## 2005 ASMCUE Program-at-a-Glance

### Friday, June 3, 2005

<table>
<thead>
<tr>
<th>Time</th>
<th>Event – Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 – 8:30 AM</td>
<td>Breakfast – WHSCAB PLAZA</td>
</tr>
<tr>
<td>7:30 AM – 10:00 PM</td>
<td>Badge &amp; Program Pick-Up – WHSCAB PLAZA</td>
</tr>
<tr>
<td>8:00 – 11:30 AM</td>
<td>Pre-Conference Workshops – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>11:30 AM – 1:00 PM</td>
<td>Lunch – WHSCAB PLAZA</td>
</tr>
<tr>
<td>1:00 – 2:00 PM</td>
<td>Opening Plenary – WHSCAB AUDITORIUM</td>
</tr>
<tr>
<td></td>
<td>Norm Pace</td>
</tr>
<tr>
<td>2:00 – 2:30 PM</td>
<td>Meet the Speaker – WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Norm Pace</td>
</tr>
<tr>
<td>2:30 – 4:00 PM</td>
<td>Try Something New Concurrent Sessions I – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>4:00 – 5:00 PM</td>
<td>Meet the Author Book Corner and Refreshment Break – WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Jeffrey C. Pommerville-Sponsored by Jones and Bartlett Publishers</td>
</tr>
<tr>
<td>5:00 – 6:00 PM</td>
<td>Meet the Author Book Corner – WHSCAB PLAZA</td>
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<tr>
<td></td>
<td>Marjorie Kelly Cowan-Sponsored by McGraw-Hill Higher Education</td>
</tr>
<tr>
<td>6:00 – 7:30 PM</td>
<td>Dinner – WHSCAB PLAZA</td>
</tr>
<tr>
<td>7:30 – 9:00 PM</td>
<td>Plenary Session – WHSCAB AUDITORIUM</td>
</tr>
<tr>
<td></td>
<td>Hazel Barton</td>
</tr>
<tr>
<td>9:00 – 10:00 PM</td>
<td>Reception – WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Sponsored by Benjamin Cummings</td>
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### Saturday, June 4, 2005

<table>
<thead>
<tr>
<th>Time</th>
<th>Event – Location</th>
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</thead>
<tbody>
<tr>
<td>7:00 – 8:30 AM</td>
<td>Breakfast – WHSCAB PLAZA</td>
</tr>
<tr>
<td>7:30 AM – 6:30 PM</td>
<td>Badge &amp; Program Pick-Up – WHSCAB PLAZA</td>
</tr>
<tr>
<td>8:30 – 9:30 AM</td>
<td>Plenary Session – WHSCAB AUDITORIUM</td>
</tr>
<tr>
<td></td>
<td>Venkatadharma Udhayakumar</td>
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<tr>
<td>9:30 – 10:00 AM</td>
<td>Break – WHSCAB PLAZA</td>
</tr>
<tr>
<td>10:00 – 11:30 AM</td>
<td>Try Something New Concurrent Sessions II – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>12:00 – 2:00 PM</td>
<td>Listserv Lunch – WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Lunch, Munch and Talk a Bunch</td>
</tr>
<tr>
<td>2:00 – 6:30 PM</td>
<td>Exhibits and Poster Session Open – WHSCAB PLAZA</td>
</tr>
<tr>
<td>2:00 – 2:45 PM</td>
<td>Learn Something New Concurrent Sessions I – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>3:00 – 3:45 PM</td>
<td>Learn Something New Concurrent Sessions II – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>4:00 – 6:30 PM</td>
<td>Poster Session I – WHSCAB PLAZA</td>
</tr>
<tr>
<td>4:30 – 5:30 PM</td>
<td>Meet the Author Book Corner and Refreshment Break- WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Denise G. Anderson-Sponsored by McGraw-Hill Higher Education</td>
</tr>
<tr>
<td>5:30 – 6:30 PM</td>
<td>Meet the Author Book Corner – WHSCAB PLAZA</td>
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<tr>
<td></td>
<td>Michael Madigan-Sponsored by Prentice Hall</td>
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<td></td>
<td>Robert I. Krasner-Sponsored by ASM Press</td>
</tr>
<tr>
<td>6:30 – 8:00 PM</td>
<td>Dinner – DOBBS UNIVERSITY CENTER</td>
</tr>
<tr>
<td>8:00 – 9:30 PM</td>
<td>Reception and Poster Session II – WHSCAB PLAZA</td>
</tr>
<tr>
<td></td>
<td>Sponsored by Emory School of Medicine, Department of Microbiology, Emory University, Department of Biology, Emory College Center for Science Education, The Emory Faculty Science Council</td>
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</tbody>
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### Sunday, June 5, 2005

<table>
<thead>
<tr>
<th>Time</th>
<th>Event – Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 9:00 AM</td>
<td>Breakfast – WHSCAB PLAZA</td>
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<tr>
<td>9:00 – 10:00 AM</td>
<td>Plenary Session – WHSCAB AUDITORIUM</td>
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<td></td>
<td>Harvey Holmes</td>
</tr>
<tr>
<td>10:00 – 10:30 AM</td>
<td>Conference Wrap-Up and Evaluation – WHSCAB AUDITORIUM</td>
</tr>
<tr>
<td>10:30 – 11:00 AM</td>
<td>Break</td>
</tr>
<tr>
<td>11:00 – 11:45 AM</td>
<td>Learn Something New Concurrent Sessions III – VARIOUS LOCATIONS</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Buses depart to Georgia World Congress Center</td>
</tr>
</tbody>
</table>

### Legend
- Building: WHSCAB
- Location: Robert W. Woodruff Health Science Center Administration Bldg
- Location: 1440 Clifton Road
Conference Welcome

We are so glad you could join us for the 2005 ASM Conference for Undergraduate Educators. This year’s theme is “Learn Something New, Try Something New” and the ASM staff and many volunteers have worked hard over the last year to build a program that we hope allows you to do just that. In particular, we would like to thank our abstract and travel grant reviewers for the time they spent - their efforts have certainly contributed to the quality of this conference.

Every year, we look forward to connecting with old friends, and meeting new ones, sharing our favorite ideas and picking up some good tips for better teaching. Once in a while, we hear something that changes our whole perspective. We encourage you to take advantage of all the venues for learning and sharing. We are very excited about our outstanding plenary lectures. We have a variety of diverse concurrent sessions, listserv lunches, poster presentations and exhibit programs.

We greatly appreciate all the help given to us by our host institution, Emory University. In addition to opening their classrooms and labs to us, the following Departments are sponsoring the Saturday night reception: Emory School of Medicine, Department of Microbiology, Emory University, Department of Biology, Emory College Center for Science Education, and The Emory Faculty Science Council.

Also, we are pleased to announce that Benjamin Cummings is generously co-sponsoring the Friday evening reception. McGraw-Hill Higher Education and Jones Bartlett Publishers are each sponsoring one of the refreshment breaks.

Please take time to welcome our “first-timers” who make up nearly 47% of the attendees this year. This is one of the few places that microbiology educators gather together to find kindred spirits. Where else would you find such a tremendous collection of dedicated educators? New people inspire and are inspired by us, so be sure to reach out to those you don’t already know.

We look forward to your active participation and hope you learn something and try something new. Party On!

Respectfully,

SUSAN MERKEL
Department of Microbiology
Cornell University
Ithaca, NY

KRISTINE SNOW
Department of Natural Science
Fox Valley Technical College
Appleton, WI

The Thirteenth Annual ASM
Conference for Undergraduate Educators

May 19–21, 2006

University of Central Florida
Orlando, FL

Watch www.asmcue.org for further information as it becomes available.
Conference Planning Committee

12th ASM Conference for Undergraduate Educators
"Learn Something New! Try Something New!"
June 3-5, 2005 • Emory University, Atlanta, GA

Committee Co-Chairs

SUSAN MERKEL
Department of Microbiology
Cornell University
Ithaca, NY

KRISTINE SNOW
Department of Natural Science
Fox Valley Technical College
Appleton, WI

Abstract Reviewers

MIN-KEN LIAO
Department of Biology
Furman University
Greenville, SC

DONALD BREAKWELL
Department of Microbiology
Brigham Young University
Provo, UT

JANELLE HARE
Department of Biological and Environmental Sciences
Morehead State University
Morehead, KY

Emory University Hosts

PAT MARSTELLER
Director, Emory College Center for Science Education
Director, Hughes Science Initiative
Atlanta, GA

RICHARD COMPANS
Department of Microbiology and Immunology
Emory School of Medicine
Atlanta, GA

GEORGE JONES
Chair, Department of Biology
Emory University
Atlanta, GA

DENNIS LIOTTA
Chair, The Emory Faculty Science Council
Atlanta, GA

Education Board
American Society for Microbiology

CLIFFORD W. HOUSTON
Chair, ASM Education Board
University of Texas Medical Branch
Galveston, TX

NEIL BAKER
Chair, ASM Committee on Undergraduate Education
Department of Microbiology
The Ohio State University
Columbus, OH

Education Department
American Society for Microbiology

AMY CHANG
Director, Education Department
achang@asmusa.org

KELLY GULL
Manager, Faculty Programs
kgull@asmusa.org

ANGELA MOSES
Program Assistant, Education Department
amoses@asmusa.org
Meeting Statistics
There are 248 total registrants representing 229 attendees and 19 exhibitors. A breakdown of the registrations follows:

- 99 First-time attendees (47%)
- 7 International Attendees:
  - Australia – 2
  - Canada – 2
  - India – 1
  - Jamaica – 1
  - New Zealand – 1
- 195 ASM Members
- 34 Non-members
- 83 participants registered for pre-conference workshops

Travel Awards
Eight Early-Career travel grant applications were funded. Recipients received a travel subsidy to present posters at the meeting.

Four Faculty Enhancement Program travel grant applications were funded. This Program supports non-ASM members who teach microbiology at institutions serving minority and underserved populations to attend the Conference and receive a one-year introductory ASM membership.

Check-in and Name Badges
The central ASMCUE 2005 information desk is located in the Plaza of the Robert W. Woodruff Health Sciences Center Administration Building (WHSCAB). Please visit the information desk to direct any questions you may have to ASM staff members.

Name badges permit attendees’ entrance into all sessions, conference meals and bus transportation. Please wear your name badge to all conference functions.

Emory University Campus
Campus maps have been provided. All sessions for the conference will be held in the following buildings: Robert W. Woodruff Health Sciences Center Administration Building (WHSCAB), Whitehead Biomedical Research Building (Whitehead Auditorium) and the “Biology Building” or “Old Dental School” as it is affectionately called on campus (1462CR).

Meals
A continental breakfast will be available in the WHSCAB Plaza Friday through Sunday. All other meals, except Saturday dinner will be served at WHSCAB Plaza. Dinner Saturday evening will be served in the Dobbs University Center (DUC). The registration fee covers all meals through Sunday at noon. Guests are not permitted at meals unless they have paid the guest fee and present the guest badges provided to them.
Shuttle Bus Service from the Clairmont Campus
Shuttle buses will run continuously during the hours below between the Clairmont Campus and the WHSCAB Building. Bus stops are marked on the campus map.

- Friday, 6:30 – 2:30 pm and 8:00 – 11:00 pm
- Saturday, 6:30 – 9:30 am and 7:30 – 10:30 pm
- Sunday, 7:30 am – 12:20 pm

Shuttle Bus Service to the ASM General Meeting
Shuttle service to the ASM General Meeting will be provided at the conclusion of the conference to participants who registered in advance. Buses will load at the Clifton Tower and Clairmont Campus Building D at 1:00pm on Sunday. **Buses will depart at 1:30pm.**

Emory Campus Housing

- **Thursday check-in at residence halls:** 4:00 pm – 8:00 pm
- **Friday check-in at residence halls:** 8:00 am – 2:00 pm
- **Sunday check-out at residence halls:** 7:30 – 9:00 am and 12:00 – 2:00 pm

  **On-site problems or questions (Housing only):**
  Emory Housing Conference Information Desk, Alabama Hall – 404-727-0427
  **Hours:** 8:30 am to Midnight, Monday-Friday
  9:00 am to Midnight, Saturday-Sunday

Poster Presentations
A poster session will be held Saturday, June 4 from 2:00 – 9:30 pm in WHSCAB Plaza. Authors may set up their posters beginning at 12:00 noon on Saturday. All poster presentations should be ready by 4:00 pm. Authors must remove their posters between 9:30 – 10:00 pm.

Exhibits
The Exhibit Showcase will be held Saturday, June 4 from 2:00 – 9:30 pm in WHSCAB Plaza. Exhibitors may set up from 11:00 am – 2:00 pm on Saturday. All exhibits must be dismantled between 9:30 – 10:00 pm.

**Reminder!**
**Fill out your ASMCUE 2005 Meeting Evaluation!**

A conference evaluation will be sent via email to attendees immediately following the conference. Please take time to fill out the survey so that we may serve your future needs.

We look forward to welcoming you to Orlando for ASMCUE 2006!
May 19-21 • University of Central Florida
The ASM Committee on Undergraduate Education and Committee on Minority Education would like to congratulate the 2005 Faculty Enhancement Program and Early-Career Travel Grant Awardees!

Faculty Enhancement Program Awardees:

- **SANJAY KAPOOR**  
  Haryana Agricultural University, Hisar, India

- **RENE KRATZ**  
  Everett Community College, Everett, WA

- **DORA SOM-PIMPONG**  
  North Carolina A&T State University, Greensboro, NC

- **LITU YU**  
  Ursuline College, Pepper Pike, OH

Early-Career Travel Grant Awardees:

- **TOYE EKUNSANMI**  
  University of Wisconsin, Washington, County, West Bend, WI

- **WILLIAM HUDDLESTON**  
  University of Calgary, Calgary, Canada

- **LEE HUGHES**  
  University of North Texas, Denton, TX

- **JEANNE KAGLE**  
  Mansfield University of Pennsylvania, Mansfield, PA

- **NATHALIE KULDELL**  
  Massachusetts Institute of Technology, Cambridge, MA

- **DAVID KUSHNER**  
  Dickinson College, Carlisle, PA

- **CAROLINE O’FARRELL**  
  Oral Roberts University, Tulsa, OK

- **AMY REESE**  
  Cedar Crest College, Allentown, PA

- **MICHELE SHUSTER**  
  New Mexico State University, Las Cruces, NM
Sponsors and Exhibitors

The American Society for Microbiology would like to thank the following sponsors and exhibitors for their generosity:

**Sponsor of the Friday Evening Reception:**
BENJAMIN CUMMINGS

**Sponsors of the Saturday Evening Reception:**
EMORY SCHOOL OF MEDICINE
EMORY UNIVERSITY, DEPARTMENT OF MICROBIOLOGY
EMORY UNIVERSITY, DEPARTMENT OF BIOLOGY
EMORY COLLEGE CENTER FOR SCIENCE EDUCATION
THE EMORY FACULTY SCIENCE COUNCIL

**Sponsor of the Friday Afternoon Refreshment Break:**
JONES AND BARTLETT PUBLISHERS

**Sponsor of the Saturday Afternoon Refreshment Break:**
MCGRaw-HILL HIGHER EDUCATION

**Sponsors of the Meet the Author Book Corners:**
ASM PRESS
JONES AND BARTLETT PUBLISHERS
MCGRaw-HILL HIGHER EDUCATION
PRENTICE HALL

**AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY**
Bethesda, MD
www.asbmb.org

**EAGLE VISION EDITIONS**
Vista, CA
http://members.cox.net/galderson/

**JONES AND BARTLETT PUBLISHERS**
Sudbury, MA
www.jbpub.com

**NATIONAL CENTER FOR BIOTECHNOLOGY INFORMATION**
Bethesda, MD

**PRENTICE HALL**
Upper Saddle River, NJ
www.prenhall.com

**American Society for Microbiology**
Washington, D.C.
www.asm.org

**EDVOTEK**
Bethesda, MD
www.edvotek.com

**McGraw-Hill Higher Education**
New York, NY
www.mhhe.com

**National Center for Biotechnology Information**
Bethesda, MD

**Prentice Hall**
Upper Saddle River, NJ
www.prenhall.com

**Wiley**
Hoboken, NJ
www.wiley.com

The Exhibit Showcase will be held from 2:00 – 9:30 pm, Saturday, June 4 in the WHSCAB Plaza.
Facts about Emory University

Emory University is recognized internationally as an inquiry-driven, ethically engaged, and diverse community whose members work collaboratively for positive transformation in the world through courageous leadership in teaching, research, scholarship, health care, and social action. The University consists of an outstanding liberal arts college, highly ranked professional schools, and one of the larger and more comprehensive healthcare systems in the Southeast.

Emory is enriched by the legacy and energy of Atlanta, whose downtown is located 15 minutes away. There are 11,800 students enrolled at Emory, about half pursuing undergraduate degrees in the liberal arts, nursing, or business and the rest enrolled in graduate and professional programs. A palpable sense of community and social connection exists on campus; and because of Emory’s size, students are nurtured in a way not possible at larger institutions.

Emory receives more research funding than any other university in Georgia and also has a long tradition of emphasizing fine teaching. It is the most ethnically and religiously diverse university of the top twenty national research universities and is the only one that remains religiously chartered. Emory was founded by the Methodist Church in 1836 at Oxford, Georgia, where Oxford College of Emory still operates.

Emory is in the midst of a strategic planning process that will chart a course for Emory’s intellectual agenda during the next decade. Signature themes, or areas of academic focus, will be identified so that the academic work conducted in each of the schools can be integrated and the University as a whole made more powerful. The plan will be completed in summer 2005.

SCHOOLS AND COLLEGES - *Date of Founding

<table>
<thead>
<tr>
<th>School</th>
<th>Date of Founding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emory College</td>
<td>1836*</td>
</tr>
<tr>
<td>Oxford College</td>
<td>1836</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>1854*</td>
</tr>
<tr>
<td>Nell Hodgson Woodruff School of Nursing</td>
<td>1905*</td>
</tr>
<tr>
<td>Candler School of Theology</td>
<td>1914*</td>
</tr>
<tr>
<td>School of Law</td>
<td>1916*</td>
</tr>
<tr>
<td>Roberto C. Goizueta Business School</td>
<td>1919*</td>
</tr>
<tr>
<td>Graduate School of Arts &amp; Sciences</td>
<td>1919*</td>
</tr>
<tr>
<td>Rollins School of Public Health</td>
<td>1990*</td>
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FACULTY & STAFF

Employees: 21,797 ** (includes approximately 2,900 faculty); Emory is one of the four largest private employers in the metro Atlanta area and the largest employer in DeKalb County.

**includes Emory University, Emory University Hospital, Crawford Long Hospital, The Emory Clinic, and Wesley Woods Inc.

STUDENTS

<table>
<thead>
<tr>
<th>Enrollment: (from 50 states and 126 nations)</th>
<th>11,781</th>
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<tbody>
<tr>
<td>Undergraduate</td>
<td>6,346</td>
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<tr>
<td>Graduate and professional</td>
<td>5,435</td>
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<table>
<thead>
<tr>
<th>SAT verbal range</th>
<th>640–720</th>
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<tbody>
<tr>
<td>SAT math range</td>
<td>660–740</td>
</tr>
<tr>
<td>ACT</td>
<td>29–33</td>
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<table>
<thead>
<tr>
<th>Degrees awarded (2003–2004)</th>
<th>3,327</th>
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</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>1,720</td>
</tr>
<tr>
<td>Graduate</td>
<td>1,157</td>
</tr>
<tr>
<td>Professional</td>
<td>443</td>
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FINANCIAL DATA (2003-2004)

Tuition: $28,940 for undergraduates. About 75 percent of all students receive some financial aid.

Operating budget: $2.21 billion, as of August 31, 2004.

Endowment and trust funds: $4.3 billion, as of August 31, 2004.

Sponsored research (2003-2004): Emory University is the top research university in Georgia, based on external sponsored research. Of the major three research universities in Georgia, Emory received $351 million in 2004, Georgia Tech received $341 million, and the University of Georgia, $228 million.

Economic impact: According to a recent study commissioned by Emory, the University system spends more than $1.3 billion in Atlanta each year for a total economic impact on its economy of $3.4 billion
Friday, June 3, 2005

7:00 – 8:30 AM  Breakfast  
WHSCAB PLAZA

7:30 AM – 10:00 PM  Badge and Program Pick-up  
WHSCAB PLAZA

8:00 – 11:30 AM  Pre-Conference Workshops

Calibrated Peer Review™: A Writing and Critical Thinking Instructional Tool
WHSCAB 102
Arlene A. Russell, University of California, Los Angeles

Immunology Labs
1462CR ROOM 114
Jon Lammert, Gustavus Adolphus College

Investigative Case Based Learning
1462CR ROOM 109
Margaret Waterman, Southeast Missouri State University
Ethel D. Stanley, Beloit College

Making Student Learning Outcomes and Assessment Work for Your Microbiology Class
1462CR ROOM 101
Janet Fulks, Bakersfield College

Symbiosis in the Lab: Microbes as Symbionts
1462CR ROOM 116
Benjamin Wise, Keene State University
Lorraine Olendzenski, St. Lawrence University
Betsey Dyer, Wheaton College

Teaching Bioinformatics and Structural Genomics
1462CR ROOM 123
J. Ellis Bell, University of Richmond
Jessica Bell, NIDDKD, NIH

11:30 AM – 1:00 PM  Lunch  
WHSCAB PLAZA

1:00 – 2:00 PM  Opening Plenary: Emerging Themes in Microbial Evolution and Diversity  
WHSCAB AUDITORIUM
Norm Pace, University of Colorado, Boulder

2:00 – 2:30 PM  Meet the Speaker  
WHSCAB PLAZA
Norm Pace, University of Colorado, Boulder

2:30 – 4:00 PM  Try Something New! Developing New Teaching Approaches
Concurrent Sessions I

Authentic Assessment Techniques in Microbiology
1462CR ROOM 101
Janet Fulks, Bakersfield College
Active Teaching: Helping Students Put Their Entire Brain to Work
1462CR ROOM 230
Robin Wright, University of Minnesota

Investigative Case Based Learning
1462CR ROOM 109
Margaret Waterman, Southeast Missouri State University
Ethel D. Stanley, Beloit College

Just-in-Time Teaching
1462CR ROOM 100C
Kelly Cowan, Miami University of Ohio

MicrobeLibrary Atlas and Protocol Project
1462CR ROOM 308 (BREAKOUT INTO 100A, 114, 123, 126, 308)
Ann Smith, University of Maryland

Uncooking the Lab: How to Convert a Traditional, Cookbook Lab into an Inquiry-based Lab
1462CR ROOM 116
Sarah Lauffer, University of Wisconsin, Madison

Using Web-based Learning Objects for the Instruction of Both Traditional and Online Microbiology Students
WHSCAB AUDITORIUM
Gary Kaiser, The Community College of Baltimore County

Writing in Life Science Classes Using Calibrated Peer Review™
WHITEHEAD AUDITORIUM
Arlene A. Russell, University of California, Los Angeles

4:00 – 5:00 PM  Meet the Author Book Corner and Refreshment Break
WHSCAB PLAZA
Alcamo’s Fundamentals of Microbiology, Seventh Edition
Jeffrey C. Pommerville
Sponsored by Jones and Bartlett Publishers

5:00 – 6:00 PM  Meet the Author Book Corner
WHSCAB PLAZA
Microbiology: A Systems Approach
Marjorie Kelly Cowan
Sponsored by McGraw-Hill Higher Education

6:00 – 7:30 PM  Dinner
WHSCAB PLAZA

7:30 – 9:00 PM  Plenary Session: Amazing Caves: Amazing Microbes
WHSCAB AUDITORIUM
Hazel Barton, Northern Kentucky University

9:00 – 10:00 PM  Reception
WHSCAB PLAZA
Sponsored by Benjamin Cummings
Saturday, June 4, 2005

7:00 – 8:30 AM  Breakfast
WHSCAB PLAZA

7:30 AM – 6:30 PM  Badge and Program Pick-up
WHSCAB PLAZA

8:30 – 9:30 AM  Plenary Session: Malaria Pathogenesis
WHSCAB AUDITORIUM
Venkatachalam Udhayakumar, Centers for Disease Control

9:30 – 10:00 AM  Break
WHSCAB PLAZA

10:00 – 11:30 AM  Try Something New! Developing New Teaching Approaches
Concurrent Sessions II

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1462CR ROOM 101
Janet Fulks, Bakersfield College

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12:00 – 2:00 PM  Listserv Lunch – Lunch, Munch and Talk a Bunch
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<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
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<td>2:00 – 6:30 PM</td>
<td>Exhibits and Poster Session Open</td>
</tr>
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<td></td>
<td>WHSCAB PLAZA</td>
</tr>
<tr>
<td>2:00 – 2:45 PM</td>
<td>Learn Something New! What Students Need to Know</td>
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<tr>
<td></td>
<td>Concurrent Sessions I</td>
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Teaching Bioinformatics and Structural Genomics
1462CR ROOM 109
J. Ellis Bell, University of Richmond
Jessica Bell, NIDDKD, NIH

Virology
WHSCAB AUDITORIUM
Erica Suchman, Colorado State University

4:00 – 6:30 PM Poster Session I
WHSCAB PLAZA

4:30 – 5:30 PM Meet the Author Book Corner and Refreshment Break
WHSCAB PLAZA
Microbiology: A Human Perspective
Denise G. Anderson
Sponsored by McGraw-Hill Higher Education

5:30 – 6:30 PM Meet the Author Book Corners
WHSCAB PLAZA
Brock Biology of Microorganisms, Eleventh Edition
Michael Madigan
Sponsored by Prentice Hall

The Microbial Challenge
Robert I. Krasner
Sponsored by ASM Press

6:30 – 8:00 PM Dinner
DOBBS UNIVERSITY CENTER

8:00 – 9:30 PM Reception and Poster Session II
WHSCAB PLAZA
Sponsored by:
Emory School of Medicine, Department of Microbiology
Emory University, Department of Biology
Emory College Center for Science Education
The Emory Faculty Science Council

Sunday, June 5, 2005

8:00 – 9:00 AM Breakfast
WHSCAB PLAZA

9:00 – 10:00 AM Plenary Session: Smallpox: From Ancient to Modern History
WHSCAB AUDITORIUM
Harvey Holmes, Centers for Disease Control

10:00 – 10:30 AM Conference Wrap-Up and Evaluation
WHSCAB AUDITORIUM

10:30 – 11:00 AM Break
11:00 – 11:45 AM Learn Something New! What Students Need to Know
Concurrent Sessions III

Environmental Microbiology: What's Hot
1462CR ROOM 109
Susan Bagley, Michigan Tech University

Emerging Themes in Microbial Evolution and Diversity
WHSCAB AUDITORIUM
Norm Pace, University of Colorado, Boulder

Immunology
WHITEHEAD AUDITORIUM
John Lammert, Gustavus Adolphus College

Teaching Bioinformatics and Structural Genomics
1462CR ROOM 123
J. Ellis Bell, University of Richmond
Jessica Bell, NIDDKD, NIH

The Nursing Curriculum
1462CR ROOM 308
Jackie Reynolds, Richard College

Virology
1462CR ROOM 230
Erica Suchman, Colorado State University

1:30 PM Buses depart to Georgia World Congress Center
(Pre-paid ticket required)

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2005 ASMCUE Listserv Lunch - Lunch, Munch and Talk a Bunch!
SATURDAY, JUNE 4, 12:00 PM, WHSCAB PLAZA

ASM facilitates several listserv communities for various interest groups in the Society. The MICROEDU listserv is an e-mail based discussion group open to all ASM Members. Here, microbiology educators can learn from each other by exchanging ideas and communicating issues and challenges. The UGCONF listserv serves the same purpose, but is only open to people who have attended the ASM Conference for Undergraduate Educators in either of the previous two years.

Many informative and thoughtful conversations take place within these two listserv communities and we hope you will enjoy the chance to revisit the issues “face-to-face”.

- MICROBIOLOGY MAJORS - CURRICULUM ISSUES
- NON-MAJORS/GENERAL ED - CURRICULUM ISSUES
- ALLIED HEALTH/NURSING - CURRICULUM ISSUES
- BIOLOGY/BIOTECHNOLOGY MAJORS - CURRICULUM ISSUES
- PREPARING PRECOLLEGE TEACHERS
- MENTORING UNDERGRADUATE STUDENTS and ADDRESSING CULTURAL DIVERSITY IN THE CURRICULUM
- QUANTITATIVE APPROACHES TO TEACHING MICROBIOLOGY
- SAFETY UPDATES
- MICROBELIBRARY CURRICULUM COLLECTION REVIEW OPPORTUNITY
  (Participants were required to submit an activity for review in advance of ASMCUE 2005)
Recent advances in molecular biology have revolutionized microbial ecology, allowing us to use molecular phylogenetics to postulate on an organism’s metabolic activity without the need for cultivation. While these results can provide a glimpse into the metabolic functions that sustain microbial communities in extreme environments, they also increase our chances of cultivating previously ‘unculturable’ extremophiles. By integrating the techniques of chemistry and geology with those of molecular biology and microbial physiology, we are working to dissect the metabolic activities that sustain microbial life in severe nutrient limitation. In order to question the metabolic activities that sustain microbial communities in extremely oligotrophic environments, we have been examining microbial communities in subsurface cave environments; geologically isolated from photosynthetic and surface input, caves provide an ideal environment in which to carry out these studies. A consequence of our work has been the discovery that many subsurface processes, previously considered inorganic, are in fact mediated by microbial activity. To dissect such geomicrobial processes in the laboratory is challenging, but through interdisciplinary activities at Northern Kentucky University, we are conducting such research in an exclusively undergraduate laboratory. In an attempt to educate the general public about the significance of the cave environment and the excitement of microbiology, the PI was also involved in the production of the IMAX movie *Journey into Amazing Caves*.

Dr. Hazel A. Barton earned her Ph.D. in microbiology from the University of Colorado Health Sciences Center, where she worked with Dr. Michael Vasil on iron regulation in the opportunistic pathogen *Pseudomonas aeruginosa*. Following her degree she spent a short post-doc working as an Instructor in the Department of Surgery at the same institution, before realizing that her true passion was bacteriology. Subsequently she obtained a position in the laboratory of Dr. Norman Pace at the University of Colorado, Boulder, studying microbial ecology and the possibility of multifactorial-bacterial infections. It was during this time that Dr. Pace, also a renowned cave explorer, suggested that Dr. Barton actively combine her knowledge of caves with microbiology. Finally, Dr. Barton took a post-doctoral position with Dr. John Roth at the University of Utah and subsequently the University of California, Davis, where she studied microbial physiology and adaptation to starvation. Dr. Barton is presently the Ashland Endowed Professor of Integrative Science at Northern Kentucky University, where she has an active undergraduate laboratory that studies adaptation to starvation in the *Salmonellae* and microbial community interactions in starved cave environments. Dr. Barton is a cave explorer and cave-diver, discovering, exploring and mapping caves in many different countries. She is presently Director of the US National Speleological Society and the Quintana Roo Speleological Survey of Mexico.
Smallpox: From Ancient to Modern History
PLENARY SESSION: SUNDAY, JUNE 5, 9:00 AM, WHSCAB AUDITORIUM

Harvey Holmes
Deputy, Laboratory Response Branch
Bioterrorism Preparedness and Response Branch, National Centers for Disease Control
Atlanta, GA

The lecturer will present an overview of smallpox from its origin to eradication and the consequences of the re-introduction of the vaccine.

Dr. Holmes is a clinical microbiologist that provides clinical expertise to CDC’s bioterrorism program, including agency representation in bioterrorism preparedness issues with USDA, FBI, APHL, ASM, and Food/Water/Veterinary Labs. As the former Chief, Diagnostic Microbiology Section at CDC he directed several reference microbiology laboratories for Staphylococci, most Enterobacteriaceae, Anaerobes, a Molecular Reference Laboratory and the Staphylococcus Toxin Testing (bioterrorism) laboratory. Recently, he directed the Clinical Bioterrorism Surge Capacity Laboratory that processed many of the environmental samples during the fall 2001, anthrax event. He’s been instrumental in developing the revised protocols for detecting agents of bioterrorism and has traveled throughout the U.S. speaking on bioterrorism-preparedness for the laboratory and has developed both web-based and video-based training modules. Dr. Holmes served as the Medical Director of Microbiology in a 550-bed community-based hospital in Michigan, after earning a doctorate in microbiology from Oregon State University and completing a residency program in Public Health and Medical Laboratory Medicine at CDC.

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- Strategies and Tips for Teaching Microbiology
- Effective Classroom and Laboratory Exercises
- Reviews of Educational Materials

All this and more is available at ASM's MicrobeLibrary, a searchable portal providing access to a clearinghouse of peer reviewed digital resources for teaching about the microbial world.

www.microbelibrary.org
Emerging Themes in Microbial Evolution and Diversity
OPENING PLENARY: FRIDAY, JUNE 3, 1:00 PM, WHSCAB AUDITORIUM

Norman R. Pace
MCD Biology, University of Colorado, Boulder

Over the past few decades it has become possible to read gene sequences and to use those sequences to infer evolutionary (phylogenetic) relationships among different organisms. The results provide the first objective views of the large-scale structure of evolution throughout the history of biology. Analyses with some genes even reach into the pre-cellular period of life.

The plenary lecture will review in general how “phylogenetic trees” are produced and how the results have changed powerfully our understanding of the Tree of Life and early evolutionary events. A new view of biological organization emerges, one that brings microbial life squarely to the forefront of biological importance. The results also contradict some common textbook notions regarding evolutionary relationships, and specific examples of that will be discussed. The talk will highlight the evolution of ideas on evolution, and how the molecular perspective and technology are changing our perception of microbial diversity.

Dr. Pace will also present a “Learn Something New” Concurrent Session (see page 25).

References:

Dr. Norman Pace did undergraduate studies at Indiana University and received the Ph.D. from the University of Illinois. He has held faculty positions at several institutions, including the National Jewish Hospital and Research Center, the University of Colorado Medical Center, Indiana University and the University of California, Berkeley. He currently is Professor of Molecular, Cellular and Developmental Biology at the University of Colorado, Boulder.

Pace works in two scientific arenas. On one hand he is a molecular biologist, and his laboratory has made substantive contributions to our understanding of nucleic acid structure and processing. Noteworthy recent efforts have involved elucidation of the structure and catalytic mechanism of the RNA moiety of ribonuclease P, an enzyme composed of RNA instead of the usual protein. On the other hand, Pace is a microbial ecologist. His laboratory has led the field in the development and use of molecular tools to study microbial ecosystems. This work has led to the discovery of many novel organisms and an understanding of some unusual symbioses. The results have expanded substantially the known diversity of microbial life in the environment. Current efforts range from high-temperature environments to human disease.

Pace is a member of the National Academy of Sciences; and he is a Fellow of the American Association for the Advancement of Science, the American Academy of Microbiology, and the American Academy of Arts and Sciences. He has received a number of awards, for instance the 1996 Procter and Gamble Award in Applied Environmental Microbiology from the American Society for Microbiology, and the 2001 Selman A. Waksman Award for Distinguished Contributions in Microbiology from the National Academy of Sciences. He is also a Fellow of the John D. and Catherine T. MacArthur Foundation. Pace additionally is an expert in cave exploration. He has led and participated in numerous expeditions in this country and internationally. Pace has been elected a Fellow of the National Speleological Society (NSS), the Cave Research Foundation and the Explorers Club. He received the L. Bicking Award from the NSS for his contributions to American caving.
Malaria Pathogenesis
PLENARY SESSION: SATURDAY, JUNE 4, 8:30 AM, WHSHCAB AUDITORIUM

Venkatachalam Udhayakumar
Malaria Branch, Division of Parasitic Diseases, National Centers for Infectious Diseases, Centers for Disease Control and Prevention, U.S. Public Health Service, Department of Health and Human Services, Atlanta, GA

There are four species of human malaria parasites, namely Plasmodium falciparum, P. vivax, P. ovale, and P. malariae. Among them, P. falciparum accounts for most of the mortality associated with malaria. Recently, it has been estimated that about 500 million clinical episodes of P. falciparum occur globally and that 1-2 million children die of malaria annually. In endemic regions, those most vulnerable to severe malaria complications are children below five years of age and pregnant women. In populations that are nonimmune to malaria, all age groups are at risk for severe malaria. Respiratory distress, severe anemia and cerebral malaria are the major severe complications associated with P. falciparum, and these account for most of the malaria-related mortality. P. falciparum is unique in its ability to adhere to the endothelial linings of blood vessels, which helps the parasite to sequester in various organs, thereby escaping clearance in the reticuloendothelial system. Current understanding of the molecular, immunologic and genetic factors that are associated with P. falciparum pathogenesis will be discussed. Since HIV prevalence has increased in many areas where malaria is endemic, there is significant concern about the potential adverse impact of HIV and malaria co-infections, and recent findings in this growing area of research will be presented.

Scientific responsibilities within Malaria Branch:
Provide leadership for a team of scientists engaged in conducting malaria vaccine development and testing, immunologic, genetic, molecular, HIV/malaria interaction and diagnostic studies.

The major activities of our laboratory are summarized below:

A. Molecular epidemiology of malaria: The goals of these projects are to develop and use sensitive and specific methodologies for detection of malaria parasites, as well as, to assess the origin and dispersion of drug resistant and new antigenic variants and the complexity of malaria parasites. The concepts of molecular genetics and evolution are used to support surveillance, clinical epidemiologic studies, and laboratory investigations.

B. Malaria vaccine-related field studies in Kenya and India: This longitudinal and prospective malaria project combines epidemiologic, clinical, parasitologic, immunologic, molecular biologic, and entomologic investigations aimed at investigating epidemiology of malaria in different endemic settings, delineating characteristics of naturally acquired immunity against malaria, and developing infrastructure for conducting malaria vaccine trials.

C. Vaccine development research: Combining field and laboratory-based studies, the goal is to develop multistage, multicomponent, multispecies malaria vaccine that protects children and pregnant women living in malarious regions of the world, and non-immune individuals who reside or travel through malaria-endemic regions of the world.

D. Malaria pathogenesis and host genetics: The goal of this project is to investigate immunopathogenesis in malaria, with a focus on the underlying mechanisms involved in severe anemia, placental malaria and cerebral malaria including the role of host genetic factors in resistance to malaria.

E. Interaction between HIV and malaria: The goal of this activity is to investigate the interaction between P. falciparum malaria and HIV/AIDS. We are investigating: 1) whether malaria/HIV co-infection results in the alteration of immune responses to malaria in young children and adults, and 2) the nature of placenta-level immunologic changes during HIV/malaria co-infection during pregnancy in relation to vertical transmission of HIV.
2005 Meet the Author Book Corners

Denise G. Anderson
Sponsored by McGraw-Hill Higher Education
SATURDAY, JUNE 4, 4:30 PM, WHSCAB PLAZA

Microbiology: A Human Perspective
by Eugene W Nester, Denise G. Anderson, Jr., C. Evans Roberts, Nancy N. Pearsall, Martha T Nester
(Hardcover - January 9, 2003)

Appropriate for the non-major/allied health student, this authoritative text carefully explains the fundamentals of microbiology, providing a general overview of the principles followed by more detailed explanations. With its easy-to-read writing style, Microbiology: A Human Perspective offers modern coverage on such topics as genomics, biofilms, and quorum sensing. A body systems approach is used in the coverage of diseases.

Marjorie Kelly Cowan
Sponsored by McGraw-Hill Higher Education
FRIDAY, JUNE 3, 5:00 PM, WHSCAB PLAZA

Microbiology: A Systems Approach
by Marjorie Kelly Cowan, Kathleen Park Talaro
(Hardcover - January 18, 2005)

Microbiology: A Systems Approach is an exciting new textbook written with the non-major/allied health student in mind. Offering an engaging writing style through the use of tools such as case studies and analogies, the text thoroughly explains difficult microbiology concepts in an accessible manner. Utilizing an organ systems approach, the unique in-chapter organization of the disease/clinical chapters provides students a realistic viewpoint of the clinical experiences they will encounter in the future.

Robert I. Krasner
Sponsored by ASM Press
SATURDAY, JUNE 4, 5:30 PM, WHSCAB PLAZA

The Microbial Challenge
by Robert I. Krasner
(Hardcover - August 2002)

This accessible and fascinating book on human-microbe interactions is the perfect text for use in undergraduate science courses. Designed to help students better understand the biology of the microbial world and its effect on their lives, this timely volume covers issues of vital importance, including biological warfare and terrorism, antibiotic resistance, the global impact of microbial diseases, and immunization.

A hybrid of microbiology and public health, The Microbial Challenge emphasizes the significance of microbes in everyday living. Students are led to understand public health problems and are provided a greater awareness of disease on a global scale through an examination of microbial (infectious) diseases and their societal consequences, including descriptions of some of the major microbial diseases through the ages, efforts put forth to meet the challenges raised by microbes, and public health measures of protection and surveillance put in place to keep ever-challenging microbes at bay. The beneficial nature of microbes is also examined; they are vital to the cycles of nature and the synthesis of vitamins in our intestinal tract, and they play an important role in the food industry.

Richly illustrated with many photos from the author's extensive personal collection taking during his numerous trips abroad, The Microbial Challenge is ideal for students not majoring in science, for allied health sciences courses, and for public health courses. It can also be used as supplementary reading in standard microbiology and other biology courses.
Michael Madigan  
_Sponsored by Prentice Hall_

**SATURDAY, JUNE 4, 5:30 PM, WHSCAB PLAZA**

_Brock Biology of Microorganisms (11th Edition)_  
by Michael Madigan, John Martinko (Hardcover - February 1, 2005)

The authoritative text for introductory microbiology, _Brock Biology of Microorganisms_ continues its long tradition of impeccable scholarship, outstanding art and photos, and accuracy. It balances the most current coverage with the major classical and contemporary concepts essential for understanding microbiology. The authors’ clear, accessible writing style speaks to today’s students while maintaining the depth and precision science majors need.

**Jeffrey C. Pommerville**  
_Sponsored by Jones & Bartlett Publishers_

**FRIDAY, JUNE 3, 4:00 PM, WHSCAB PLAZA**

_Alcamo’s Fundamentals of Microbiology, Seventh Edition_  
by Jeffrey C. Pommerville (Hardcover - February 27, 2004)

The phenomenally successful seventh edition continues to captivate students with updated content, new pedagogical features, and an enhanced art program. Revised by Jeffrey C. Pommerville, Ph.D., Professor of Biology and Microbiology at Glendale Community College, _Alcamo’s Fundamentals of Microbiology, Seventh Edition_, retains the signature Alcamo style, which includes a friendly tone, personal writing style, student-friendly organization, and real-world applications that will maximize your students’ understanding. Featuring a new chapter on genetic engineering and bacterial genomics and the latest information on emerging infectious diseases, unique student supplements, and enhanced instructors’ material, this is the ideal microbiology text for nursing and allied health students, and is suitable for your other non-majors microbiology courses.

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Whether you're just starting to think about teaching, or you've been teaching for 20 years, we believe you can always learn new tricks. These sessions will focus on different teaching techniques and tools, to give you experience in implementing innovative teaching approaches. Where possible, the leader will demonstrate activities using his/her particular teaching method, as if in a classroom. Resources will be provided for you to either try or develop activities that you use yourself. Each presentation is 1 and 1/2 hours long, and will be offered in 2 different sessions.

Authentic Assessment Techniques in Microbiology
Janet Fulks, Bakersfield College
FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 101
SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 101

The type of assessment tools faculty use prompts student learning and communicates what the faculty member values. Do we assess our students on content, comprehension, and factoids or do we target higher level cognitive and psychomotor skills? Join this concurrent session to learn about sample methods of assessment that prompt students to synthesize knowledge and skills. This workshop will include rationale, rubrics, and implementation for a variety of assessment techniques including student pamphlet production, live patient case studies, and flow charts as assessments.

Janet Fulks, professor in the biology department at Bakersfield College, has 20 years of teaching experience in both academia and the health care industry, in the US and Asia (Nepal and Thailand). Presently Janet teaches Microbiology, as well as a multidisciplinary team-taught course in Advanced Composition and Critical Thinking. She is a licensed Clinical Laboratory Scientist (CLS) and teaches Microbiology for the Medical Technology Internship Program at a local clinical lab.

Janet has served as the lead faculty on the Bakersfield College Science Assessment Team and on the Institutional Effectiveness Committee developing a new program review format and campus-wide training on assessment. She has spent the last several years developing and conducting workshops on Student Learning Outcomes (SLO’s) and Assessment at Bakersfield College and with the Research and Practice Group at other community college campuses around California. She has recently completed her EdD in Higher Education Leadership with her dissertation on Assessing Student Learning in California Community Colleges.

WEBSITES:
Microbiology: http://www2.bc.cc.ca.us/bio16
Assessment: http://online.bakersfieldcollege.edu/courseassessment/

Active Teaching: Helping Students Put Their Entire Brain To Work
Robin Wright, University of Minnesota
FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 230
SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 230

Have you ever delivered the world’s best lecture, only to have students ask questions that prove they didn’t learn anything you were trying to teach them? Understanding the physiology of learning can help us develop ways to make our students’ learning more effective. In this workshop, we’ll begin with a brief analysis of the relationship between Kolb’s Learning Cycle, brain structure, and the physiology learning. Then, we’ll explore a variety of active learning strategies that have proven to be effective in large enrollment settings. We’ll examine these activities to see how they complete the learning cycle, helping students make long-term memories and apply what they know. Finally, you’ll have an opportunity to build an activity that will help you apply the learning cycle to your most pressing teaching problem.

Robin Wright is Associate Dean for Faculty and Academic Affairs in the College of Biological Sciences (CBS) and professor of Genetics, Cell Biology, and Development at the University of Minnesota. Her research examines the genetic control of cell structure, using yeast as a model organism. In her previous position at the University of Washington, she taught non-majors’ biology and introductory and advanced cell biology. Her teaching effectiveness was recognized by a University of Washington Distinguished Teaching Award in 2000. At the University of Minnesota, she chairs the College of Biological Sciences Curriculum Task Force as well as the university’s Council on Enhancing Student Learning. In addition to teaching freshman
seminars, an honors colloquium, and introductory biology, she also helped to develop and co-teaches an orientation/enrichment course required for all incoming freshmen in the college. Be sure to ask her about this course, called “The Nature of Life.”

**Investigative Case Based Learning**

*Margaret Waterman, Southeast Missouri State University* and *Ethel D. Stanley, Beloit College*

**FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 109**  
**SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 109**

Participants will work with two short investigative cases featuring microbes. Investigative Case Based Learning (ICBL) for microbiology begins with a scenario (the case) relating a realistic situation. The cases we will use feature West Nile Virus and citrus canker in Florida. The session will include resources for teaching with cases, implementation and assessment.

**Dr. Margaret Waterman**, Professor of Biology at Southeast Missouri State University, is a specialist on case development and problem based learning in undergraduate biology education. She has over 20 publications in plant pathology, medical education, and science education.

As Director of the BioQUEST Curriculum Consortium and member of the Biology faculty at Beloit College, *Ethel Stanley* works on reform in undergraduate science education at the national level. She strongly supports reform that includes the collaborative use of computer models and simulations in introductory biology and the use of case-based investigation as opportunities to develop lifelong problem posing, problem solving and persuasion skills. She has over 30 publications, including co-editor of *Microbes Count!* (2003) ASM Press. She is also editor of *Bioscene: Journal of College Biology Teaching*.

Together, they wrote “Biological Inquiry: A Workbook of Investigative Cases” (Benjamin Cummings, 2005) for introductory college biology, and completed an NSF-CCLI project developing ICBL cases for college biology (http://bioquest.org/lifelines). Additional support for their work on ICBL is from the Howard Hughes Medical Institute and the Educational Outreach and Training Partnership for Advanced Computational Infrastructure.

**Just-In-Time Teaching**

*Marjorie Kelly Cowan, Miami University of Ohio*

**FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 100C**  
**SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 100C**

What’s a teacher to do? So many alternative strategies to the traditional lecture method, but so little time, content flexibility, and acceptance (sometimes) from students. JITT is a method, or a set of methods, which both student and teacher can love. It gains time for the classroom rather than spends it, engages students with the material before you present it, and can be a bridge over some of the most difficult obstacles students encounter in their efforts to learn. In this session you will experience the strategy. Upon completion you should be ready to implement the method right away in your classrooms – or at least by next semester.

**Marjorie Kelly Cowan** teaches at Miami University’s Middletown campus. She is an active researcher (over two dozen research articles published with her undergraduate and graduate students) and an avid teacher. She edits *Focus on Microbiology Education*, and is on ASM’s Committee on Undergraduate Education. She co-authored with Kathy Talaro the new textbook *Microbiology: A Systems Approach* (McGraw-Hill), and wrote *Microbe Files: Case Studies in Undergraduate Microbiology* (Benjamin Cummings). In her current role as Miami Middletown’s Associate Executive Director for Academic Affairs, she helped inaugurate a campus Center for Teaching and Learning.

**MicrobeLibrary Atlas and Protocol Project**

*Ann Smith, University of Maryland*

**FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 308**  
**SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 308**

The ASM Committee on Technology-Enhanced Education, along with the MicrobeLibrary Visual Resources Review Committee, is developing a new collection for the online microbiology education resource. The new project, “MicrobeLibrary Atlas and Protocol Collection,” was introduced to a focus group at the 2004 ASMCUE. The new collections will contain sets of images related to general microbiology protocols and recipes. Six pilot projects have been assembled and will be available for review in concurrent sessions. By attending one of these sessions, you will contribute to the project as a peer-reviewer of the collection content and images. Participants will also contribute to the development of a “comments and tips” section that
will become one aspect of each Atlas and Protocol Collection.

We encourage you to choose to attend the Atlas/Protocol session where you have the most expertise. Please bring with you to the meeting any information that you have that is relevant to the Projects listed below. By attending the session you will be contributing to this new MicrobeLibrary resource.

Sessions will be moderated by Atlas and Protocol Collection project managers. The Collections to be reviewed and project managers are:

**MacConkey Plate Project:**
Mary Allen, Hartwick College

**Blood Agar Plate Project:**
Rebecca Buxton, University of Utah

**Gram Stain Project:**
Ann Smith, University of Maryland and Marise Hussey, Waukesha County Technical College

**TSI Project:**
Donald Lehman, University of Delaware

**Serial Dilution Project:**
Jackie Reynolds, Richland College

**Uncooking the Lab: How to Convert a Traditional, Cookbook Lab into an Inquiry-based Lab**
Sarah Miller Lauffer, Co-Director, Howard Hughes Medical Institute-Wisconsin Program for Scientific Teaching

**FRIDAY, JUNE 3, 2:30 PM, 1462CR, ROOM 116**
**SATURDAY, JUNE 4, 10:00 AM, 1462CR, ROOM 116**

The goal of this session is to provide you with the tools and rationale needed to create effective inquiry-based labs. The session will be held in an interactive workshop format; expect to experience active learning, assessment, group work, microbiology, and fun.

By the end of the session, you will:
- compare and contrast inquiry-based and cookbook labs
- experience examples of inquiry-based labs
- acquire tools for "uncooking" almost any lab
- understand the important role that cookbook labs play within the framework of inquiry-based labs

Sarah Lauffer is the Co-Director of the HHMI-funded Wisconsin Program for Scientific Teaching. This nationally renowned program aims to cultivate a new generation of faculty and future faculty who learn to teach and mentor using the same rigor as science research. Sarah is primarily responsible for training graduate students and postdocs in classroom teaching, developing and disseminating instructional materials that are based on sound teaching principles, and evaluating the impact of the program on its participants and their students. Sarah also plays an important role in the National Academies Summer Institute on Undergraduate Education in Biology, particularly in guiding the development of college-level instructional materials for research universities. For her work in developing and teaching at the Summer Institute, Sarah was named a National Academies Education Mentor in the Life Sciences in 2004. Sarah is a co-author of *Entering Mentoring: A Seminar to Train a New Generation of Scientists*. Her graduate work investigated how plant defense genes affect microbial communities affiliated with the rhizosphere.

Ann C. Smith is the Director of Undergraduate Programs for the Department of Cell Biology and Molecular Genetics at the University of Maryland, College Park MD. She received her B.A. in Biology at the College of Wooster, Wooster OH and her MS and PhD in the Department of Microbiology at the University of Rochester, Rochester, N.Y. As an instructor of large lecture microbiology classes at UM since 1987, she is interested in finding ways for engaging students in learning science in the large enrollment course. She is investigating the use of technology, teaching with case studies, and employing teamwork for teaching (where teams of faculty, graduate TA’s and undergraduate TA’s act together on the “teacher side” and teams of students work collaboratively on the “learner side”) as tools to facilitate active learning. In 2002 along with her colleagues she received the University of Maryland Teaching with Technology Award for efforts made in using technology to engage students in learning. She is a member of ASM Committee on Technology Enhanced Education and Editor of the Visual Resources Collection of the MicrobeLibrary. This year she has also serves on the National Steering Committee for Project Kaleidoscope.
Using Web-based Learning Objects for the Instruction of Both Traditional and Online Microbiology Students
Gary Kaiser, The Community College of Baltimore County
FRIDAY, JUNE 3, 2:30 PM, WHSCAB AUDITORIUM
SATURDAY, JUNE 4, 10:00 AM, WHSCAB AUDITORIUM

Several years ago I converted my microbiology course into a series of online nested Learning Objects (LOs). Many of these LOs are reusable and are repeated a number of times throughout the course for the purpose of preview, review, or reinforcement of relative information. Each LO consists of relevant text; a list of learning objectives telling the learner what they should be able accomplish after completing that LO; illustrations, photographs, and/or animations to help the visual learner; links to other Learning Objects for the purpose of preview, review, or reinforcement; and a self-assessment component. I use my website in the traditional lecture setting and in my online course. Although my laboratory manual (with color photographs and photomicrographs of all laboratory results) is online, both traditional students and Web students must attend one of my lab sections. My website can be found at: http://student.ccbc-md.edu/~gkaiser/goshp.html.

Gary Kaiser is Professor of Microbiology at The Community College of Baltimore County, Catonsville where he has taught for the past 34 years. In 1995 he began using the Internet to teach microbiology to both traditional and online students. Gary is a member of ASM’s Committee on Technology-Enhanced Education and a number of his animations are available in ASM’s MicrobeLibrary. His microbiology website “The Grapes of Staph” was recently recommended as a resource in the NetWatch section of the April 8, 2005 edition of Science.

Writing in Life Science Classes Using Calibrated Peer Review™
Arlene A. Russell, University of California, Los Angeles
FRIDAY, JUNE 3, 2:30 PM, WHITEHEAD AUDITORIUM
SATURDAY, JUNE 4, 10:00 AM, WHITEHEAD AUDITORIUM

TA-graded writing assignments are often not instructional options for large classes, which typify many lower division life science courses. Calibrated Peer Review™ (CPR) removes the grading barrier. Based on the scientific peer review model, this “writing-to learn” tool enables students to learn by writing about important topics in a course and by evaluating other students’ essays. Because this on-line instructional tool can serve any discipline, the chemistry-focus of the original NSF funding has recently been offset by significant development in other fields. The life sciences account for the largest growth in the past year. A recent review of the assignment library shows more than 200 biology-related assignments with over 40 of those in microbiology. The talk will include a synopsis of the CPR process, a review of the assignment library, and a collection of evaluation results from courses in several universities. Studies of the impact of CPR assignments have examined student performance on course exams, student writing and reviewing skills, and student attitudes to this new form of learning.

Dr. Arlene Russell is a Senior Lecturer at UCLA in both the Department of Chemistry and Biochemistry and the Department of Education. She has been active in Chemical Education for over 30 years. She was a co-PI on both the Molecular Science Project under which the Calibrated Peer Review Program was developed and the Multi-Initiative Dissemination Project, which provided faculty workshops on using and implementing CPR in Chemistry. She is currently the PI on a new initiative to augment CPR for expanded use by faculty across many disciplines. Since 1999, she has led more than 50 CPR workshops for faculty from community colleges through research universities and has implemented CPR in classes varying in size from 14 AP high school students to 320 UCLA freshmen. She has been involved in national assessment activities for 20 years as chair of the California Chemistry Diagnostic Test committee, which develops and validates a national test for placement of students in entry level college Chemistry courses. At the graduate level she teaches technical writing and an HHMI-funded seminar in Issues in Higher Education in Science for students planning on academic careers. She directs the Science Teacher Education Program at UCLA and co-teaches the Science methods classes with Physics and Biology faculty. She is PI of the UCLA NSF GK-12 program that partners graduate students in Mathematics and Science with novice teachers to facilitate their development and use of inquiry-based activities in Los Angeles’ urban schools. Her work in chemical education has been recognized by awards from the New York Film and Television Association for excellence in science videotape production; the
Smithsonian Institution for her educational innovation using technology, and the Chemistry Manufacturing Association for her outstanding college chemistry teaching. Her bibliography includes 38 print publications, 46 multimedia productions, 48 invited papers and lectures, and 35 contributed papers.

Learn Something New!

**What Students Need to Know Concurrent Sessions**

The only constant in microbiology is that everything is changing! These sessions will give you up-to-date information in various fields of microbiology. Focusing on what your students need to know, the material will be presented by colleagues who have experience in the classroom, who may share some of the ways in which they present this material. Each session is 45 minutes long and will be offered in 2 out of 3 sessions.

**Bioterrorism**

*Jeffrey Pommerville, Glendale Community College*

**SATURDAY, JUNE 4, 2:00 PM, 1462CR, ROOM 230**

**SATURDAY, JUNE 4, 3:00 PM, 1462CR, ROOM 230**

Who ever thought that diseases like plague and smallpox would again reach into the public psyche? The threat of bioterrorism and the use of microbes or microbial toxins as agents for bioterror mean we must reacquaint ourselves with the pathogens. We also must attempt to keep up-to-date with the microbiological approaches being considered or instituted to prevent or react to a potential bioterror attack. This session will review briefly the most probable bioterror agents and their mode of action. Importantly, the session also will focus on biodefense; that is, strategies being designed and developed to target agents of bioterrorism (e.g., new vaccines, antivirals, and antitoxins) and to detect potential pathogens before they can become a public health threat (e.g., biosensors). In addition, time will be available to discuss what your students should know about the bioterror agents and how this information can be incorporated into general biology and microbiology courses using a student-centered learning cycle approach. Reprints of two recent papers on “Integrating the agents of bioterrorism into the general biology curriculum” will be provided.

*Jeffrey Pommerville* has a Ph.D. in Cell and Organismal Biology from the University of California, Santa Barbara. For the past 15 years, he has been Professor of Biology and Microbiology at Glendale Community College where he teaches introductory biology and microbiology. Dr. Pommerville has 20 years of research experience in cell biology and microbiology, and has authored over 35 peer-reviewed papers in national and international research journals. In 2003, Dr. Pommerville received the Gustav Ohaus Award (College Division) for Innovations in Science Teaching from the National Science Teachers Association. Over the past three years, he has presented numerous seminars and workshops to colleges, universities, and business organizations on understanding and responding to bioterrorism. Dr. Pommerville is author of the seventh edition of *Alcamo's Fundamentals of Microbiology*, an undergraduate textbook published by Jones and Bartlett in 2004.

**Emerging Themes in Microbial Evolution and Diversity**

*Norman R. Pace, University of Colorado, Boulder*

**SATURDAY, JUNE 4, 2:00 PM, WHSCAB AUDITORIUM**

**SUNDAY, JUNE 5, 11:00 AM, WHSCAB AUDITORIUM**

Over the past few decades it has become possible to read gene sequences and to use those sequences to infer evolutionary (phylogenetic) relationships among different organisms. The results provide the first objective views of the large-scale structure of evolution throughout the history of biology. Analyses with some genes even reach into the pre-cellular period of life.

As a follow up to his plenary lecture, the concurrent session will devote more detail to the inference (and credibility) of evolutionary relationships, and the meaning of the patterns. A “molecular phylogeny workshop” suitable for undergraduate courses will be provided.

**Environmental Microbiology: What’s Hot!**

*Susan Bagley, Michigan Technological University*

**SATURDAY, JUNE 4, 2:00 PM, 1462CR, ROOM 109**

**SUNDAY, JUNE 5, 11:00 AM, 1462CR, ROOM 109**

Environmental microbiology is an “old” and applied branch of microbiology. Originally concerned with the bacteriology of drinking water and waste water, it has become highly multidisciplinary and now deals with the microbiology of all types of pollution, in water, air, and soil. Microbes are therefore of interest not only as pathogens/indicators and deteriorogens but also as solutions to pollution. Some of the current human health-related issues in the US deal with indoor air quality and the evaluation of bathing beach/recreational water quality. Innovative
organic and inorganic waste treatment methods now combine a wider variety of microbial processes to significantly reduce contaminant levels and further protect environmental and human health. Bioremediation for degradation and removal of pollutants continues to be a "hot" topic; there is increasing interest, for example, in intrinsic (natural attenuation) bioremediation involving in situ treatment with naturally occurring microbes and nutrients. Environmental microbiologists are also applying bioremediation-related techniques to pollution prevention (combined with "green engineering and chemistry"). Because of the applied nature, these topics are well-suited for demonstration of the integration of fundamental topics, multidisciplinary approaches, and current "Microbes in the News" items. Many on-line resources, in particular, are available to enhance the incorporation of these and other topics into lecture and lab discussions and projects. As an example, a (very) recent semester-long project dealt with "Tsunami-related Infectious Disease Concerns and Controls." In order to understand and discuss "their" diseases, students received re-enforcement on microbial diversity, metabolism, growth, ecology, relationships, and microbial control (along with socioeconomic and engineering concerns for long-term controls and treatments).

Susan Bagley is a Professor of Environmental Microbiology in the Department of Biological Sciences at Michigan Technological University. She has over 30 years experience working in academia and government (U.S. Environmental Protection Agency) on microbial-based treatment of air and waterborne organic wastes, removal of potential human pathogens from the environment, mutagenicity and toxicity of environmental pollutants (with particular focus on particle-associated and vapor phase components of diesel exhaust), and control of microbial pathogens and deteriorogens associated with industrial processes. She has collaborated on multidisciplinary studies with environmental, chemical, and mechanical engineers and chemists for much of her career. Dr. Bagley regularly teaches courses in Microbiology (for Biological Sciences, Clinical Laboratory Sciences, and Bioinformatics majors), Environmental Microbiology (required for Environmental Engineering majors), Microbial Physiology, and Applied and Industrial Microbiology. A key interest area is effective microbiology teaching and assessment. She is the team leader for the MTU Institutional Team participating in the NSF-funded Faculty Institutes for Reforming Science Teaching (FIRST II) program. Aspects of this program are being used to develop and apply inquiry-based science learning to help reform the microbiology curriculum. Dr. Bagley is also a new member of the ASM MicrobeLibrary’s Visual Resources Editorial Committee and has reviewed for this committee for several years.

Extremophiles: An Update on Their Biology and What Students Need to Know
Michael Madigan, Southern Illinois University
SATURDAY, JUNE 4, 2:00 PM, WHITEHEAD AUDITORIUM
SATURDAY, JUNE 4, 3:00 PM, WHITEHEAD AUDITORIUM

Extremophiles are organisms that live under conditions that we as humans would consider extreme: extremes of temperature, pH, salinity, radiation, and pressure. Extremophilic microorganisms include several species of Bacteria, Archaea, Protozoa, Fungi, and Algae. However, the most spectacular examples of an extremophilic lifestyle can be found within the prokaryotes. Various species of prokaryotes are capable of (1) growth above 120°C or below –10°C; (2) growth below pH 0 or above pH 12; (3) growth at saturating levels of NaCl or at pressures in excess of 1000 atm; and (4) growth following exposure to over 30,000 gamma rays of radiation. Select examples of extremophilic prokaryotes will be discussed as regards (1) their habitats; (2) the major physiochemical barrier(s) they need to overcome; and (3) the mechanisms that allow them to grow in the presence of their environmental extreme. Emphasis will be placed on how discussion of the lifestyles of extremophiles can best be approached in the classroom, and the essential features of the biology of extremophiles that students really need to know.

Michael T. Madigan received a bachelor’s degree in biology and education from Wisconsin State University at Stevens Point in 1971 and M.S. and Ph.D. degrees in 1974 and 1976, respectively, from the University of Wisconsin, Madison, Department of Bacteriology. His graduate work involved the study of hot spring phototrophic bacteria under the direction of Thomas D. Brock. Following three years of postdoctoral training in the Department of Microbiology, Indiana University, where he worked on phototrophic bacteria with Howard Gest, he moved to Southern Illinois University Carbondale, where he is Professor of Microbiology. He has been a coauthor of the textbook Biology of
Microorganisms since the fourth edition (1984) and teaches courses in introductory microbiology, bacterial diversity, and diagnostic and applied microbiology. In 1988 he was selected as the outstanding teacher in the College of Science and in 1993 its outstanding researcher. In 2001 he received the university's Outstanding Scholar Award. In 2003 he received the Carski Award for Distinguished Teaching of Undergraduates from the American Society of Microbiology. His research has dealt almost exclusively with anoxygenic phototrophic bacteria, especially those species that inhabit extreme environments. He has published over 100 research papers, has coedited a major treatise on phototrophic bacteria, and has served as editor and chief editor of the journal *Archives of Microbiology*. He is currently on the editorial board of the journal *Environmental Microbiology*.

**Immunology**

*John Lammert, Gustavus Adolphus College*

SATURDAY, JUNE 4, 3:00 PM, 1462CR, ROOM 100C

SUNDAY, JUNE 5, 11:00 AM, WHITEHEAD AUDITORIUM

An intricate interplay of proteins and cells continually stand guard in our bodies, ready to eliminate invading microbes. At the front line is innate immunity. Cells and proteins must distinguish between self and not-self, friend or potential foe. Invaders must be detected and destroyed. This session will review some recent perspectives of innate immunity, including pattern-recognition receptors on phagocytes (particularly Toll-like receptors), inflammatory cytokines, antimicrobial peptides that defend mucous membranes, and programmed cell death of infected cells.

**John M. Lammert**, a member of the Department of Biology at Gustavus Adolphus College, St. Peter, MN, teaches two microbiology courses, an upper-level course for majors and a general education course for non-majors, including nursing and pre-pharmacy; an upper-level immunology course, animal cell culture, and introductory biology. He received his BA in mathematics from Valparaiso University and his PhD in immunology from the University of Illinois-Medical Center, Chicago. He has served the membership of ASM as the first chair of Division W (Microbiology Education), as a member of the Council as counselor-at-large, as a member of the Undergraduate Education Committee, and as a member of several planning committees for these conferences. Lammert received the Edgar M. Carlson Award for Distinguished Teaching at Gustavus (1988). His research focuses on the anti-inflammatory effects of phenytoin, an anti-epileptic medicine.

**The Nursing Curriculum**

*Jackie Reynolds, Richland College*

SATURDAY, JUNE 4, 2:00 PM, 1462CR, ROOM 308

SUNDAY, JUNE 5, 11:00 AM, 1462CR, ROOM 308

Many nursing programs do not require a stand-alone microbiology course for students entering (or already admitted) a nursing program. Some nursing programs have eliminated the microbiology requirement, preferring, instead, to teach major microbiological concepts within nursing courses. Microbiologists are rather taken aback by these developments, considering that epidemiology, infectious disease, and aseptic techniques are an important part of a nurses’ training and, after graduation, in their day-to-day jobs.

This session looks at the present (and potential) shift in the way that nurses and nursing programs view the necessity of microbiology courses (and the content). We will examine microbiological concepts that nursing programs want their students to know (both for associate and baccalaureate programs). In addition, information on prerequisite changes in nursing programs across the U.S. will be presented.

*Jackie Reynolds*, M.S., A.S.C.P. has taught at Richland College for 20 years, having previously been a clinical microbiologist. In addition, she works as a research microbiologist for Abbot Laboratories.

**Symbiosis in the Classroom: A New Paradigm for the Biology Curriculum**

*Benjamin Wise, Keene State College, Lorraine Olendzenski, St. Lawrence University and Betsey Dyer, Wheaton College*

SATURDAY, JUNE 4, 2:00 PM, 1462CR, ROOM 101

SATURDAY, JUNE 4, 3:00 PM, 1462CR, ROOM 101

Symbiosis (classically defined as "the intimate living together of two or more differently named organisms"), and especially symbiosis involving microorganisms, is becoming recognized as one of the central organizing principles of biology, playing a fundamental role in ecology and evolution, and redefining the meaning of the "individual" organism; yet in biology courses, symbiosis tends to be relegated to a secondary topic, either as part of the "host-parasite" discussion, or in reference to a few scattered
examples of exceptional interest. Our panel will address two related themes: Why symbiosis deserves greater focus and emphasis in the biology curriculum, and how it can be more appropriately incorporated into new and existing courses, with examples. (See also the related Preconference Workshop: Symbiosis in the Lab: Microbes as Symbionts)

Benjamin Wise earned his PhD at Yale University in 1965 studying morphogenesis in ciliates, under the late Earl Hanson. After a two-year postdoctoral with Hewson Swift at the University of Chicago, he began a teaching career which is just now concluding with his retirement from Keene State College on June 30 of this year! During a 40+ year career, he has been privileged to teach a wide variety of courses in biology, culminating in courses in microbiology and symbiosis during the past decade. His interest in symbiosis was especially inspired and deepened during a sabbatical semester with Lynn Margulis at UMass-Amherst in 1997, which included taking her course in Symbiosis at MBL, Woods Hole, MA. Although retiring, Ben is not shy: he has organized this program to reflect his conviction that symbiosis is “the new paradigm” for understanding organisms in their real context in ecology and evolution.

Lorraine Olendzenski is an Assistant Professor in the Biology Department of St. Lawrence University where she teaches microbiology, genetics and introductory biology. Her research interests include the role of horizontal gene transfer and symbiosis in microbial evolution, the evolution of early eukaryotes and astrobiology. She uses molecular phylogenies to examine the evolution and diversity of both eukaryotic and prokaryotic microbes and is currently studying eukaryotes associated with rock varnish and anaerobic sediments. She also serves as the course director for Living in the Microbial World, a workshop for middle and high school teachers at the Marine Biological Laboratory, Woods Hole, MA.

Betsey Dexter Dyer earned her PhD in the laboratory of Lynn Margulis at Boston University. For the last twenty years she has taught cell biology, genetics, and parasitology at Wheaton College in Norton, MA. She is the author of *Tracing the History of Eukaryotic Cells* (with husband, Robert Obar) and *A Field Guide to Bacteria*. Her research interests include symbiosis, with a focus on termite microbes, and genomic analyses of intergenic regulatory sequences.

Jessica Bell received her undergraduate degree for Gustavus Adolphus College, Minnesota, her Ph.D from the Biochemistry Department at the University of Minnesota and after a Post Doctoral fellowship at the University of California San Francisco with Dr Charles Craik. She is working at the National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases with Dr David Davies in the Structural Biology Group, Section on Molecular Structure. Research interests include understanding the molecular

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**Teaching Bioinformatics and Structural Genomics**

Jessica Bell, NIDDKD, NIH and Ellis Bell, University of Richmond

**SATURDAY, JUNE 4, 3:00 PM, 1462CR, ROOM 109**

**SUNDAY, JUNE 5, 11:00 AM, 1462CR, ROOM 123**

Bioinformatics is an increasingly broad subject, addressing issues of the types of information that can be computed from sequence, either nucleic acid or protein. In the last decade or so many algorithms have been developed to “mine” data from sequence data bases. The session will explore the types of information that can be obtained from both protein and nucleic acid sequence data and how simple exercises can be used to teach both bioinformatics and fundamental biochemistry and molecular biology. Increasingly as bioinformatics enters the proteome world, the tools of bioinformatics are being used in proteomics analysis and the interpretation of experimental data. The second part of the session will focus on the use of bioinformatics tools available to maximize the information obtained experimentally from Array Analysis, 2D Electrophoretic analysis of expressed proteins, and mass spectrometry. One of the overall goals of bioinformatics is to obtain structurally relevant information from sequence data. As evidenced by structural genomics being a major highway on the National Institutes of Health Road Map, the experimental and bioinformatics approaches used in structure determination and analysis are playing an increasingly important role in the molecular life sciences. The final part of the session will illustrate the approaches used in homology modeling and how the interface between bioinformatics and structural biology can be introduced into the classroom. All of the materials necessary for the session and the various programs and examples that will be used are available in a web site that will be made available through “Enzymatic”, the electronic newsletter of the Undergraduate Affiliates Network of the American Society for Biochemistry and Molecular Biology.
mechanisms involved in signaling in the innate immune response, mechanisms of proteases and protease inhibition by macromolecular inhibitors and structure function relationships in oligomeric dehydrogenases.

Ellis Bell has undergraduate and graduate degrees from Oxford University and is currently the Floyd D & Elisabeth S Gottwald Professor of Chemistry at the University of Richmond, Richmond Virginia, and is chair of the Education and Professional development Committee of the American Society for Biochemistry and Molecular Biology. Research interests include the mechanisms of hydride transfer and proton abstraction in dehydrogenases and allostERIC regulation of oligomERIC dehydrogenases. Dr Bell is the Editor of “Enzymatic” and an Editorial Board Member for Biochemistry and Molecular Biology Education.

**Virology**

*Erica Suchman, Colorado State University*

**SATURDAY, JUNE 4, 3:00 PM, WHSCAB AUDITORIUM**

**SUNDAY, JUNE 5, 11:00 AM, 1462CR, ROOM 230**

In this session we will discuss the latest developments in virology, as well as potential new ways to teach virology that are available in the ASM MicrobeLibrary (www.MicrobeLibrary.org). By the end of this session participants will be familiar with the latest discoveries in virology, as well as the resources for virology available in the MicrobeLibrary.

Dr. Erica Suchman is an Associate Professor in the Department of Microbiology, Immunology, and Pathology, at Colorado State University. She received her PhD in Molecular Biology and Biochemistry at the University of California, Irvine in 1997. She is a member of the Arboviral Infectious Disease Labs (AIDL) where she studies dengue viruses' effects on *Aedes aegypti* mosquitoes, and their potential as biological control agents. She teaches general Microbiology, Molecular and Medical Virology, Virology and Cell Culture Lab, and Service Learning Capstone Microbiology courses. She is currently the chair of the Committee on Technology-Enhanced Education, and a member of the Education Board of the American Society for Microbiology.

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**Assistant Professor in Microbiology (non-tenure track)**

**Department of Botany and Microbiology**

**University of Oklahoma**

The Department of Botany and Microbiology at the University of Oklahoma invites applications for a non-tenure track Assistant Professor position, beginning Fall, 2005. This is an academic year (9 month) renewable term appointment with an initial term of four years. The successful candidate will have primary responsibility for our Introductory Microbiology courses. The position has a creative/research component, which could be in Microbiology or Science/Biology Education. Candidates must have a Ph.D. in Microbiology or a related field, and a record of excellent teaching. Applicants should submit a curriculum vitae, a description of teaching experience and philosophy, and arrange for submittal of three letters of recommendation to Dr. Gordon Uno, Chair, Department of Botany and Microbiology, University of Oklahoma, 770 Van Vleet Oval, Norman, OK 73019. No email applications will be accepted, however, questions about the position may be directed to Dr. Uno at guno@ou.edu. Review of applications will begin July 1 and continue until the position is filled. More information about the Department may be obtained at: http://www.ou.edu/cas/botany-micro. The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.
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