Department of Food Science

Ithaca  
Geneva

One Department, Two Campuses
Department Update
Advisory Council Meeting, October 19-20, 2014

• Department Structure
• Students
• Faculty and Staff
• CALS: New Strategic Plan and “Cornell Engaged”
• On-going and New Initiatives
Department Structure

• 2 buildings: Ithaca and Geneva
• Teaching, research and extension/outreach
• Facilities: Dairy Plant, 2 Pilot Plants, Teaching Winery, Research Winery, Sensory Lab, Product Development Kitchen, Research and Teaching labs
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<tr>
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Department Structure

• **Current** - Chair and Business Administrator

• **New: Executive Committee**
  • Chair
  • Business Administrator
  • Director Undergraduate Studies- FS and V&E
  • Director of Graduate Studies
  • Department Extension Leader
  • Chair of Curriculum Committee
Department Vision and Mission

Vision: To create and apply knowledge for the purpose of ensuring a safe, appealing, and nutritious food supply for all, today and in the future.

Mission: To enhance the safety, quality, and abundance of the global food supply by educating students for leadership roles, advancing research on foods and beverages, and translating and communicating discoveries for the benefit of all people.

Core values: Maintain the highest standards of academic integrity in everything we do. Continuously strive for excellence in teaching, learning, research, and outreach. Treat all individuals with respect, dignity, and fairness. Foster a sense of community and collegiality within the Department. Embrace diversity in our faculty, staff, and student body.
Department Goals for 2014/2015

- Secure IFT re-approval of our undergraduate program
- Hire 3 new faculty members
- Move Geneva faculty programs to Ithaca
- Include Geneva faculty in teaching, based on needs
- Increase undergraduate research opportunities
- Actively seek revenue enhancement opportunities
- Strengthen and expand the Cornell Institute for Food Systems (CIFS)
- Launch the Cornell Institute for Food Systems Industry Partnership Program
Undergraduate Enrollment, Fall 2014: 139 (including 9 exchange students)

Figure 1. Distribution of FS Undergraduates by Year

- Freshman: 24
- Sophomore: 24
- Junior: 43
- Senior: 44
Figure 2. Distribution of FS Undergraduates by Gender

- Male: 38
- Female: 98
Figure 3. Distribution of FS Undergraduates by Country of Origin

- US: 108
- China: 22
- Spain: 2
- Hong Kong: 1
- Indonesia: 3
- Denmark: 1
Figure 4. Distribution of FS Undergraduates by Ethnic Group

- American Indian: 2
- Asian: 40
- Black: 6
- Hispanic: 1
- Multicultural: 13
- White: 58
- Non-disclosed: 18
## Summer Scholars Program Participants 2014

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<td>Food Science</td>
<td>NCSU</td>
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Summer Scholar Program
Highlights and Sponsors 2014

Program Sponsors:
• Kraft
• WNYIFT
• NY IFT
• Feeding Tomorrow
• CU Graduate School Recruitment Grant

Program Highlights:
• Tours of Kraft and Pepsi R&D centers; Culinary Institute of America
• Attended IFT annual meeting
• Discussion dinners
• Mock interviews and a resume writing workshop given by Kristin Alongi from Rich Foods
Current Food Science Graduate Students

• 81 total students
  • 41 PhD
  • 17 MS
  • 23 MPS
• 32 US Citizens; 49 international
• 37 male; 44 female
MPS Degrees Conferred and Job Placement
2004-2014

US (n=15)

86%

International (n=48)

58%

Graduate Program
Industry
Academia
Government
Other
Unknown
MS Degrees Conferred and Job Placement
2004-2014

US (n=47)

- Graduate Program: 55%
- Industry: 13%
- Academia: 13%
- Government: 4%
- Other: 15%
- Unknown: 0%

International (n=22)

- Graduate Program: 68%
- Industry: 18%
- Academia: 14%
- Government: 0%
- Other: 0%
- Unknown: 0%
PhD Degrees Conferred and Job Placement
2004-2014

US (n=37)

- Graduate Program: 32%
- Industry: 0%
- Academia: 11%
- Government: 5%
- Other: 5%
- Unknown: 3%

International (n=70)

- Graduate Program: 49%
- Industry: 37%
- Academia: 3%
- Government: 1%
- Other: 10%
- Unknown: 1%
Cornell wins IFTSA & Mars Product Development Competition for the 3rd year!

Cornell won 1st place for "Popples".


*Team Leaders
Disney-IFTSA
Product Development Competition

Grand Prize Winner: Finding Dory and Friends

Team members Meagan McKeever, Delia Hughes, Ben Majkszak, Adam Wolford and Jiani Shen.
Disney-IFTSA
Product Development Competition

Honorable Mention:
Donald Duck Quackers

Team members
*Camille Kapaun,
*Samuel McDermott,
Jake Smith, Haley Elisa Finnerty
Sophia Bella Schertzer

*Team Leaders
Discovering Solutions for Developing Countries Product Development Competition

First Place:
So-Sweet

Neaz Noor, Food Science
Christine Akoh, Division of Nutritional Science

Action Item: better capture presentations during competitions to provide winning examples to new teams
Robert B. Gravani was the recipient of the 2014 Emmett R. Gauhn Memorial Award!

This award is the Association’s highest honor, and is given to a member in good standing who has made a significant contribution to the NYSAFP or in their field of endeavor.
Faculty Awards

Robert D. Ralyea was the recipient of the 2014 Education and Professional Improvement Meritorious Service Award!

This award is presented to a person who has made outstanding contributions to the development, future and improvement of the NYSAFP, particularly in the areas of education and professional development.
Faculty Awards

**Joe Regenstein** is the recipient of the 2014 CALS Research and Extension Award for Outstanding Accomplishments in Science and Public Policy.

This award recognizes individuals who have demonstrated innovation and leadership by integrating science-based knowledge into public policy and/or management.
Staff Award

Janette Robbins was the recipient of the 2014 CALS Staff Core Value Award!

This award signifies the College's appreciation of and commitment to those individuals who demonstrate outstanding achievement and contributions to the College and recognizes performance that surpasses expectations and makes a significant and/or unique contribution to the College.
Faculty Search Update

Lecturer in Enology Search (Pat Howe position)

Search Committee:  Gavin Sacks, Chair
Marvin Pritts (Plant Sci), Justine Vanden Heuvel (Hort), Kathy Arnink, Anna
Kathryn Mansfield

– 4 on-site interviews, now concluded
– Committee will make recommendations to the faculty this week
– Employment to begin as soon as possible to teach in the Spring semester
Search Update

Dairy Plant Manager (Jason Huck position)

Search Committee: Matt Stratton, Jason Huck, Rob Ralyea, Olga Padilla-Zakour

Skype interviews concluded

– On-site interviews of 3 finalists will start next week
– Start employment as soon as possible.
Faculty Search Update

Dairy Fermentations Assistant Professor (new)

Search Committee:  Martin Wiedmann, Chair
Anna Kathryn Mansfield, Carmen Moraru, John C. March (BEE),
Dave Barbano, Advisor

– 7 Skype interviews, now concluded
– Committee will make recommendations to faculty on short
  list for on-site interviews next week
– After approval of the Sr. Associate Dean on faculty
  supported candidates, interviews slated to start in
  November
Faculty Search Update

Yongkeun Joh Professorship of
Food Chemistry and Ingredient Technology

Search Committee:  John Brady, Chair
Cy Lee, Robin Dando, Randy Worobo, Gavin Sacks, Tom Brenna (joint prof. DNR/Food Science)

– Committee has met with Sr. Associate Dean and has begun the process of drafting Search Plan
– Review of applications will begin Feb. 1, 2105
– Interviews in late Feb. or early March
– Employment to begin in July or as negotiated with selected candidate
Faculty Retirement and Teaching

• Retiring in January 2015: R. Gravani, J. Regenstein, K. Siebert and S. Mulvaney

• We have reallocated teaching responsibilities to cover most courses, Geneva faculty are now teaching courses

• Request has been submitted to the Dean’s office to allocate financial resources to hire back faculty for specific course and one lecturer while we hire new faculty members

• Currently revising our hiring priorities to reflect the changes
Knowledge with Public Purpose in a Changing World: CALS Strategic Plan 2014

Vision

• Leading science and education toward a resilient future

Mission

• CALS is a community dedicated to discovery, teaching and translation of knowledge with public purpose, that
  – Imparts a world-class education and instills passion for life-long learning
  – Furthers agricultural systems to ensure food and nutrition security, human health, and sustainability
  – Advances knowledge in the life sciences about the unity and diversity of life
  – Fosters the understanding of the economy and society for individual and community well-being
  – Stewards environmental resources and sustainable energy solutions.
Timeline and Implementation

We will begin immediately to take actions in four broad areas of interest to CALS and Cornell University:

1) the academic stature of our programs;
2) engaged learning and research involving students, faculty and stakeholders, true to the Land-Grant Mission;
3) a scholarly community broadly inclusive of persons from a diversity of backgrounds; and
4) stewardship of our human, physical and financial resources.
“Engaged Cornell”

• This transformational initiative is being established with a $50 million gift from the Einhorn Family Charitable Trust, whose mission is “to help people get along better.”

• David Einhorn and Cheryl Strauss Einhorn, both members of Cornell Class of 1991, head the Trust.

• A goal of the initiative is to empower Cornell students to become active citizens and to tackle critical challenges by participating in hands-on, practical learning experiences in communities at home and around the world.
Engaged Cornell’s collaborative and integrative goals by 2025:

• elevate student participation in high-quality community engagement to 100 percent;
• enable academic departments across Cornell’s colleges and professional schools to offer community-engaged learning courses across all disciplines, at both the introductory and advanced levels;
• develop and support hundreds of new community-university partnerships around the world;
• prepare faculty members in all departments and disciplines in community-engaged research and teaching;
• establish university wide learning outcomes to instill shared values across Cornell curricula, student life and campus culture;
• launch a new engaged-learning leadership development program, available to all students across colleges, Leadership for the Greater Good, where student exemplars who successfully complete the program will receive special recognition upon graduation;
• recognize faculty who excel in community-engaged teaching and research;
• provide official, accurate and unbiased information and analysis for outcomes assessment, to support continuous improvement, and to share with other higher education institutions;
• position Cornell as a recognized educational leader in community engagement; and
• be a major reason why faculty and students choose Cornell.
Dairy Extension Program  
Enology Extension  
GAP, Produce Safety Alliance  
Food Venture Center  
Fruit and Vegetable Safety and Quality  
Kosher and Halal Foods

*Well positioned for Cornell’s initiative and focus on public purpose, student engagement and experiential learning.*  
*Opportunity to integrate more activities across commodities and to increase student involvement.*
Dairy Extension Program - overview

Martin Wiedmann
Department of Food Science, Cornell University, Ithaca, NY
E-mail: mw16@cornell.edu
Phone: 607-254-2838
Dairy in NY State

- Third largest milk producing state – approx. 12.5 million lbs of milk
- First in yoghurt, cottage cheese, sour cream
- Third in Italian cheese production
- Fluid milk products are important due to proximity to large urban populations
- Growing sectors: milk powders, retort beverages, ultra-pasteurized and ultra-high temperature fluid products
Dairy Extension at Cornell

- Dairy research, teaching, and extension is integrated across multiple colleges and departments
  - College of Agriculture and Life Sciences
    - Department of Food Science:
      - Milk Quality Improvement Program / Dairy Extension Program;
        Food Safety Laboratory; Sensory Laboratory
    - Department of Animal Science (dairy herds)
    - Applied Economics & Management
  - College of Veterinary Medicine
    - Department of Population Medicine and Diagnostic Sciences (includes Animal Health Diagnostic Center)
      - Quality Milk Production Services
Personnel – Dairy Foods Extension

- 2 faculty with formal extension appointments in Department of Food Science (D. Barbano, M. Wiedmann)
  - Two other faculty without extension contributing: C. Moraru, K. Boor
  - “Non-dairy” faculty with extension appointment contributing: R. Worobo
- 5 extension personnel (Kim Bukowski, Janene Lucia, Steve Murphy, Rob Ralyea, Tristian Zuber)
- Milk quality improvement program performs applied research that supports extension:
  - 1 lab manager, 1 post-doc, 4 technicians and staff, 3 PhD students, 1 MS student, 3 undergrads
Key Dairy Extension Activities

- Industry workshops and Certificate Programs
- Workforce development (support development of 2-year food and dairy processing degree programs)
- Industry expert advise and troubleshooting
  - Ranges from phone support to rapid deployment of interdisciplinary or specialized deep dive teams to solve specific problems
  - Special programs:
    - Development of Artisan Cheese industry in New York (collaboratively with Wegmans, funded by Wegmans gift)
      - Includes support for start-up businesses and business incubation in FPDL; 4 undergraduate students involved
Dairy Foods Certificate Programs

- The Science of Yogurt and Fermented Dairy Products Certificate
- Fluid Milk Processing for Quality & Safety Certificate
- Membrane, Evaporation and Drying Technology Certificate
- The Science of Cheese Making Certificate
Workshops – 2014 examples

- HACCP for Dairy Operations (Jan. 28-30)
- Basic Dairy Science & Sanitation (Feb. 11-13/June 10-12)
- Membrane Filtration, Evaporation & Drying Technology Short Course (March 5-7)
- NYS Dept. Agriculture & Markets, Div. Milk Control Update (March 10-13)
- HTST Pasteurizer Workshop (April 22-24/Oct. 14-16)
- Basic Cheese Making for Milk Market Administrator Auditors (May 14 & 15)
- Fluid Milk Processing for Quality & Safety
- Hands-on environmental sampling workshop for 3M and 3M customers (Aug 7 & 8)
- Vat Pasteurization Workshop (Oct. 27)
- Basic Cheese Making Workshop (Oct. 28-29)
- Advanced Cheese Making Workshop (Oct. 21-23)

Red indicates workshops for specific audiences, not open to public
Dairy Extension Workshops

• **2013:**
  - 11,094 contact hours

• **2014** (through 09/2014):
  - 17 Dairy Extension Workshops at Cornell
    - Contact Hours – 8,444
  - 4 Off-Site Workshops 4
    - Contact Hours – 2,960

• 2 spots held for undergraduate or graduate students; students receive credit through FDSC 4940, Special Topics in Food Science
Courses Offered Through Certification Program

- Basic Dairy Science & Sanitation
- HACCP
- HTST or Vat Pasteurization Course
- Product Specific Courses
  - Science of Yogurt and Fermented Products
  - Science of Cheesemaking
  - Membrane Filtration, Evaporation & Drying Technology
  - Fluid Milk Processing
  - Advanced Expert Cheesemaking
  - Advanced Expert Yogurt & Fermented Dairy Products
Cornell Dairy Foods Extension Certificate Program

Basic Dairy Science & Sanitation Courses
HACCP Courses
Pasteurization Courses

Fluid Milk Processing Certificate
Fermented Dairy Products Certificate
Cheese Products Certificate
Membrane Filtration Certificate

Advanced Fermented Dairy Products Certificate
Advanced Cheese Making Certificate
Cornell Dairy Foods Certificate Program

• Certification program with specialization in:
  • Fluid Milk Processing
  • Cheese Manufacturing
  • Yogurt & Fermented Dairy Products
  • Membrane Filtration, Evaporation & Drying Technology

• Advanced Certification in:
  • Cheese Manufacturing
  • Yogurt & Fermented Dairy Products
Enology Program - NYS Wine Analytical Laboratory

- Analytical service lab
- Subsidized by NYWGF funding
- Focus: trouble shooting, new winery guidance, microbial analysis
- New equipment: Atomic Absorption Spec, Check-Stab
Vinification & Brewing Lab (V&B)

- Research on large-scale winemaking and distillation
## Vinification & Brewing Lab Trials

- Yeast/Bacteria Selection
- Fermentation Temperature
- Nutrient Addition/Timing
- Skin contact time
- Enzymes, tannins, etc.

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<th>TA (mg N/L)</th>
<th>AMM (mg N/L)</th>
<th>PAN (mg N/L)</th>
<th>YAN (mg N/L)</th>
<th>pH (g/L)</th>
<th>TA g/L</th>
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Extension Newsletters

Cellar Dweller

Cornell Extension Extension Lab

Mid-February 2009

What We’re Doing... This Year

Let’s talk about the status of New York grape and wine production. In the past, the biggest issues that we faced were related to production. As we move into this year, we need to focus on the marketing and distribution of our products. In this issue, we’ll cover some of the current trends in the industry and discuss the challenges that we face in the future.

Why We’re Doing It:

In recent years, we’ve seen a shift in consumer demand for New York wine. Consumers are looking for wines that are produced locally, and we need to respond to this demand. To do this, we need to focus on marketing and distribution, as well as production.

Types of Wine:

Wine is a product that is produced in a variety of ways. In this issue, we’ll cover some of the different types of wine that are produced in New York.

Practical Perspectives: The New York Industry in the Viticulture and Enology Curriculum

Expanded field trips to N.Y. vineyards and wineries from Lake Erie to Long Island provide practical education for Viticulture and Enology students.

Veraison to Harvest

Statewide Vineyard Crop Development Update 93

November 12, 2009

Final Issue...

Harvest Report 2009: The Waiting is the Hardest Part

Chris Gerig, Statewide Extension Enologist

In late October 2008, I talked to winemakers from across the state to get their impressions of the season, the harvest, and what kind of wines we might expect. Making contact this year was the same procedure; I asked for a few names of contact people quickly. As a result, I received a variety of names and addresses. It’s been a busy year, but we look forward to seeing the results of our work.

Finger Lakes: The 2009 harvest was relatively normal. Berries were harvested between August 21 and October 1, and the grapes were ready for harvest by October 12. This year, the grapes were ready for harvest by October 12. The grapes were ready for harvesting on October 12.

Announcing “The Cellar Dweller”

A new newsletter from your Extension Team.

Anas Katherine Hanesford and Chris Gerig

Why should growers have all the fun? The season for 2009 was one of the best we’ve seen in recent years. The wine quality was very high and we expect that the wines will be ready for release in early 2010.

continued on page 2

http://grapesandwine.cals.cornell.edu/cals/grapesandwine/newsletters.cfm
Extension Workshops

• Production: Wine, Cider, Spirits, Beer

• Winery sanitation, Sensory analysis, Wine Flaws, etc.

• *In Development: Wine Certificate Program*
NEW DEVELOPMENTS & INITIATIVES

• Advisory Council video clips for career advice/pathways for students
• Better coordination of services and facilities available to industry
• Cornell Institute for Food Systems (over 60 faculty Fellows from 14 depts/units) & Industry Partnership Program
  • 6 companies to date
  • First Symposium on December 8
• Food Venture Center:
  • Satellite office, lab and training room for the FVC/NECFE in NYC
  • Initiative still in early stages
  • Possible location in Brooklyn
Thank You!