylogenomics insight into speciation within the species complexes of Cryptococcus gattii and C. neoformans. Juan Monroy-Nieto

809W  Population genomics and flow cytometry reveal a high mutation rate and ploidy variation among populations of the blueberry pathogen Exobasidium maculosum. Annakay Abrahams

810T  The population structure and effector diversity within the U.S. population of Puccinia striiformis f. sp. tritici. Rebecca Lyon

811F  Verticillium dahliae lineages infecting plant hosts in potato fields: endophyte in one plant and pathogen in another. Laura del Sol Bautista-Jalon

812W  Comparative genomics of host-specialized populations of Corynespora cassiicola causing target spot epidemics in the southeastern United States. Leilani Sumabat

813T  Adaptive dynamics of populations of Leptosphaeria maculans under resistance selection pressure: insights from two decades of surveys in France. Thierry Rouxel

814F  Genetic diversity and population structure of the soybean rust pathogen, Phakopsora pachyrhizi. Yogesh Gupta

815W  Program number not assigned

816T  Convergent evolution of phosphatase gene families allows for specialization in phosphate and thiamine starvation in multiple yeast species. Bin He

817F  Experimental evolution reveals the plasticity of prey-sensing in nematode-trapping fungi Arthrobotrys oligospora. HUNG-CHE LIN

818W  Epidemiosurveillance in the French West Indies of genotypes involved in the adaptation to varietal resistances in the fungus Pseudocercospora fijiensis causing the black leaf streak disease of banana. Thomas Dumartinet

819T  Population structure and host specialization in Botrytis cinerea. Alex Mercier

820F  Quantification of syntenic relationships between fungal genomes. Myoung-Hwan Chi

821W  QTL/FST comparisons of quantitative traits in the Parastagonospora nodorum – wheat pathosystem. Danilo Augusto dos Santos Pereira

822T  The Spok Block: A hyper-selfish genetic element. Aaron Vogan

823F  Active transpositions of DNA transposons and their evolutionary consequences in the Fusarium oxysporum f. sp. lycopersici genome. Dilay Hazal Ayhan

824W  Loline alkaloid biosynthesis genes as a cautionary tale for claims of wide horizontal gene transfer. Christopher Schardl
Hybridization as a rapid adaptation mechanism of Sporisorium reilianum to a new host. Emad Albarouki

Empirical measures of mutational effects define neutral models of regulatory evolution in Saccharomyces cerevisiae. Andrea Hodgins-Davis

Mating behavior affects the evolutionary success of a killer meiotic driver in fission yeast. Jose Lopez Hernandez

Mitochondrial genomes as phylogenetic backbone for evolutionary studies. Balázs Brankovics

Phylogenomic resolution and whole genome barcoding of zygomycete lineages with low coverage genome sequencing. Jason Stajich

Incipient speciation in the rice blast fungus. Maud Thierry

“Illuminating the dark matter of genomics: Structural variation in mini-chromosomes facilitates adaptation of Magnaporthe oryzae.”. Thorsten Langner

Variation and function of the AVR-Pita genes among clonal lineages of Magnaporthe oryzae in the United States. Sook-Young Park

Wheat blast and gray leaf spot co-evolved in Brazil through repeated admixture among several host-specialized forms of Magnaporthe oryzae. Mark Farman

Single nucleus sequencing reveals evidence of inter-nucleus recombination in arbuscular mycorrhizal fungi. Eric Chen

An introgressed gene causes meiotic drive in Neurospora sitophila. Jesper Svedberg

Identification of a genetic element required for spore killing in Neurospora. Nicholas Rhoades

An insight into the spatial-longitudinal population structure of the wheat pathogen, Parastagonospora nodorum. Kar-Chun Tan

Phylogenetic relationships of 200+ wild isolates of the ectomycorrhizal fungus Cenococcum geophilum from soils under Populus trichocarpa in the Pacific Northwest, USA. Jessica Velez

Pan-genome and phylogeographic analysis of wheat-infecting Parastagonospora nodorum. Darcy Jones

Genetic admixture and the origins of clinical Saccharomyces cerevisiae yeast. Jenna Hamlin

Genetic admixture and the origins of clinical Saccharomyces cerevisiae yeast. Jenna Hamlin


Population genomics reveals patterns of divergence and gene flow between populations of Fusarium subglutinans and Fusarium temperatum in Argentina. Christopher Toomajian

Cause and Effectors: Secretome comparison of members from the anther-smut pathogen species complex, Microbotryum violaceum. William Beckerson

Changes in pattern of mycorrhization and gene expression as a consequence of ectomycorrhizal basidiomycete Suillus brevipes and local vs. non-local pine host interactions. Hui-Ling Liao

Reverse Evolution of a Classic Gene Network in Yeast for Competitive Advantage. Feng-Yan Bai

The wine yeast, Saccharomyces cerevisiae, shows population structure within European woodlands. Jacqueline Peña

Population subdivision and the frequency of aflatoxigenic isolates in Aspergillus flavus in the United States. Milton Drott
Prediction and identification of secondary metabolism production in the cosmopolitan gut-associated zygomycete Basidiobolus (Basidiobolaceae, Zoopagomycota). Javier Tabima

Mating strategy and mating type distribution of economically important Teratosphaeria tree pathogens. Minette Havenga

Differential expression patterns of the two nuclei of a Heterobasidion hybrid heterokaryon during infection of conifer host. Jan Stenlid

Evolution and population structure of the oat crown rust fungus Puccinia coronata f. sp. avenae in the US. Melania Figueroa

A dispensable gene is responsible for standing variation to SDHI fungicides in the wheat pathogen Zymoseptoria tritici. Gabriel Scalliet

Can selection for longevity drive evolution towards a low mutation rate? Evidence from a long-lived fairy ring mushroom. Markus Hiltunen

The Coccidioides sp. mitochondrial genome: Species tree discordance and the inflation of intron types I and II elements. Bridget Barker

QTL mapping of allorecognition genes in Basidiomycetes. Ben Auxier

A suppressor of a wtf poison-antidote meiotic driver acts via mimicry of the driver’s antidote. Maria Bravo Nunez

The enrichment in hydrophobin-encoding genes constitutes the main genomic hallmark of Trichoderma: the pattern search revealed a plethora of unknown genes absent in other hypocrealean fungi. Irina Druzhinina

Non-defoliation and defoliation genotype and genetic structure of Verticillium dahliae from smoke trees. Aining Li

Population structure and host association of B. cinerea infecting small fruit in the Pacific Northwest. Olga Kozhar

Cytochrome P450 monooxygenase mediated metabolic utilization of benzo(a)pyrene by Aspergillus fungi. Jae-Hyuk Yu

Reengineering of Asperfuraneone pathway to yield Sclerotiorin. Patrick Lehman

Towards minimal Aspergillus genomes: editing Aspergillus niger mycotoxin clusters using an optimized CRISPR/Cas system. Xiaomei Zheng

CRISPR-mediated expression platform for multi-species Aspergilli. Zofia Dorota Jarczynska

Developing genome engineering tools and understanding gene regulation in anaerobic fungi. Casey Hooker

A yeast optogenetic toolkit for control of intra- and intercellular signaling. Stephanie Geller

Systematic perturbation of yeast essential genes using base editing. Philippe Després

Pleuromutilin antibiotics: uncovering biosynthesis and expanding diversity. Fabrizio Alberti

Establishing Ustilago maydis as a basidiomycete production platform for sesquiterpene production via pathway engineering. Jungho Lee

Identification of novel bioactive compounds from basidiomycetes for production in Ustilago maydis. Jungho Lee

Usage of an estradiol-inducible fusion transactivation domain for controlled gene expression in Trichoderma reesei. Christian Derntl

Synthetic control devices for gene regulation in Penicillium chrysogenum. Laszlo Mozsik
873T Fine-tuning gene expression: Pantothenic acid inducible promoters in *Trichoderma reesei*. Franziska Wanka

874F Analysis of RIP in *Podospora anserina*. Pierre Grognet

875W Pharmacologic inhibition of the UPR sensor IreA has antifungal effects in *Aspergillus fumigatus*. Jose P. Guirao Abad

876T A spliceosomal twin intron conserved across all classes of the Pezizomycotina subphylum. Erzsébet Fekete

877F Delta3(E)-desaturation of glycosylceramides protects fungi against the antifungal protein AFP from *Aspergillus giganteus*. Norman Paege

878W PPE-1 and PPP1 Phosphatases are Necessary for Circadian Rhythms in eIF-2? Activity in *Neurospora Crassa*. Zhaolan Ding

879T Meiosis occurs and contributes to ploidy reduction of titan cells during cryptococcal infection. Youbao Zhao

880F Uniparental mitochondrial inheritance in *Cryptococcus* is controlled by the pheromone and pheromone receptor mating type locus. Sheng Sun

881W Ammonium signalling in *Cryptococcus neoformans*. Siobhan Lister

882T *Fusarium oxysporum* Writes its Own DNA Repair Story. Shay Covo

883F Pathogenicity chromosomes as Trojan horses: the costs of mobile DNA in pathogen evolution. Like Fokkens

884W Sharing Mutants and Experimental Information Prepublication using FgMutantDb (https://scabusa.org/FgMutantDb). Thomas Baldwin

885T *Magnaporthe oryzae* telomeric transposons assume telomere functions in the absence of telomerase. Mostafa Rahnama

886F Mycovirus associated with malformed fruiting bodies in the oyster mushroom, *Pleurotus ostreatus*. Hayeon Song

887W *In silico* screened compound Z-705 specifically inhibits protein kinase C of filamentous fungi. Akira Yoshimi

888T Proteome-wide analysis of cysteine oxidation in *Aspergillus fumigatus* reveals increased levels of oxidatively modified thiol groups by hypoxia-induced reactive oxygen species. Olaf Kniemeyer

889F Characterization of proteases involved in the biosynthesis of omphalotins and other fungal RiPPs. Emmanuel Matabaro

890W FungiDB: integrating genomic data for pathogens and model organisms and providing advanced search capabilities and large-scale data analysis. Omar Harb

891T The fungal feature tracker (FFT): A tool to quantitatively characterize the phenotype of nematode-trapping and other filamentous fungi. Guillermo Vidal-Diez de Ulzurrun

892F A Gasdermin-like protein RCD1 controls programmed cell death in *Neurospora crassa*. Asen Daskalov

893W Improving STEM retention via early research engagement. Michael Watters

894T Improving STEM Retention and Commuter Engagement through Research, Cohorts, and Faculty Mentoring. Michael Watters
<table>
<thead>
<tr>
<th>A</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdallah, K.</td>
<td>................................. 439F</td>
<td></td>
</tr>
<tr>
<td>Abe, K.</td>
<td>................................. 258T</td>
<td></td>
</tr>
<tr>
<td>Abeyesinghe, K.</td>
<td>................................. 581W</td>
<td></td>
</tr>
<tr>
<td>Abrahams, A.</td>
<td>................................. 809W</td>
<td></td>
</tr>
<tr>
<td>Abusharekh, A.</td>
<td>................................. 614W</td>
<td></td>
</tr>
<tr>
<td>Achari, Saidi</td>
<td>................................. 581W</td>
<td></td>
</tr>
<tr>
<td>Agrawal, N.</td>
<td>................................. 793F</td>
<td></td>
</tr>
<tr>
<td>Aguilar Pontes, M. V.</td>
<td>................................. 273T</td>
<td></td>
</tr>
<tr>
<td>Ahn, S.</td>
<td>................................. 563W</td>
<td></td>
</tr>
<tr>
<td>Ahrendt, S.</td>
<td>................................. 546T</td>
<td></td>
</tr>
<tr>
<td>Al Abdallah, Q.</td>
<td>................................. 356W</td>
<td></td>
</tr>
<tr>
<td>Albarouki, E.</td>
<td>................................. 825T</td>
<td></td>
</tr>
<tr>
<td>Alberti, F.</td>
<td>................................. 868F</td>
<td></td>
</tr>
<tr>
<td>Alshannaq, Ahmad</td>
<td>................................. 318W</td>
<td></td>
</tr>
<tr>
<td>Ames, Lauren.</td>
<td>................................. 230, 695W</td>
<td></td>
</tr>
<tr>
<td>Amich, J.</td>
<td>................................. 247F, 686W</td>
<td></td>
</tr>
<tr>
<td>Amses, K.</td>
<td>................................. 561T</td>
<td></td>
</tr>
<tr>
<td>Anand, A.</td>
<td>................................. 145</td>
<td></td>
</tr>
<tr>
<td>And, A.</td>
<td>................................. 792T</td>
<td></td>
</tr>
<tr>
<td>Andersen, M. R.</td>
<td>................................. 215</td>
<td></td>
</tr>
<tr>
<td>Anderson, M. Z.</td>
<td>................................. 458W</td>
<td></td>
</tr>
<tr>
<td>Arakawa, G.</td>
<td>................................. 599W</td>
<td></td>
</tr>
<tr>
<td>Arai, Y.</td>
<td>................................. 303T</td>
<td></td>
</tr>
<tr>
<td>Arkowitz, Robert</td>
<td>................................. 374W</td>
<td></td>
</tr>
<tr>
<td>Arnold, A.</td>
<td>................................. 145</td>
<td></td>
</tr>
<tr>
<td>Asiegbu, F. O.</td>
<td>................................. 570T</td>
<td></td>
</tr>
<tr>
<td>Baetsen-Young, A.</td>
<td>................................. 461W</td>
<td></td>
</tr>
<tr>
<td>Bahn, Yong-Sun</td>
<td>................................. 4</td>
<td></td>
</tr>
<tr>
<td>Bai, Feng-Yan</td>
<td>................................. 846F</td>
<td></td>
</tr>
<tr>
<td>Bairwa, N. KUMAR.</td>
<td>................................. 653W</td>
<td></td>
</tr>
<tr>
<td>BALDWIN, T.</td>
<td>................................. 884W</td>
<td></td>
</tr>
<tr>
<td>Ballou, E. R.</td>
<td>................................. 14</td>
<td></td>
</tr>
<tr>
<td>Bansal, Kampaldeep</td>
<td>................................. 507T</td>
<td></td>
</tr>
<tr>
<td>Banuett, Flora</td>
<td>................................. 411T</td>
<td></td>
</tr>
<tr>
<td>Barber, A. E.</td>
<td>................................. 235, 449W</td>
<td></td>
</tr>
<tr>
<td>Barker, B. M.</td>
<td>................................. 855T</td>
<td></td>
</tr>
<tr>
<td>Bartholomai, B.</td>
<td>................................. 53, 415F</td>
<td></td>
</tr>
<tr>
<td>Bartholomew, K.</td>
<td>................................. 531T</td>
<td></td>
</tr>
<tr>
<td>Bassilana, M.</td>
<td>................................. 129</td>
<td></td>
</tr>
<tr>
<td>Bautista-Jalon, Laura</td>
<td>................................. 811F</td>
<td></td>
</tr>
<tr>
<td>Beccaccioli, M.</td>
<td>................................. 780T</td>
<td></td>
</tr>
<tr>
<td>Beckerson, William</td>
<td>................................. 844F</td>
<td></td>
</tr>
<tr>
<td>Benz, J. Philipp</td>
<td>................................. 170</td>
<td></td>
</tr>
<tr>
<td>Berlin, A.</td>
<td>................................. 582T</td>
<td></td>
</tr>
<tr>
<td>Berman, J. G.</td>
<td>................................. 185</td>
<td></td>
</tr>
<tr>
<td>Bernier, L.</td>
<td>................................. 55</td>
<td></td>
</tr>
<tr>
<td>Berry, D.</td>
<td>................................. 298F</td>
<td></td>
</tr>
<tr>
<td>Bhatt, D. N.</td>
<td>................................. 743W</td>
<td></td>
</tr>
<tr>
<td>Bian, Z.</td>
<td>................................. 585T</td>
<td></td>
</tr>
<tr>
<td>Billmyre, R. Blake</td>
<td>................................. 465T</td>
<td></td>
</tr>
<tr>
<td>Blachowicz, A.</td>
<td>................................. 251W</td>
<td></td>
</tr>
<tr>
<td>Blankenship, J. R.</td>
<td>................................. 16</td>
<td></td>
</tr>
<tr>
<td>Bluhm, Burt</td>
<td>................................. 764W</td>
<td></td>
</tr>
<tr>
<td>Bogar, L.</td>
<td>................................. 739F</td>
<td></td>
</tr>
<tr>
<td>Bonito, Gregory</td>
<td>................................. 110</td>
<td></td>
</tr>
<tr>
<td>Borkovich, K. A.</td>
<td>................................. 241</td>
<td></td>
</tr>
<tr>
<td>Bowen, J.</td>
<td>................................. 766F</td>
<td></td>
</tr>
<tr>
<td>Bowers, J.</td>
<td>................................. 548W</td>
<td></td>
</tr>
<tr>
<td>Bowman, E. A.</td>
<td>................................. 574F</td>
<td></td>
</tr>
<tr>
<td>Brancini, G.</td>
<td>................................. 51, 651T</td>
<td></td>
</tr>
<tr>
<td>Brand-Thomas, I.</td>
<td>................................. 535F</td>
<td></td>
</tr>
<tr>
<td>Brankovics, B.</td>
<td>................................. 828T</td>
<td></td>
</tr>
<tr>
<td>Braus, G. H.</td>
<td>................................. 125</td>
<td></td>
</tr>
<tr>
<td>Bravo Nunez, M</td>
<td>................................. 166</td>
<td></td>
</tr>
<tr>
<td>Brewer, M.</td>
<td>................................. 804T</td>
<td></td>
</tr>
<tr>
<td>Brock, O.</td>
<td>................................. 377W</td>
<td></td>
</tr>
<tr>
<td>Bromley, Mike</td>
<td>................................. 194</td>
<td></td>
</tr>
<tr>
<td>Brown, A. J. P.</td>
<td>................................. 207</td>
<td></td>
</tr>
<tr>
<td>Brown, D.</td>
<td>................................. 619F</td>
<td></td>
</tr>
<tr>
<td>Brown, Jessica C. S.</td>
<td>................................. 92</td>
<td></td>
</tr>
<tr>
<td>Brown, N. A.</td>
<td>................................. 727F</td>
<td></td>
</tr>
<tr>
<td>Bruno, K. S.</td>
<td>................................. 218, 314W</td>
<td></td>
</tr>
<tr>
<td>Bua, B.</td>
<td>................................. 564T</td>
<td></td>
</tr>
<tr>
<td>Buchler, Nicolas</td>
<td>................................. 806W</td>
<td></td>
</tr>
<tr>
<td>Bulmer, G.</td>
<td>................................. 256F</td>
<td></td>
</tr>
<tr>
<td>Buscaino, A.</td>
<td>................................. 198</td>
<td></td>
</tr>
<tr>
<td>Bushley, Kathryn</td>
<td>................................. 41</td>
<td></td>
</tr>
<tr>
<td>Butler, D. K.</td>
<td>................................. 779W</td>
<td></td>
</tr>
<tr>
<td>Caddick, M. X.</td>
<td>................................. 201, 593W</td>
<td></td>
</tr>
<tr>
<td>Cai, F.</td>
<td>................................. 223, 347W, 460F</td>
<td></td>
</tr>
<tr>
<td>Cai, Qiang</td>
<td>................................. 600T</td>
<td></td>
</tr>
<tr>
<td>Calhoun, S.</td>
<td>................................. 29, 276T</td>
<td></td>
</tr>
<tr>
<td>Campanella, J. E. M.</td>
<td>................................. 279T</td>
<td></td>
</tr>
<tr>
<td>Canessa, Paulo</td>
<td>................................. 691F</td>
<td></td>
</tr>
<tr>
<td>Canovas, D.</td>
<td>................................. 387T</td>
<td></td>
</tr>
<tr>
<td>Cao, C.</td>
<td>................................. 610F</td>
<td></td>
</tr>
<tr>
<td>Carr, E. C.</td>
<td>................................. 711T</td>
<td></td>
</tr>
<tr>
<td>Carrillo, A.</td>
<td>................................. 416, 514F</td>
<td></td>
</tr>
<tr>
<td>Carver, A.</td>
<td>................................. 470W</td>
<td></td>
</tr>
<tr>
<td>Casadevall, Arturo</td>
<td>................................. 1</td>
<td></td>
</tr>
<tr>
<td>Casas-Flores, S.</td>
<td>................................. 48</td>
<td></td>
</tr>
<tr>
<td>Castillo, K. D.</td>
<td>................................. 52, 643F</td>
<td></td>
</tr>
<tr>
<td>Catcheside, David</td>
<td>................................. 480T</td>
<td></td>
</tr>
<tr>
<td>Chan, Kath PoLam</td>
<td>................................. 516T</td>
<td></td>
</tr>
<tr>
<td>Chang, F.</td>
<td>................................. 32</td>
<td></td>
</tr>
<tr>
<td>Chapeland-Leclerc</td>
<td>................................. 349F</td>
<td></td>
</tr>
<tr>
<td>Florence</td>
<td>................................. 349F</td>
<td></td>
</tr>
<tr>
<td>Chen, Changbin</td>
<td>................................. 696T</td>
<td></td>
</tr>
<tr>
<td>Chen, E.</td>
<td>................................. 113, 834T</td>
<td></td>
</tr>
<tr>
<td>Chen, E.</td>
<td>................................. 113, 834T</td>
<td></td>
</tr>
<tr>
<td>Chen, Ko-Hsuan</td>
<td>................................. 43</td>
<td></td>
</tr>
<tr>
<td>Chennu, S.</td>
<td>................................. 566W, 573T</td>
<td></td>
</tr>
<tr>
<td>Chennu, J.</td>
<td>................................. 518W, 519T</td>
<td></td>
</tr>
<tr>
<td>Clairet, C.</td>
<td>................................. 648T</td>
<td></td>
</tr>
<tr>
<td>Clear, M.</td>
<td>................................. 778F</td>
<td></td>
</tr>
<tr>
<td>Coelho, M. A.</td>
<td>................................. 538F</td>
<td></td>
</tr>
<tr>
<td>Cohen, A.</td>
<td>................................. 754F</td>
<td></td>
</tr>
<tr>
<td>Colabardini, A.C</td>
<td>................................. 586F</td>
<td></td>
</tr>
<tr>
<td>Collemare, J.</td>
<td>................................. 334F</td>
<td></td>
</tr>
<tr>
<td>Collier, Logan</td>
<td>................................. 304F</td>
<td></td>
</tr>
<tr>
<td>Colón-Reyes, Javier</td>
<td>................................. 393T</td>
<td></td>
</tr>
<tr>
<td>Colou, J.</td>
<td>................................. 72, 760F</td>
<td></td>
</tr>
<tr>
<td>Commer, B.</td>
<td>................................. 348T</td>
<td></td>
</tr>
<tr>
<td>Covo, S.</td>
<td>................................. 882T</td>
<td></td>
</tr>
<tr>
<td>Cowen, Leah E.</td>
<td>................................. 60</td>
<td></td>
</tr>
<tr>
<td>Cruz Mireles, N.</td>
<td>................................. 746W</td>
<td></td>
</tr>
<tr>
<td>Cuomo, Christina</td>
<td>................................. 193</td>
<td></td>
</tr>
<tr>
<td>Dahlmann, T. A.</td>
<td>................................. 139, 330T</td>
<td></td>
</tr>
<tr>
<td>Dahlstrom, K. Martin.</td>
<td>................................. 771T</td>
<td></td>
</tr>
<tr>
<td>Daly, P.</td>
<td>................................. 281W</td>
<td></td>
</tr>
<tr>
<td>Dasgupta, A.</td>
<td>................................. 202, 613F</td>
<td></td>
</tr>
<tr>
<td>Daskalov, Asen</td>
<td>................................. 892F</td>
<td></td>
</tr>
<tr>
<td>David Palma, M.</td>
<td>................................. 461W</td>
<td></td>
</tr>
</tbody>
</table>
Davis, D., 805F
de Bekker, C., 111
De Fine Licht, H. H., 108
De los Santos, H., 607F
D'Enfert, Christophe, 192
Deng, S., 339T
De Reus, P. E., 429T
Derntl, C., 871F
Després, P. C., 172, 867T
De Vos, L., 482W, 483T
Dietrich, F. S., 549T
Dilokpimol, A., 322F
Ding, Z., 878W
Di Pietro, Antonio, 85
Dodds, Peter, 791W
Doehlemann, G., 127
Doehlemann, G., 784F
Dong, C. H., 394F
Dong, Suomeng, 491W
Dongyang, Liu, 282T
dos Santos Pereira, D., 821W
Drott, Milton, 848W
Druzhinina, I. S., 478F, 858T
Du, W., 588T
Dumartinet, T., 818W
Dunn, Barbara, 522T
Dunn, Matthew, 324T
Dunn Coleman, Nigel, 316F
Duplessis, S., 208

E

Ebbole, D., 509W
Ellena, Valeria, 367F
Elya, C., 178
Ene, I. V., 17
Epstein, L., 487F
Erlendsson, A., 635W
Espagne, Eric, 163
Espino, Astrid, 773W
Essadik, I., 288T

F

Fabri, J. H. T. M., 249T
Fan, Y., 323W
Fang, Y., 497W
Farman, Mark, 833W
Farrer, Rhys, 15
Fekete, E., 876T
Ferrandez, J., 271F
Ferraro, A. R., 532F
Figueroa, Melania, 852T
Fillinger, S., 232
Fischer, Reinhard, 83
Fokkens, L., 9, 883F
Fontaine, T., 91
Francisco, Carolina, 410W
Fratanzesekakis, L., 455W
Frawley, D., 365W, 366T
Free, Stephen, 94, 381T
Freimoser, F. M., 510T
Freitag, M., 200
Friesen, T. L., 790F
Frisvad, J. C., 302W
Fritz-Laylin, Lillian, 123
Fu, Ci, 433F
Fudal, I., 159, 717T
Fukada, Fumi, 783T
Fukami, Tadashi, 66
Futyma, M. E., 300T
Gabriel, R., 217, 327T
Garcia, E. O., 211, 745F
Garduño-Rosales, M., 416W
Garre, V., 102, 634F
Garrido, V., 358F
Gashgari, R., 560W
Gay, E., 615T, 767W
Geisler, Mark, 626W
Geller, S., 174, 866W
Gerke, Jennifer, 173, 333T
Gibriel, H., 537T
Gilbert, M. K., 768T
Gilchrist, C. L. M., 523F
Gladfelter, A. S., 136
Gladieux, P., 472F
Gladyshev, E., 186
Gluck-Thaler, E., 553F
Gold, Scott E., 231, 777T
Goldman, Gustavo, 237
Gomi, K., 370F
Gonçalves, R. D., 644W
Gore-Lloyd, D., 219, 344W
Grau, Michelle F., 665W
Greco, C., 78, 654T
Gressler, M., 292F
Grinberg Baran, M., 737W
Grognet, P., 165, 874F
Grottoli, A., 542W
Guirao Abad, Jose P., 234
Guirao Abad, Jose .. 875W
Gunde-Cimerman, N., 65
Gupta, Y. K., 814F
Gurr, Sarah, 62

H

Habig, M., 7
Hagiwara, D., 524W
Hamlin, J., 840T
Hamlin, Jenna, 841F
Han, Kap-Hoon, 90
Han, K-H 362W, 363T
Hao, G., 69, 726T
Harb, Omar, 890W
Haridas, Sajeet, 484F
Harris, S. D., 797W
Hart, M., 107
Harting, R., 73, 755W
Hartmann, F. E., 189
Harvey, C., 75
Harwoko, Harwoko, 301F
Hassing, B., 682F
Havenga, M., 850F
Hays, S., 448F, 636T
He, Baoye, 692W
He, Bin, 816T
Heinemann, K., 781F
Heinekamp, T., 685F
Heller, Jens, 142
Henk, Daniel, 180, 712F
Hennicke, F., 115
Hensel, N., 182, 786T
Herold, I., 414T
Hickman, Meleah A., 694F
Hilden, Kristiina, 213
Hill, T., 361F
Hiltunen, M., 854W
Hinterdobler, W., 434W
Hipsher, K. Cornell, 703F
Hittinger, Chris Todd, 188
Hodgins-Davis, A., 826F
Hogan, Deborah, 147
Hooker, C., 865F
<table>
<thead>
<tr>
<th>Author</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horwitz, B. A.</td>
<td>212, 801T</td>
</tr>
<tr>
<td>Hsueh, Y.</td>
<td>176</td>
</tr>
<tr>
<td>Huang, Jun</td>
<td>638W</td>
</tr>
<tr>
<td>Huang, M.</td>
<td>605W</td>
</tr>
<tr>
<td>Huberman, L.</td>
<td>550F, 658F</td>
</tr>
<tr>
<td>Hull, C. M.</td>
<td>228</td>
</tr>
<tr>
<td>Hunter, C.</td>
<td>594T</td>
</tr>
<tr>
<td>Ianiri, G.</td>
<td>551W</td>
</tr>
<tr>
<td>Iqbal, M.</td>
<td>489T</td>
</tr>
<tr>
<td>Iradi-Serrano, M.</td>
<td>357T</td>
</tr>
<tr>
<td>Jackson, K.</td>
<td>628F, 807T</td>
</tr>
<tr>
<td>James, Tim</td>
<td>187</td>
</tr>
<tr>
<td>Janevska, S.</td>
<td>265F, 617W</td>
</tr>
<tr>
<td>Jankowski, L.</td>
<td>47</td>
</tr>
<tr>
<td>Jarczynska, Z. D.</td>
<td>864T</td>
</tr>
<tr>
<td>Jedd, G.</td>
<td>131</td>
</tr>
<tr>
<td>Jean, J.</td>
<td>71</td>
</tr>
<tr>
<td>Jiang, C.</td>
<td>624T</td>
</tr>
<tr>
<td>Jin, J.</td>
<td>56, 477T</td>
</tr>
<tr>
<td>Joehnk, B.</td>
<td>759T</td>
</tr>
<tr>
<td>Johannesson, Hanna</td>
<td>161</td>
</tr>
<tr>
<td>John, E.</td>
<td>659W</td>
</tr>
<tr>
<td>Johnson, R. I.</td>
<td>578W</td>
</tr>
<tr>
<td>Johnson, Richard</td>
<td>774T</td>
</tr>
<tr>
<td>Johnston, Mark</td>
<td>243, 657T</td>
</tr>
<tr>
<td>Jones, Darcy</td>
<td>839W</td>
</tr>
<tr>
<td>Judelson, H.</td>
<td>74, 748F</td>
</tr>
<tr>
<td>Jun, D.</td>
<td>383W</td>
</tr>
<tr>
<td>Jung, J.</td>
<td>645T</td>
</tr>
<tr>
<td>Jung, Won Hee</td>
<td>660T</td>
</tr>
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<td>Jurca, M.</td>
<td>673F</td>
</tr>
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<td>Kadooka, C.</td>
<td>338W</td>
</tr>
<tr>
<td>Kaemper, Joerg</td>
<td>672T</td>
</tr>
<tr>
<td>Kahmann, R.</td>
<td>155</td>
</tr>
<tr>
<td>Kalem, M. C.</td>
<td>104, 631F</td>
</tr>
<tr>
<td>Kaminskyj, S.</td>
<td>336T</td>
</tr>
<tr>
<td>Kang, S. Earl</td>
<td>227, 355F</td>
</tr>
<tr>
<td>Kang, Seogchan</td>
<td>154</td>
</tr>
<tr>
<td>Kao, Katy</td>
<td>216</td>
</tr>
<tr>
<td>Karaffa, L.</td>
<td>220, 313F</td>
</tr>
<tr>
<td>Karki, S.</td>
<td>606T</td>
</tr>
<tr>
<td>Karlsson, M.</td>
<td>541F</td>
</tr>
<tr>
<td>Katayama, T.</td>
<td>121, 368W</td>
</tr>
<tr>
<td>Ke, H. M.</td>
<td>496F</td>
</tr>
<tr>
<td>Keller, Nancy</td>
<td>144</td>
</tr>
<tr>
<td>Kellihier, Christina</td>
<td>261T</td>
</tr>
<tr>
<td>Kempken, F.</td>
<td>418T, 492T</td>
</tr>
<tr>
<td>Kerkar, Joshua</td>
<td>684T</td>
</tr>
<tr>
<td>Kettles, G. J.</td>
<td>763F</td>
</tr>
<tr>
<td>Khanal, S.</td>
<td>307F</td>
</tr>
<tr>
<td>Kijporyongpan, T.</td>
<td>511F</td>
</tr>
<tr>
<td>Kim, D. H.</td>
<td>325F</td>
</tr>
<tr>
<td>Kim, H.</td>
<td>622F</td>
</tr>
<tr>
<td>Kim, J.</td>
<td>463F</td>
</tr>
<tr>
<td>Kim, J.-E.</td>
<td>731W</td>
</tr>
<tr>
<td>Kim, S.</td>
<td>723T</td>
</tr>
<tr>
<td>Kind, S.</td>
<td>371W</td>
</tr>
<tr>
<td>Kiss, E.</td>
<td>56, 477T</td>
</tr>
<tr>
<td>Kistler, Corby</td>
<td>428W</td>
</tr>
<tr>
<td>Klosterman, S. J.</td>
<td>661F</td>
</tr>
<tr>
<td>Kniemeyer, O.</td>
<td>888T</td>
</tr>
<tr>
<td>Knowles, C.</td>
<td>671W</td>
</tr>
<tr>
<td>Ko, Y. H.</td>
<td>789T</td>
</tr>
<tr>
<td>Kohler, A.</td>
<td>38</td>
</tr>
<tr>
<td>Konopka, J. B.</td>
<td>84</td>
</tr>
<tr>
<td>Kothe, Erika</td>
<td>122, 430F</td>
</tr>
<tr>
<td>Kowalczyk, Joanna E.</td>
<td>666T</td>
</tr>
<tr>
<td>Kowalski, Caitlin, 87, 683W</td>
<td></td>
</tr>
<tr>
<td>Kozhar, O.</td>
<td>860W</td>
</tr>
<tr>
<td>Krappmann, Sven</td>
<td>20</td>
</tr>
<tr>
<td>Kubo, Yasuyuki</td>
<td>67</td>
</tr>
<tr>
<td>Kück, U.</td>
<td>502F</td>
</tr>
<tr>
<td>Küsses, U.</td>
<td>403F</td>
</tr>
<tr>
<td>Kumakura, N.</td>
<td>716W</td>
</tr>
<tr>
<td>Kun, Roland Sándor</td>
<td>597T</td>
</tr>
<tr>
<td>Kunitake, E.</td>
<td>591T</td>
</tr>
<tr>
<td>Kunzler, M.</td>
<td>138</td>
</tr>
<tr>
<td>Kuo, A.</td>
<td>545W</td>
</tr>
<tr>
<td>Kusch, S.</td>
<td>690T</td>
</tr>
<tr>
<td>Kwan, Hoi Shan</td>
<td>25, 268F</td>
</tr>
<tr>
<td>Kwon, Y.</td>
<td>452W</td>
</tr>
<tr>
<td>LaBella, A. L.</td>
<td>191, 474T</td>
</tr>
<tr>
<td>Langner, T.</td>
<td>831T</td>
</tr>
<tr>
<td>Lankiewicz, T.</td>
<td>337F</td>
</tr>
<tr>
<td>Laraba, Imame</td>
<td>577F</td>
</tr>
<tr>
<td>Larrondo, L. F.</td>
<td>143</td>
</tr>
<tr>
<td>LAU, Y. T.</td>
<td>105, 650W</td>
</tr>
<tr>
<td>LeBlanc, E. V.</td>
<td>263W</td>
</tr>
<tr>
<td>Lebrun, M. H.</td>
<td>558T</td>
</tr>
<tr>
<td>Lee, H.</td>
<td>103, 639T</td>
</tr>
<tr>
<td>Lee, J.</td>
<td>175, 869W, 870T</td>
</tr>
<tr>
<td>Lee, K.-T.</td>
<td>662W</td>
</tr>
<tr>
<td>Lee, Mi Kyung</td>
<td>596W</td>
</tr>
<tr>
<td>Lee, S.</td>
<td>611W, 640F</td>
</tr>
<tr>
<td>Lee, Soo Chan</td>
<td>150, 798T</td>
</tr>
<tr>
<td>Lehman, P. W.</td>
<td>862F</td>
</tr>
<tr>
<td>Leipheimer, J. Brian,</td>
<td>647W</td>
</tr>
<tr>
<td>Leiter, Eva</td>
<td>252T, 267W</td>
</tr>
<tr>
<td>Leiter, Eva</td>
<td>584W</td>
</tr>
<tr>
<td>Leynaud-Kieffer, L.</td>
<td>451F</td>
</tr>
<tr>
<td>Li, A.</td>
<td>859F</td>
</tr>
<tr>
<td>Li, C. Ch·X.</td>
<td>668W</td>
</tr>
<tr>
<td>Li, Guotian</td>
<td>744T</td>
</tr>
<tr>
<td>Li, J.</td>
<td>209, 679F</td>
</tr>
<tr>
<td>Liao, G.</td>
<td>462T</td>
</tr>
<tr>
<td>Liao, H.</td>
<td>845W</td>
</tr>
<tr>
<td>Liboro, K.</td>
<td>601F</td>
</tr>
<tr>
<td>Lichtner, F. J.</td>
<td>534T</td>
</tr>
<tr>
<td>Lim, Su Jeung</td>
<td>293W</td>
</tr>
<tr>
<td>LIN, H.</td>
<td>817F</td>
</tr>
<tr>
<td>Lin, J.</td>
<td>609T</td>
</tr>
<tr>
<td>Lin, Jun.</td>
<td>82, 335W</td>
</tr>
<tr>
<td>Lin, Meng-Yi</td>
<td>459T</td>
</tr>
<tr>
<td>Lin, X.</td>
<td>58</td>
</tr>
<tr>
<td>Lister, S.</td>
<td>57, 881W</td>
</tr>
<tr>
<td>Little, A.</td>
<td>93</td>
</tr>
<tr>
<td>Liu, H.</td>
<td>625F</td>
</tr>
<tr>
<td>Liu, T.</td>
<td>390T</td>
</tr>
<tr>
<td>Liu, X. Z.</td>
<td>183, 571F</td>
</tr>
<tr>
<td>Liu, Yi</td>
<td>2</td>
</tr>
<tr>
<td>Liu, Zhaohui</td>
<td>714T</td>
</tr>
<tr>
<td>Loesgen, S.</td>
<td>77</td>
</tr>
<tr>
<td>Lofgren, Lotus,</td>
<td>468T</td>
</tr>
<tr>
<td>Looney, B.</td>
<td>479W</td>
</tr>
<tr>
<td>Lopez Hernandez, J.</td>
<td>827W</td>
</tr>
<tr>
<td>Lu, L.</td>
<td>240</td>
</tr>
<tr>
<td>Lubbers, R.</td>
<td>257W</td>
</tr>
<tr>
<td>Lukito, Yonathan,</td>
<td>776W</td>
</tr>
<tr>
<td>Lundell, Taina</td>
<td>500W</td>
</tr>
<tr>
<td>Lütkenhaüs, R.</td>
<td>431W</td>
</tr>
<tr>
<td>Lyon, R.</td>
<td>810T</td>
</tr>
<tr>
<td>Lyra, C.</td>
<td>342T</td>
</tr>
<tr>
<td>Ma, L.-J.</td>
<td>184</td>
</tr>
<tr>
<td>Mach-Aigner, A. R.</td>
<td>27</td>
</tr>
<tr>
<td>Author Name</td>
<td>Pages</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Machata, Silke,</td>
<td>19, 689W</td>
</tr>
<tr>
<td>MacKillop, M. C.,</td>
<td>547F</td>
</tr>
<tr>
<td>MacPherson, K. A.,</td>
<td>521W</td>
</tr>
<tr>
<td>Madhani, Hiten,</td>
<td>197</td>
</tr>
<tr>
<td>Majumdar, R.,</td>
<td>275W</td>
</tr>
<tr>
<td>Mäkelä, M. R.,</td>
<td>533W</td>
</tr>
<tr>
<td>Mamun, M.,</td>
<td>134, 369T</td>
</tr>
<tr>
<td>Manes, N. Kaur,</td>
<td>728W</td>
</tr>
<tr>
<td>Marguerat, S.,</td>
<td>101</td>
</tr>
<tr>
<td>Mäker, R.,</td>
<td>238, 426T</td>
</tr>
<tr>
<td>Maroc, L.</td>
<td>466F</td>
</tr>
<tr>
<td>Martel, A.</td>
<td>179</td>
</tr>
<tr>
<td>Marten, Mark,</td>
<td>649F</td>
</tr>
<tr>
<td>Martinez-Rossi, N.,</td>
<td>632W</td>
</tr>
<tr>
<td>Martin-Vicente, A.,</td>
<td>354T</td>
</tr>
<tr>
<td>Marusawa, D.</td>
<td>341W</td>
</tr>
<tr>
<td>Mata, Juan</td>
<td>677W</td>
</tr>
<tr>
<td>Matabaro, E.,</td>
<td>889F</td>
</tr>
<tr>
<td>Matson, M. E. H.,</td>
<td>13, 498T</td>
</tr>
<tr>
<td>Mattila, H. K.,</td>
<td>305W</td>
</tr>
<tr>
<td>Mayers, C. G.,</td>
<td>749W</td>
</tr>
<tr>
<td>McCarthy, C. G. P.,</td>
<td>520W</td>
</tr>
<tr>
<td>McClean, M. N.,</td>
<td>99</td>
</tr>
<tr>
<td>McDonald, Megan,</td>
<td>539W</td>
</tr>
<tr>
<td>McGowan, Jamie,</td>
<td>471T</td>
</tr>
<tr>
<td>Mead, H.</td>
<td>515W</td>
</tr>
<tr>
<td>Mead, M. E.,</td>
<td>750T</td>
</tr>
<tr>
<td>Medina, E. M.,</td>
<td>137, 442F</td>
</tr>
<tr>
<td>Mehmood, R.,</td>
<td>373F</td>
</tr>
<tr>
<td>Meile, L.</td>
<td>157, 616F</td>
</tr>
<tr>
<td>Mela, Alexander,</td>
<td>96, 364F</td>
</tr>
<tr>
<td>Mendoza, A.</td>
<td>152</td>
</tr>
<tr>
<td>Mercier, A.</td>
<td>819T</td>
</tr>
<tr>
<td>Meyer, V.</td>
<td>3</td>
</tr>
<tr>
<td>Meyer, W.</td>
<td>765T</td>
</tr>
<tr>
<td>Miltenburg, M. G.,</td>
<td>729T</td>
</tr>
<tr>
<td>Min, B.</td>
<td>544F</td>
</tr>
<tr>
<td>Min, K.</td>
<td>604F</td>
</tr>
<tr>
<td>Mira, N. P.,</td>
<td>151, 794W</td>
</tr>
<tr>
<td>Mira, Nuno P.,</td>
<td>505F</td>
</tr>
<tr>
<td>Miyazawa, K.</td>
<td>382F</td>
</tr>
<tr>
<td>Mohammad, A.,</td>
<td>652F</td>
</tr>
<tr>
<td>Momany, M.,</td>
<td>425W</td>
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<td>Mondo, S. J.</td>
<td>490F</td>
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<tr>
<td>Monroy-Nieto, J.,</td>
<td>808F</td>
</tr>
<tr>
<td>Morel-Rouhier, M.,</td>
<td>95</td>
</tr>
<tr>
<td>Morel-Rouhier, M.,</td>
<td>260W</td>
</tr>
<tr>
<td>Morschhäuser, J.,</td>
<td>229</td>
</tr>
<tr>
<td>Mourino-Pérez, Rosa,</td>
<td>132</td>
</tr>
<tr>
<td>Moye-Rowley, Scott,</td>
<td>233</td>
</tr>
<tr>
<td>Mozlik, L.</td>
<td>872W</td>
</tr>
<tr>
<td>Mukherjee, D.</td>
<td>782W</td>
</tr>
<tr>
<td>Müller, C.</td>
<td>54, 795T</td>
</tr>
<tr>
<td>Munoz, J. F.</td>
<td>6</td>
</tr>
<tr>
<td>Nagano, Y.</td>
<td>567T</td>
</tr>
<tr>
<td>Navarro, J.</td>
<td>525T</td>
</tr>
<tr>
<td>Navarro Mendoza, M.,</td>
<td>114</td>
</tr>
<tr>
<td>Nguyen, A.</td>
<td>400F</td>
</tr>
<tr>
<td>Nguyen, A. D.</td>
<td>513T</td>
</tr>
<tr>
<td>Nichols, C. B.</td>
<td>389W</td>
</tr>
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<td>Nie, J.</td>
<td>799F</td>
</tr>
<tr>
<td>Nieuwenhuis, M.</td>
<td>501T</td>
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<tr>
<td>Ninomiya, A.</td>
<td>297T</td>
</tr>
<tr>
<td>Nino Sanchez, J.,</td>
<td>106, 676F</td>
</tr>
<tr>
<td>Noble, S. M.</td>
<td>8</td>
</tr>
<tr>
<td>Nordzieke, D.,</td>
<td>225, 681T</td>
</tr>
<tr>
<td>Nowroussian, M.,</td>
<td>530W</td>
</tr>
<tr>
<td>Oakley, Berl.</td>
<td>380W</td>
</tr>
<tr>
<td>Oakley, Blake.</td>
<td>680W</td>
</tr>
<tr>
<td>O’Connor, Eoin.</td>
<td>721F</td>
</tr>
<tr>
<td>Oeser, M.</td>
<td>169</td>
</tr>
<tr>
<td>Ohm, R. A.</td>
<td>118</td>
</tr>
<tr>
<td>Olarte, R. A.</td>
<td>529F</td>
</tr>
<tr>
<td>Oliveira Souza, A. C.,</td>
<td>353W</td>
</tr>
<tr>
<td>O’Malley, M. A.</td>
<td>214</td>
</tr>
<tr>
<td>O’Meara, T. R.,</td>
<td>89, 427F</td>
</tr>
<tr>
<td>Orban, A.</td>
<td>395W</td>
</tr>
<tr>
<td>Ortiz, S. C.</td>
<td>391F</td>
</tr>
<tr>
<td>Orton, E. S.</td>
<td>800W</td>
</tr>
<tr>
<td>Paege, N.</td>
<td>236, 877F</td>
</tr>
<tr>
<td>Palkova, Zdena,</td>
<td>422W</td>
</tr>
<tr>
<td>Palma-Guerrero, J.,</td>
<td>59</td>
</tr>
<tr>
<td>Palma-Guerrero, J.,</td>
<td>407W</td>
</tr>
<tr>
<td>Parisi, K.</td>
<td>283F</td>
</tr>
<tr>
<td>Park, Hee-Soo,.</td>
<td>244, 385F</td>
</tr>
<tr>
<td>Park, Hee-Soo, 385F, 386W</td>
<td></td>
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<tr>
<td>Park, J.</td>
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<tr>
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<tr>
<td>Park, S.-Y.</td>
<td>527W</td>
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<td>Patel, Pavan K.</td>
<td>278W</td>
</tr>
<tr>
<td>Pelham, J. F.</td>
<td>280F</td>
</tr>
<tr>
<td>Peña, J.</td>
<td>847F</td>
</tr>
<tr>
<td>Penalva, M. A.</td>
<td>34</td>
</tr>
<tr>
<td>Peng, C.</td>
<td>392W</td>
</tr>
<tr>
<td>Peng, Xuefeng (Nick),</td>
<td>775F</td>
</tr>
<tr>
<td>Peraza-Reyes, L.</td>
<td>130</td>
</tr>
<tr>
<td>Pérez Arques, C.,</td>
<td>204, 441T</td>
</tr>
<tr>
<td>Perlin, Michael H.</td>
<td>706F</td>
</tr>
<tr>
<td>Perrot, T.</td>
<td>309T</td>
</tr>
<tr>
<td>Pfeifer, Mariel.</td>
<td>404W</td>
</tr>
<tr>
<td>Pham, Ngaan.</td>
<td>294T</td>
</tr>
<tr>
<td>Philippson, P.</td>
<td>133, 397F</td>
</tr>
<tr>
<td>Pianalto, K.</td>
<td>736F</td>
</tr>
<tr>
<td>Pisabarro, A. G.</td>
<td>331F</td>
</tr>
<tr>
<td>Plematens, A.</td>
<td>310F</td>
</tr>
<tr>
<td>Pócsi, István.,</td>
<td>253F, 317T</td>
</tr>
<tr>
<td>Pócsi, István.,</td>
<td>618F</td>
</tr>
<tr>
<td>Podolsky, I. A.</td>
<td>332W</td>
</tr>
<tr>
<td>Poegeler, S.,</td>
<td>116, 402T</td>
</tr>
<tr>
<td>Pomraning, Kyle.</td>
<td>284W</td>
</tr>
<tr>
<td>Porquier, A.,</td>
<td>203, 802F</td>
</tr>
<tr>
<td>Porter, R.</td>
<td>669T</td>
</tr>
<tr>
<td>Powers, Rob.</td>
<td>119, 398W</td>
</tr>
<tr>
<td>Pringle, A.</td>
<td>224</td>
</tr>
<tr>
<td>Proctor, Robert, 266T, 291T</td>
<td></td>
</tr>
<tr>
<td>Qin, Lina</td>
<td>663T</td>
</tr>
<tr>
<td>Quandt, C. Alisha.</td>
<td>109</td>
</tr>
<tr>
<td>Rabot, C. A.</td>
<td>595F</td>
</tr>
<tr>
<td>Ragsdale, A. E.</td>
<td>612T</td>
</tr>
<tr>
<td>Rahnama, M.</td>
<td>885T</td>
</tr>
<tr>
<td>Ram, A.</td>
<td>97, 437W</td>
</tr>
<tr>
<td>Ramesh, M. A.</td>
<td>557W</td>
</tr>
<tr>
<td>Ramirez, L.</td>
<td>444T, 495T</td>
</tr>
<tr>
<td>Ramirez-del Villar, A.,</td>
<td>419W</td>
</tr>
<tr>
<td>Rassinger, A.,</td>
<td>24, 312T</td>
</tr>
<tr>
<td>Redkar, A.</td>
<td>733F</td>
</tr>
<tr>
<td>Reese, S.</td>
<td>360T</td>
</tr>
<tr>
<td>Rendsvig, J. K.</td>
<td>328F</td>
</tr>
<tr>
<td>Reynolds, H.</td>
<td>503W</td>
</tr>
<tr>
<td>Reza, Md. Hashim</td>
<td>376F</td>
</tr>
<tr>
<td>Rhoades, N.</td>
<td>443W</td>
</tr>
<tr>
<td>Rhoades, N.</td>
<td>167, 836W</td>
</tr>
<tr>
<td>Richard, P.</td>
<td>22</td>
</tr>
</tbody>
</table>
PRESENTING AUTHOR INDEX

Rico Ramirez, A., .......... 421F
Ridenour, J. B., ............. 702T
Riquelme, Meritxell, ....... 36
Robbertse, B., ........ 445F, 562F
Robbertse, B., .......... 572W
Robinet, N. G., ....88, 372T
Rocha, M. C., .............. 250F
Rocha, R. O., ............. 272W
Rodriguez, R., .......... 758W
Rodriguez-Herrero, C., ..35
Rojas, J. Alejandro, .... 504T
Rokas, Antonis, ........... 315T
Rouxel, T., .................. 813T
Rovenich, H., ............... 205
Rothschild-Mancinelli, K.
............................... 315T
Rouzel, T., ................. 813T
Ros, B., ................... 803W
Rossi, Antonio, ........... 633T
Rosso, M. N., ........... 98, 475F
Rothschild-Mancinelli, K.
............................... 315T
Scopel Ferreira da Costa, E
................................. 555T
Scott, B., ................. 277F
Scott, B., ................. 277F
Seminara, Agnese, ....... 222
Seo, S., ...................... 486T
Sephton Clark, P,226, 396T
Seto, Amanda, ............ 674W
Shah, Hiral, ............... 405T
Shapiro, Rebecca, 140, 457F
Sharma Poudel, R, ....... 453T
Shaw, Brian, .............. 124
Shen, L., ................... 299W
Shostak, K, ............... 623W
Shrestha, S, ....... 343F, 621T
Shuman, B. A., ............ 450T
Shurzinske, A, ........... 18, 693T
Shwab, E. K, ........... 242, 248W
Sil, A, ...................... 126
Simbaqueba, J, .......... 735T
Skaar, I, .................... 757F
Slot, J, ..................... 526F
So, K. K, ............... 340F, 675T
Sobue, M., ............... 259F
Solomon, K, .............. 168
Solomon, Peter, .......... 68
Song, H, ............. 536W, 886F
Spanner, R, ............... 499F
Spribille, T, .............. 63
Stajich, J, ................ 829F
Sterns, T, ............... 135, 379F
Stecca Steindorff, A., .... 556F
Steenkamp, E. T, ........ 245W
Steenkamp, E. T, ........ 246T
Steentjes, M. B. F, ....... 713W
Steenvyky, J. L, ......10, 467W
Steinberg, G, .............. 30
Stenlid, Jan, ............. 851W
Stergiopoulos, I, 210, 718F
Steyer, J, .................. 664F
Storlie, Emilee, ........... 740W
Stormo, B. M, .......... 424F
Stovall, A, ............... 262F
Streng, C, .............. 50, 270T
Stroe, Maria C, .......... 255T
Strom, N, ............... 710W
Sumbat, L, .......... 812W
Sun, S, .................... 880F
Sung, Jaemin, .......... 742F
Svedberg, J, ........... 221, 835F
Sweany, R. R, ............ 769F
Swift, C, .............. 79, 285T
Swift, K, ............. 707W

T
Tabima, J. F, ........... 112, 842W
Tabima, J. F, .......... 849T
Tagirdzhanova, G, ....... 494W
Takeshita, N, .......... 149, 772F
Talbot, Nicholas, ....... 86
Tamano, K, .............. 320W
Tan, Kar-Chun, .......... 837T
Tanaka, M, ............ 28, 598F
Tannous, J, ........... 148, 770W
Tao, Siqi, ............... 517F
Teichert, I, .......... 120, 401W
Thierry, M, ........... 830W
Thomma, B. P, ........... 206
Tian, Chaoguang, ....... 329W
Tiley, A, ................. 701W
Tokouka, M, ........... 319F
Toomajian, C, ........... 843T
Trail, F, ................. 117
Tsang, A, .............. 26
Tseng, Y, .............. 603T
Tye, Bik-Kwoon, ......... 5

U
Uehling, J, .............. 40
Umemura, Maiko,81, 528T
Underhill, D. M, ........... 64
Upadhyya, Rajendra, .. 705T
U’Ren, J. M, ............. 576T
Urquhart, A. S, ........... 44, 290W
Urquhart, A. S, ........... 565F
<table>
<thead>
<tr>
<th>Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vachova, Libuse</td>
<td>423T</td>
</tr>
<tr>
<td>Valent, B.</td>
<td>153</td>
</tr>
<tr>
<td>Valero Jimenez, Claudio A.</td>
<td>456T</td>
</tr>
<tr>
<td>Valle Arevalo, A.</td>
<td>697F</td>
</tr>
<tr>
<td>Valverde Bogantes, E.</td>
<td>579T</td>
</tr>
<tr>
<td>van der Merwe, N.</td>
<td>476W</td>
</tr>
<tr>
<td>Van der Nest, M.</td>
<td>289F</td>
</tr>
<tr>
<td>van de Vossenberg, B. T. L. H.</td>
<td>719W</td>
</tr>
<tr>
<td>Van Dijck, P.</td>
<td>146</td>
</tr>
<tr>
<td>van Kan, Jan</td>
<td>432T</td>
</tr>
<tr>
<td>van Munster, J. M.</td>
<td>321T</td>
</tr>
<tr>
<td>Vargas Gastelum, L.</td>
<td>568F</td>
</tr>
<tr>
<td>Vargas-Muniz, J.</td>
<td>409F</td>
</tr>
<tr>
<td>Vasselli, J. G.</td>
<td>33, 351T</td>
</tr>
<tr>
<td>Vasudevan, K.</td>
<td>181, 345T</td>
</tr>
<tr>
<td>Velez, J.</td>
<td>838F</td>
</tr>
<tr>
<td>Vellanki, S.</td>
<td>61, 642T</td>
</tr>
<tr>
<td>Venkatesh, N.</td>
<td>709F</td>
</tr>
<tr>
<td>Vestergaard, A. M.</td>
<td>311W</td>
</tr>
<tr>
<td>Vidal-Diez de Ulzurrun, G.</td>
<td>891T</td>
</tr>
<tr>
<td>Vilanova, L.</td>
<td>493F</td>
</tr>
<tr>
<td>Villavicencio-Aguilar, F. M</td>
<td>420T</td>
</tr>
<tr>
<td>Vogan, A. A.</td>
<td>822T</td>
</tr>
<tr>
<td>Voigt, Kerstin</td>
<td>762T</td>
</tr>
<tr>
<td>Voisey, Christine R.</td>
<td>408T</td>
</tr>
<tr>
<td>Wang, C.</td>
<td>751F</td>
</tr>
<tr>
<td>Wang, Chengshu</td>
<td>177</td>
</tr>
<tr>
<td>Wang, Clay C. C.</td>
<td>254W</td>
</tr>
<tr>
<td>Wang, G.</td>
<td>627T</td>
</tr>
<tr>
<td>Wang, J.</td>
<td>580F</td>
</tr>
<tr>
<td>Wang, Jingyi</td>
<td>295F</td>
</tr>
<tr>
<td>Wang, Linqi</td>
<td>162</td>
</tr>
<tr>
<td>Wang, Qiang</td>
<td>734W</td>
</tr>
<tr>
<td>Wang, T.-F.</td>
<td>160</td>
</tr>
<tr>
<td>Wang, Wanqiu</td>
<td>730F</td>
</tr>
<tr>
<td>Wang, Y.</td>
<td>39, 678T</td>
</tr>
<tr>
<td>Wanka, Franziska</td>
<td>873T</td>
</tr>
<tr>
<td>Wanke, A.</td>
<td>698W</td>
</tr>
<tr>
<td>Watters, Michael</td>
<td>412F</td>
</tr>
<tr>
<td>Wei, W.</td>
<td>158, 715F</td>
</tr>
<tr>
<td>Weichert, M.</td>
<td>37, 687T</td>
</tr>
<tr>
<td>Wernet, V.</td>
<td>346F</td>
</tr>
<tr>
<td>Wilken, P. M.</td>
<td>435T, 436F</td>
</tr>
<tr>
<td>Will, I.</td>
<td>738T</td>
</tr>
<tr>
<td>Wingfield, B.</td>
<td>481F, 554W</td>
</tr>
<tr>
<td>Wise, L. C.</td>
<td>274F</td>
</tr>
<tr>
<td>Wolff, P. B.</td>
<td>269W</td>
</tr>
<tr>
<td>Wu, Jian-Qiu</td>
<td>378T</td>
</tr>
<tr>
<td>Wyka, S. A.</td>
<td>540T</td>
</tr>
<tr>
<td>Xiang, X.</td>
<td>128, 359W</td>
</tr>
<tr>
<td>Xie, Y.</td>
<td>667F</td>
</tr>
<tr>
<td>Xiong, Q.</td>
<td>747T</td>
</tr>
<tr>
<td>Xu, J.</td>
<td>100</td>
</tr>
<tr>
<td>Xu, Y.</td>
<td>306T</td>
</tr>
<tr>
<td>Xue, Chaoyang</td>
<td>21, 704W</td>
</tr>
<tr>
<td>Yadav, V.</td>
<td>440W</td>
</tr>
<tr>
<td>Yan, H.</td>
<td>620W</td>
</tr>
<tr>
<td>Yang, H.</td>
<td>488W</td>
</tr>
<tr>
<td>Ye, J.</td>
<td>587W</td>
</tr>
<tr>
<td>Yin, Wenbing</td>
<td>76</td>
</tr>
<tr>
<td>Yoshimi, A.</td>
<td>887W</td>
</tr>
<tr>
<td>Young, C. A.</td>
<td>11, 287W</td>
</tr>
<tr>
<td>Yu, Jae-Hyuk</td>
<td>861T</td>
</tr>
<tr>
<td>Yu, Pei-Ling</td>
<td>761W</td>
</tr>
<tr>
<td>Yu, Z.</td>
<td>592F</td>
</tr>
<tr>
<td>Yuan, B.</td>
<td>655F</td>
</tr>
<tr>
<td>Zhang, J.</td>
<td>454F, 646F</td>
</tr>
<tr>
<td>Zhang, Wei</td>
<td>508F</td>
</tr>
<tr>
<td>Zhang, Y.</td>
<td>45, 575W</td>
</tr>
<tr>
<td>Zhao, Rui-Lin</td>
<td>559F</td>
</tr>
<tr>
<td>Zhao, Youbao</td>
<td>164, 879T</td>
</tr>
<tr>
<td>Zheng, X.</td>
<td>863W</td>
</tr>
<tr>
<td>Zhou, Sai</td>
<td>375T</td>
</tr>
<tr>
<td>Zhou, X.</td>
<td>388F</td>
</tr>
<tr>
<td>Zhou, Z.</td>
<td>199</td>
</tr>
<tr>
<td>Zhu, Jie</td>
<td>641W</td>
</tr>
<tr>
<td>Zoltowski, B.</td>
<td>49</td>
</tr>
<tr>
<td>Zuccaro, A.</td>
<td>264T</td>
</tr>
<tr>
<td>zuo, ni</td>
<td>699T</td>
</tr>
<tr>
<td>Zuo, ni</td>
<td>699T</td>
</tr>
</tbody>
</table>
The following index is composed of keywords selected by presenting authors from a list on the Abstract Submission Site. Abstract program numbers follow the keyword.

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Program Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>allorecognition</td>
<td>858T</td>
</tr>
<tr>
<td>anaerobic fungi</td>
<td>337F</td>
</tr>
<tr>
<td>animal behavior</td>
<td>178</td>
</tr>
<tr>
<td>ankyrin, orphan genes</td>
<td>478F</td>
</tr>
<tr>
<td>annotation</td>
<td>245W 246T</td>
</tr>
<tr>
<td></td>
<td>445F 448F 446W 447T 521W 522T 743W</td>
</tr>
<tr>
<td>antifungal</td>
<td>283F 780T</td>
</tr>
<tr>
<td>antifungal drug development</td>
<td>263W</td>
</tr>
<tr>
<td>apical dominance</td>
<td>795T</td>
</tr>
<tr>
<td>appressorium</td>
<td>245W</td>
</tr>
<tr>
<td></td>
<td>246T 272W 33 351T 239 352F</td>
</tr>
<tr>
<td>aspergillus oryzae</td>
<td>258F 334F 317T 319F 320W 318W 370F 452W 599W 28 598F 870T</td>
</tr>
<tr>
<td>aspergillus flavus</td>
<td>78 655F</td>
</tr>
<tr>
<td>aspergillus nidulans</td>
<td>252T 253F 254W 255T 259F 328F 311W 382F 384T 348T 96 360T 364F 357T 90 363T 362W 358F 128 359W 361F 594T 201 591T 593W 592F 595F 665W 864T 863W 878W</td>
</tr>
<tr>
<td>candida-commensal bacteria</td>
<td>151 796F</td>
</tr>
<tr>
<td>interaction</td>
<td></td>
</tr>
<tr>
<td>cell cycle</td>
<td>378T 135</td>
</tr>
<tr>
<td></td>
<td>379F 376F 377W 424F 10 467W</td>
</tr>
<tr>
<td>cell wall</td>
<td>95 260W 278W</td>
</tr>
<tr>
<td></td>
<td>91 378T 382F 94 381T 356W 96 360T 364F 97 437W 612T 586F 650W 700F 699T 210 719W</td>
</tr>
<tr>
<td>centromere</td>
<td>440W 557W</td>
</tr>
<tr>
<td>centromeres</td>
<td>204 441T</td>
</tr>
<tr>
<td>chromosome fusions</td>
<td>552T</td>
</tr>
<tr>
<td>chytrid</td>
<td>137 442F</td>
</tr>
<tr>
<td>circadian clock</td>
<td>261T 53 415F 607F 606T 52 644W 646F 702T 111 701W 808F 880F</td>
</tr>
<tr>
<td>citric acid</td>
<td>338W</td>
</tr>
<tr>
<td>cladosporium phlei</td>
<td>340F</td>
</tr>
<tr>
<td>coccidioides</td>
<td>857W</td>
</tr>
<tr>
<td>colletotrichum</td>
<td>33 351T 459T 717T</td>
</tr>
<tr>
<td>conidiation</td>
<td></td>
</tr>
<tr>
<td>candida albicans</td>
<td>373F 374W 375T 88 372T 389W 89 427F 140 457F 458W 601F 603T 605W 604F 602W 18 694F 695W 230 696T 697F 807T</td>
</tr>
<tr>
<td>comparative genomics</td>
<td>556F 751F</td>
</tr>
<tr>
<td>conidiation</td>
<td>384T 133 397F 227 355F 405T 357T 223 460F 608W</td>
</tr>
</tbody>
</table>
cryphonectria parasitica 676F


cytokinesis 392W 361F
detoxification 309T
development 250F 391F 394F 133 397F 119 226 396T 398W 115 395W 349F 90 363T 414T 367F 569W 596W 608W 609T 105 651T 668W 707W 73 756T 224 867T
dichomitus squalens 667F
diversity 296W 324T 325F 322F 409F 445F 81 528T 563W 569W 562F 568F 559F 564T 560W 566W 44 561T 565F 572W 574F 758W 770W 811F 812W 806W 841F

DNA repair 399T 440W 466F 10 467W 614W 884W 887W
drug resistance 817F ecology 469F 468T 470W 191 474T 500W 504T 562F 568F 45 575W 572W 574F 183 571F 576T 43 573T 578W 709F 711T 180 712F 713W 710W 813T

education 895F 896W

enzyme production 217 327T
epichloe 11 287W
epigenetics 54 797W
extracellular vesicles 310F
extremotolerant fungi 799F
flavohemoglobin 551W
fructing body 400F 120 401W 403F 402T 362W 722W

fungidb 892F
fungicide 343F
fungical 892F
fusarium 267W 265F 266T 483T 484F 482W 481F 542W 578W 577F 618T 617W 619F 620W 621T 723T 231 778F 782W 830W 845W
fusarium graminearum 580F 579T 622F 624T 628F 623W 626W 627T 625F 629W 700F 730F 724F 726T 728W 729T 725W 732T 69 727F 731W 886F
fusarium oxysporum 488W 486T 485W 487F 581W 735T 736F 733F 734W 825T 884W 885T

gene expression 634F 636T 630T 633T 638W 201 591T 593W 642T 61 643F 649F 663T 666T 721F 740W 741T 739F 37 688F 808F 828T 867T 141 866W 236 879T
genetic engineering 219 344W

genetic transformation 137 442F

genetics 439F

genome editing 341W 172 869W

OMICS profiling 151
796F
oxidative stress 88 372T 358F 83 647W 648T 653W 725W 87 684T 683W
pangenome 540T 553F
pathogen-associated molecular pattern 801T
pathogenic fungi 393T
pathway elucidation 300T
penicillium chrysogenum 874F
phosphate starvation 818W
photodynamic activity 340F
phylogenomics 554W
plant innate immunity 801T
ploidy variation 555T
population 422W 423T 564T 582T 766F 811F 820F 823F 834T 841F 842W 843T 844F 845W 840T 839W 12 854W 855T 861T
post-fire fungi 556F
programmed cell death 894T
protein kinase 242 248W 249T 377W 516T 747T 757F 889F
protein localizatoin 279T 347W
protein-protein interactions 258T 139 330T 419W 424F 425W 158 716W 745F
protein-small molecule interactions 309T
proteomics 281W 282T 315T 331F 399T 403F 89 427F 238 426T 502F 533W 536W 650W 51 652F 722W 846T 890W
puccinia graminis 802F
puccinia spp. 582T
QTL 481F
resources 886F
retrotransposon 557W
ribonuclease 784F
ribosome profiling 678T
RNA interference 106 677W
RNA-seq 492T 507T 518W 519T 516T 517F 541F 454F 560W 630T 633T 645T 105 651T 51 652F 675T 111 701W 737W 752W 762T 767W 769F 774T 794W 847F
saccharomyces cerevisiae 283F 332W 173 333T 422W 423T 521W 522T 520F 653W 243 658F 230 696T 848W 849T 174 868F 172 869W
schizosaccharomyces pombe / zymoseptoria tritici 678T
schizosaccharomyces pombe 166 859F
secondary metabolite 269W 255T 80 286F 297T 296W 299W 301F 298F 302W 300T 82 335W 81 528T 529F 527W 595F 656W 709F 711T 772F 826F 870T 175 871F 872W 891T
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<table>
<thead>
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</tr>
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<tr>
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<tr>
<td>transposable elements</td>
<td>513T 203 804T</td>
</tr>
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| ubiquitination              | 795T         |
| undergraduate               | 895F 896W    |
| ustilago maydis             | 307F 31 438T 673F 675T 674W 741T 785W 786T 784F 175 871F 872W |
| verticillium                | 679F 861T    |
| virulence                   | 353W 485W 499F 537T 672T 706F 69 727F 795T 763F 182 788W 792T 20 790F 787F 789T 791W 793F 12 854W 888T |
| virulent small              | interfering RNAs 203 804T |
| wheat                       | 579T 715F 731W 753T 764W 775F 787F 793F 802F 839W 855T |
| xylaria grammica            | 527W         |
| zygomycetes                 | 112 851W     |
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