



Seed Science and Technology 2013 (7,5 ETCS)

Christian Andreassen

Department of Plant and Environmental Sciences
Crop Sciences



Seed Science and Technology

The aim

- To give the students knowledge and understanding of seed morphology, seed identification, seed biology, production, modern seed treatments, international rules and techniques to investigate seeds including use of biotechnology



Seed Science and Technology

Teaching

- Lectures
- Practical's (group work)
- Excursions
- Students presentations



Seed Science and Technology 2012

Christian Andreassen

- Seed anatomy, development and chemistry
- Seed ecology and seed germination
- Dormancy
- Identification of seeds
- Seed production in various crops
- Testing seed quality: presentation of new technologies



Seed cleaning

***Jens Peter Jensen**, Senior Manager, Cimbria Manufacturing A/S*

Seed production in Denmark. The EU seed legislation, breeding and rights

***Thor Gunnar Kofoed**, Danish Seed Council (Brancheudvalget for Frø)*

Seed pathology

*Associate Professor **Lisa Munk**, UC*

Seed supply systems

***Jan Torp**, UC*

Maintenance of genetic purity and identity using biotechnology methods to identify gene manipulated crop (GMO)

*Associate Professor **Henrik Lütken Mogensen**, UC*

Seed storage and gene banks

Cryo-preservation of seeds

Artificial seeds and seed enhancement

*Professor **Brian Grout**, UC*

Barley and malting, and afterwards there will be a guided tour to laboratories and the research brewery

*Associate Professor **Birthe Møller Jespersen**, UC*



Excursions

DLF-TRIFOLIUM A/S Benløse, Smålandsvej 22, 4100
Ringsted. *Hosts:* *Birthe Kjærsgaard*

DLF-TRIFOLIUM A/S, Roskilde
Host: *Dot Vittrup Petersen*

Skov- og Naturstyrelsen, Øresund, Krogerupvej
21, 3050 Humlebæk
Host: *Louise Persson*



Examination

- Individual examination (about 20 min each)
- Oral examination of textbook, handouts, experimental work and written reports
- Oral examination weight 100%
- No notes permitted but bring your seed collection





Kursus for nye markkontrollører og årligt møde for erfarne markkontrollører

Indbydelse til kursus for nye markkontrollører og årligt møde for erfarne markkontrollører

Kursus for nye markkontrollører

NaturErhvervstyrelsen inviterer nye markkontrollører af markfrø og sædekorn til det årlige kursus for nye markkontrollører.

Kurset afholdes mandag den 6. maj 2013 kl. 9:00 -17:00.





Efteruddannelseskursus for autoriserede og officielle prøvetagere

NaturErhvervstyrelsen indbyder alle autoriserede firmaprøvetagere og alle officielle prøvetagere, til at deltage i det årlige efteruddannelseskursus.

Kurset finder sted den 28. maj hos

NaturErhvervstyrelsen
Nyrupsgade 30
1780 København V.
Mødesal 2B



Wageningen Seed Lab

An annual International Master class on Seed Technology. This is a **4-day intensive course for seed professionals** from industry, government and academia. Level is academic. Maximum number of participants is 16.

Organization: Wageningen Seed Centre

Dr SPC Groot and Associate-Professor Henk WM Hilhorst
Editor-in-Chief Seed Science Research

<http://www.wageningenur.nl/en/Research-Results/Projects-and-programmes/Wageningen-Seed-Centre.htm>





Hugh Pritchard

Education and specialist training

Kew offers a comprehensive programme of education and [specialist training courses](#) for students in Higher Education, and for **botanists, horticulturists and plant conservation specialists** in need of CPD (continuing professional development). The diverse plant collections held at Kew and Wakehurst provide an excellent learning resource for all students. Researchers also have access to Kew's world-renowned botanical library and illustrations, excellent laboratory facilities and specialist staff.

Kew works with partners around the world to develop regional training courses outside of the UK covering many different aspects of plant conservation.

Pick a course

Browse Kew's specialist training courses.

[Horticulture](#)

[Conservation](#)

[Plant Science](#)

[Courses A-Z](#)

Higher education - Courses, resources and opportunities

Kew works in partnership with universities and other scientific institutions across the UK to offer a programme of seminars, workshops and research opportunities for students in Higher education.

[Undergraduates](#)

[MSc partnerships](#)

[Postgraduate research](#)



[HOME](#)

International Seed Testing Association - ISTA

[> contact](#) [> sitemap](#)

Events

[ISTA Workshop on Sampling and Quality...](#)



Date:
16.04.2013 - 19.04.2013
Location:
Odense, Denmark

[ISTA Workshop on Tree and Shrub Seeds...](#)



Date:
07.05.2013 - 09.05.2013
Location:
Madrid, Spain

[ISTA Vigour Testing Workshop](#)



Date:
04.06.2013 - 06.06.2013
Location:
Izmir, Turkey

[ISTA Workshop on Purity and Germination](#)



Date:
06.06.2013 - 09.06.2013
Location:
Ankara, Turkey

[ISTA Congress 2013](#)



Date:
12.06.2013 - 18.06.2013
Location:
Antalya, Turkey





<http://sbc.ucdavis.edu/index.htm>

The mission of the Seed Biotechnology Center is to mobilize the research, educational and outreach resources of UC Davis in partnership with the seed and biotechnology industries to facilitate discovery and commercialization of new seed technologies for agricultural and consumer benefit



Kent J. Bradford

Educational Opportunities

Seed Biology, production and Quality February 2003
Breeding with Molecular Markers - February 2012



Educational Opportunities

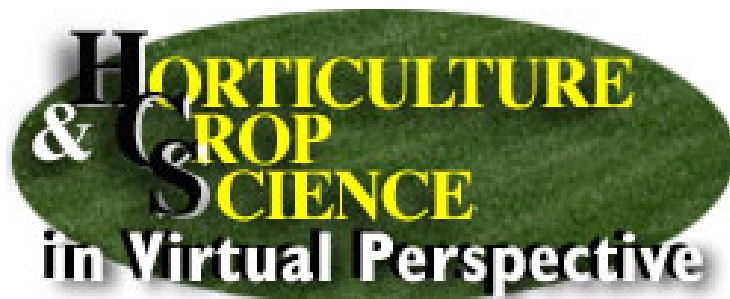
Seed Business 101SM

The goal of Seed Business 101 is to enhance each **participant's career performance** and help them avoid costly mistakes. The course is designed to focus on the optimum operations of the five major functional areas of a seed company. The course offers participants a **broad understanding of the major aspects of a seed company's operations** and a cross-departmental knowledge of best practices for profitability

January 28 - February 1, 2013- **FIELD CROPS**

Davis, CA





SEED BIOLOGY PROGRAM

Department of Horticulture and Crop Science
The Ohio State University

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THE SEED BIOLOGY PROGRAM

I. Statement of Purpose

The OSU Seed Biology Program was established as a consequence of:

- the loss of other land-grant university programs focusing on seed biology
- the reorganization of the department in 1994 into the Department of Horticulture and Crop Science.

<http://www.hcs.ohio-state.edu/hcs/PC/programs/SEEDBIO.html>



Graduate Program in Seed Technology and Business

[Home](#)[Admission](#)[Cost](#)[Schedule](#)[Courses](#)[Certificates](#)[Creative Component](#)[Faculty](#)

Contact

Gary Munkvold

515-294-7560

Simi Venkatagiri

515-294-5681

seedgrad@iastate.edu[Click here to see the brochure \(pdf\)](#)

Seed Science and Technology Certificate Program

The objective of this Seed Science and Technology Graduate Certificate is to provide graduate level study in the science and technology used in the seed industry. This certificate is oriented toward individuals with a business background who want to understand the technical side of their industry in more depth so that they can better apply their knowledge, skills and experience. Seed science in this case includes not only the science associated with seed production and use, but also plant breeding and plant biotechnology. The course in Quality, Production and Research Management will address special aspects of operational management of the technical side of the business.

General Description of the Seed Science and Technology Graduate Certificate

The Seed Science and Technology Certificate content represents approximately half of the content of the Master of Science Seed Technology and Business program. The program's curriculum satisfies the formal requirements for a Master of Science degree established by ISU's Graduate College and applies academic rigor to instruction, in an integrated program.

In this case, we use the word certificate in two different but compatible meanings. One is as a significant step on the path to a master's degree, and the other is as independent recognition of progress in study of seed science and technology issued by the ISU Graduate College. The certificate may be either the final objective of the student or an intermediate stop on his/her way to a master's degree.

Seed Science and Technology Graduate Certificate Courses

The courses in the certificate program are offered by the same professors that teach the courses in the Seed Technology and Business courses. In many cases the students will be in the same sections.

The curriculum is divided into sections on seed science and seed technology.





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Seed Distance Education Learning Programs

Iowa State University offers MS and certificate programs in Seed Business and Technology

(<http://www.seedgrad.iastate.edu/sb>)

The Consortium for International Seed Technology Training (CISTT, <http://www.seedconsortium.org/index.html>)

International Seed Production

(<http://seedbiology.osu.edu/hcs630.htm>)

International Seed Physiology

(<http://seedbiology.osu.edu/hcs631.htm>)

University of Kentucky (UK)

<http://www.uky.edu/distancelearning>)

Iowa State University (ISU)

<http://www.distance.iastate.edu/courses/agronf08.php#33>



Seed Laboratory



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Online Courses

Focus: Responding to the growing interest, Oregon State University is offering a number of courses in the agricultural sciences. As part of that thrust, the Seed Laboratory is designing several courses to be offered on-line.

Who: Clients can be any person interested in seeds, anywhere in the world. The courses can be taken for college credit or for certificate of completion. The courses will be available first in English and may follow in Spanish.

Courses being designed:

Seed Science and Technology CSS 420/520 (3 credits, to be offered in winter term 2010). Course Objectives: to provide basic understanding of:

- ❖ Various morphological and physiological changes occurring in seed during: a) formation and development, b) germination and maturation, c) dormancy, and d) deterioration.
- ❖ Seed quality, including evaluation of seed viability, vigor, genetic and physical purity, and the relationship between laboratory tests and field performance.
- ❖ Seed processing techniques including drying, storability, seed moisture relations, seed certification systems, and seed marketing.

Seed Quality Management

Other courses, to be offered on a need-opportunity basis

[Printer-friendly version](#)

Training & Education

Individualized Training

Workshops

Online Courses

**OSU Seed Science
Web Course**

Publications

**Handbook of Oregon
Crop and Weed Seeds**

**Emil Zivney Seed
Collection**



Seed Technology Training

Core Courses Offered by Colorado State University

SOCR 200 – Seed Anatomy and Identification (1 cr.)

SOCR 201 – Seed Development and Metabolism (1 cr.)

SOCR 300 – Seed Purity Analysis (2 cr.) Under revision, not currently available for enrollment

SOCR 301 – Seed Germination and Viability (2 cr.)

SOCR 410 – Seed Processes: Storage and Deterioration (1 cr.)

SOCR 411 – Seed Processes: Legume Seed Production (1 cr.)

SOCR 412 – Seed Processes: Separation and Conditioning (1 cr.)

Begin your training with these core courses from Colorado State University. Additional courses, study, and internships beyond those offered by Colorado State University are required for the National Seed Science Program Certificate.

