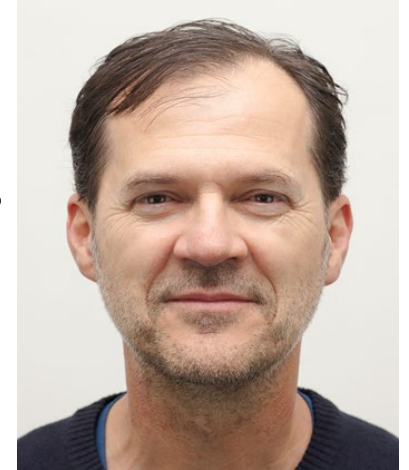


# SBC update

## CSA May 5<sup>th</sup>, 2021



Allen Van Deynze  
Jovan Djordjevic





# Imtiyaz Khanday

Specialization: Plant Development  
and Genetics

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Phone: +1 530 219 4614

**Assistant Professor in Plant Reproductive  
Biology/Seed Biotechnology Center** July 2021-

**Postdoc Fellow: Seed Development and  
Synthetic Apomixis** Department of Plant Biology,  
University of California-Davis. 2014 to June 2021

**Ph. D. Flower Development in Rice.** Department  
of Microbiology and Cell Biology,  
Indian Institute of Science, Bangalore, India. 2014

Selected references:

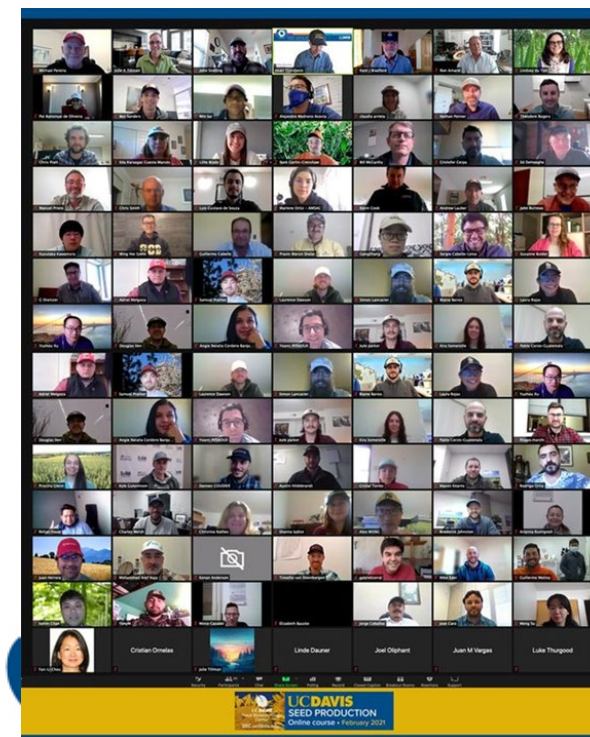
- Khanday and Sundaresan, 2021 *Curr Opin Plant Biol* 59: 101993
- Khanday et al., 2019 *Nature* 565: 91–95
- Khanday et al., 2016 *Plant Physiology* 172: 372-388
- Khanday et al., 2013 *Plant Physiology* 161:1970-1983

## Upcoming Courses & Events

Event Name	Date
<a href="#">PBA E-Series- Hybrid Breeding Strategies</a>	4/20/2021
<a href="#">PBA E-Series- Statistics &amp; Experimental Design</a>	5/18/2021
<a href="#">PBA E-Series- Hybrid Breeding Strategies</a>	5/25/2021
<a href="#">European Plant Breeding Academy - Class VI Session 6</a>	6/21/2021
<a href="#">Seed Business 101 — Field Crops</a>	8/16/2021
<a href="#">UC Davis Plant Breeding Academy - Davis- Class VIII</a>	9/13/2021
<a href="#">Hemp Breeding and Seed Production</a>	11/2/2021
<a href="#">Seed Business 101 in Horticulture</a>	12/6/2021

# SBC classes—staying nimble

- Redoing old and delivering new online
- In-person when safe to do so
- Hemp Breeding and Seed production
- Seed Production
- New e-classes



**Click HERE to register**

Link to the Zoom session will be sent to all who register  
on the day before the event

# Seed Central

**May**

**Thursday, May 13, 2021** (online event)

**Seed Central**  
**EXPRESS**  
*Online*

**Focus on artificial intelligence technology**  
relevant to the seed, ag, agbiotech and food industry

**3:00 - 4:30 U.S. Pacific time**

*You get there faster,  
it's a bit shorter, and  
you are home earlier*

**Moderator**



**Thomas Strohmer**,  
Professor, Director,  
Center for Data  
Science and  
Artificial  
Intelligence  
Research (CeDAR)

**UC Davis panelists**



**Ilias Tagkopoulos**  
Professor  
Computer Science  
Genome Center,  
Director & PI  
AI Institute for  
Food Systems



**Nitin Nitin**  
Professor  
Food Science and  
Technology  
Biological and  
Agricultural  
Engineering



**Aaron Smith**  
Professor  
Agricultural and  
Resource  
Economics



**Mason Earles**  
Assistant Professor,  
Assistant  
Agricultural  
Engineer  
Biological and  
Agricultural  
Engineering,  
Viticulture and  
Enology

**Industry  
panelists**



**Pauline Canteneur**  
Business Strategist  
FarmWise



**Adam Greenberg**  
CEO  
iUNU



**Maurice Pitesky**  
Co-Founder & CEO  
Agrinerds



**David Sypnieski**  
Founder & CEO  
Athena Intelligence



# Spring 2021 events

**April 8**

## **Her Startup -**

Encounters with women entrepreneurs who launched their own companies in ag & food.

[Link for streaming the event](#)



**April 22**

1:00 to 2:30 PDT

3:00 to 4:30 CDT

## **Legal matters you will encounter when you work in industry**

*A Seed Central Career Development Workshop*

- the employment contract
- the non-disclosure agreement
- intellectual property in the seed and agbiotech industry
- how intellectual property and intellectual property protection impact the work of industry researchers
- in- and out-licensing of technology



**April 30**

11:00 to 12:00 PDT

1:00 to 2:00 CDT

## **Online company visit with HM.Clause**

Learn about [HM.Clause](#), a business unit of Limagrain, an international co-operative agricultural group, specializing in field seeds, vegetable seeds and cereal products, with a team of 2,800 professionals in over 30 countries.



**May 24**

2:30 to 4:00 PDT

4:30 to 6:00 CDT

## **"From soloist to conductor"**

*A Seed Central/Bayer career development workshop*

Meet 8 members of Bayer Vegetable Seeds' plant breeding team and learn how successful plant breeding depends on input from a growing range of expertise and technologies.



**June 21-23**

## **Policy & Leadership Development Conference of the American Seed Trade Association**

*with sessions of particular interest to students:*

- *Student/emerging leaders welcome session*
- *Diversity and inclusion session*



**UC DAVIS**

Seed Biotechnology Center

# UCD PLANT BREEDING PROGRAMS

## Fruit trees

Peach – Gradziel  
Pear – (Neale)  
Plum – DeJong  
Prune – DeJong

## Nut trees

Almond – Gradziel  
Pistachio – Brown  
Walnut – Brown (Leslie)

## Field crops

Alfalfa – Brummer  
Barley – Dubcovsky (Del  
Blanco; Krill-Brown)  
Bean – Gepts  
Forage grass – Brummer  
Hemp – Brummer (Pap)  
Oat – Qualset  
Tef – (Wolde, Hegarty, Brummer)  
Triticale – Dubcovsky (Hegarty)  
Wheat – Dubcovsky (Chicaiza)  
Wild rice – Brummer (Leathers)

## Small fruit

Grape – Walker  
Strawberry – Knapp (Cole)

## Vegetables

Celery – Epstein  
Lettuce – Michelmore (Truco)  
Pepper – Van Deynze  
Spinach – Brummer, Van  
Deynze (Krill-Brown)  
Tomato – St.Clair, Chetelat  
Watercress – Taylor

# SCOPE

Student Collaborative Organic Plant Breeding and Education Project  
NIFA-OREI funding renewed in 2020



Collaboration with Plant Breeding Center at UCD; UCD Student Farm; Cal Poly Pomona; Organic Seed Alliance; Organic Farmers; Organic Seed Companies

Student led breeding programs  
Tomato, Pepper, Common Bean, Lima Bean, Wheat, Zinnia

Hands-on plant breeding training

Practical cultivar development  
concept through release

Leadership training







A mentorship program for  
undergraduate and graduate students



# Major Grants

- Mechanical harvesting in pepper
- Spinach breeding for resistance to downy mildew
- Tomato Seed Quality

# 2021 Publications

- Bello P, Bradford KJ: **Relationships of Brassica Seed Physical Characteristics with Germination Performance and Plant Blindness. *Agriculture 2021, 11(3):220***
- Wang X, Chen S, Ma X, Yssel AEJ, Chaluvadi SR, Johnson MS, Gangashetty P, Hamidou F, Sanogo MD, Zwaenepoel A, Wallace J, Van de Peer Y, Bennetzen JL, Van Deynze A: **Genome sequence and genetic diversity analysis of an under-domesticated orphan crop, white fonio (*Digitaria exilis*). *GigaScience 2021, 10(3)*.**
- Ma et al. 2021. **A chromosome-level *Amaranthus cruentus* genome assembly highlights gene family evolution and biosynthetic gene clusters that may underpin the nutritional value of this traditional crop. *Plant Journal. In press***
- Hulse-Kemp AM, Bostan H, Chen S, Ashrafi H, Stoffel KM, Sanseverino W, Li L, Cheng S, Schatz MC, Garvin T, du Toit LJ, Tseng E, Chin J, Iorizzo M, Van Deynze AE: **An anchored chromosome-scale genome assembly of spinach (*Spinacia oleracea*) improves annotation and reveals extensive gene rearrangements in euasterids. *The Plant Genome 2021, In Press***

# SBC Team



Allen Van Deynze  
Director



Jovan Djordjevic  
Education Director



Imtiyaz Khanday  
Research Director



Julie Tillman  
Program Rep



Whitney Lowe  
Program Rep



Joy Patterson  
Program Rep



Phyllis Himmel  
Collaboration for Plant Pathogen  
Strain Identification. (CPSSI)

