



IBASM NEWSLETTER

January 2007

Volume 9, #1

Message from the President — Dominique Galli

Dear IBASM Members,

First of all, let me wish you a Happy New Year 2007! In the last couple of months we have been very busy putting the next annual spring meeting together. To attract new members to our society and the annual meeting, a poster has been designed to announce the spring meeting. The poster (see page 5) has been mailed to all colleges and universities in the state for display. This marketing effort combined with the location of the spring meeting at Turkey Run State Park will hopefully draw students and faculty from Purdue University and the University of Illinois at Urbana-

Champaign. As mentioned in our last newsletter, we have invited several speakers. Our ASM Branch Lectureship Speaker (formerly Waksman Foundation Speaker) is David E. Briles, Professor of Microbiology. Dr. Briles hails from the University of Alabama at Birmingham, where he has been working on the molecular biology and genetics of bacterial pathogenesis since 1978. The title of his talk will be “The Interaction of *Streptococcus pneumoniae*, PspA, and Lactoferrin”. In addition, Cindy H. Nakatsu, Professor of Agronomy and member of the Life Sciences program at Purdue



University, will give a presentation on “Trials and Tribulations of Entering the “-omics” World”. In her talk she will discuss her experiences as a microbial ecologist embarking into the world of genomics and proteomics in order to understand environmentally relevant bacteria. Both topics promise to be

See *D. Galli*—page 2

Inside this issue:

| | |
|-------------------------------------|-----|
| Message from the President | 1-2 |
| Message from the President-Elect | 1-2 |
| IBASM Meeting Agenda (Tentative) | 3 |
| Meeting Registration Form | 4-5 |
| Meeting Poster | 5 |
| Meeting Abstract Form | 6 |
| ASM Tipsheets | 7-8 |
| Judging Categories | 9 |
| Membership Application/Renewal Form | 10 |
| IDEM Internship Announcement | 11 |
| Important Dates | 12 |

Points of Interest

- The next annual IBASM meeting is from April 20-22nd at Turkey Run State Park.
- Registration form is due by March 15th and abstract form is due by March 20th.
- Governor’s summer internship information is available at www.jobs.in.gov.

Message from the President– Elect — John McKillip



Happy New Year! I hope everyone’s new semester is off to a smooth start. As we all look ahead to our upcoming Spring meeting in April, you will no doubt notice the changes to the program that Dominique also mentions in her article. These changes to the IBASM annual meeting

program and poster/oral session modifications are the result of multiple discussions centered around increasing attendance from students and post-docs. Having a larger pool of poster and

See *J. McKillip*—page 2

D. Galli's message (continued from page 1)

interesting and informative. Our third scheduled speaker will be this year's winner of the IBASM Teaching Award.

If you take a close look at the meeting's agenda on page 3, you will notice a few changes compared to previous years. In an effort to increase the scientific content of the meeting, the number of oral presentations given by students/postdoctoral fellows was increased. Furthermore, the poster session underwent a makeover. The judging session will be open to competing students and judges only. All other participants will get an opportunity to visit the posters and interact with the presenters once the judging has been completed. Registration material has been sent to you and can also be found in this newsletter and our website. Please see John McKillip's article for all the details.

I do hope that you are as excited as I am about the upcoming meeting and that you will join us at Turkey Run State Park.



J. McKillip's message (continued from page 1)

oral presenters sets a precedent for IBASM, as well as a positive example for new members. And on this note, our program changes are also geared towards recruitment of new student (and faculty) IBASM members for this Spring and in future meetings.

On the updated registration form (posted on the IBASM website: <http://users.ipfw.edu/merkel/IndianaASM.html>), and on pages 4 & 5 of this issue, please note that the completed registration forms are due to me by March 15th, and that a late fee is now an option in order to encourage all presenters to be proactive and submit early. Also, member and non-member registration fees

are now split into separate options on the form. Turkey Run State Park has a number of lodging options, but only a limited number of each will be available, so plan ahead when registering. If you should have any questions about the updated registration form, or about the meeting itself, please don't hesitate to email me and I will respond quickly.

In other news, the 2008 IBASM meeting will be held jointly with the Ohio Branch of ASM; this meeting will be held on the campus of Ball State University. The next newsletter will have many more details of this meeting, that will be exciting for many reasons. I am now plan-

ning the details and logistics of this event, and am looking forward to what promises to be a very well-attended and diverse program of activities.

I hope you are planning on attending the 2007 General Meeting in Toronto, as well. This is the first time ever the General Meeting will be held outside of the United States, and yet as always, is an outstanding venue for students to gain invaluable experience presenting, networking, and learning from others in their sub-discipline.

Looking forward to seeing you all in April at Turkey Run!

2007 Annual Meeting of the IBASM

Turkey Run State Park

Tentative Meeting Agenda

Friday, April 20th

| | |
|-----------------|-------------------------------|
| 4:30 – 6:00 PM | Registration |
| 5:30 – 6:30 PM | Dinner |
| 6:45 – 7:45 PM | Student/Post-doc speakers (3) |
| 7:45 – 8:00 PM | Short break |
| 8:00 – 9:00 PM | David E. Briles |
| 9:00 – 11:00 PM | Social |

Saturday, April 21st

| | |
|------------------|---------------------------------------|
| 7:30 – 8:30 AM | Breakfast |
| 8:30 – 10:00 AM | Poster judging / Registration |
| 10:00 – 11:30 AM | Official poster viewing |
| 11:30 – 12:00 PM | Business meeting |
| 12:00 – 1:00 PM | Lunch |
| 1:00 – 3:00 PM | Student/Postdoc speakers (6) |
| 3:00 – 5:30 PM | Free time |
| 5:30 – 6:30 PM | Dinner |
| 6:45 – 7:45 PM | Cindy H. Nakatsu |
| 7:45 – 8:00 PM | Announcement of student award winners |
| 8:00 – 9:00 PM | Winner of IBASM Teaching Award |
| 9:00 – 11:00 PM | Social |

IBASM Annual Meeting Registration & Room/Meal Reservation Form

April 20 – 22, 2007

Turkey Run Inn – Turkey Run State Park

Please use this 2-paged form to register for the IBASM meeting and reserve your room and meals at the Turkey Run Inn. The meeting registration fee is **\$25** for regular members and **\$5** for students. Remember, participants must be IBASM members to attend the meeting. Families are encouraged to come and, of course, they will not have to pay any registration fees. Please provide all of the requested information and **e-mail (or mail)** this form to John McKillip (jlmckillip@bsu.edu) no later than **March 15, 2007**. **Registrations received after March 15th will be subject to a \$7.00 late fee (regular members) or a \$4.00 fee (student members).**

Please fill out the appropriate spaces and check all boxes that apply. If you have any questions contact John McKillip at (765) 285-8820, or send an e-mail to jlmckillip@bsu.edu.

Name # Adults # Children

Address

Phone Fax E-mail

Please indicate which sessions you plan to attend:

- I will attend the Friday evening session
- I will attend the Saturday morning session
- I will attend the Saturday evening session

If you are a student presenter, do you request travel assistance?

- Yes
- No

LODGING

Please reserve a room with your registration. You will not be charged any room tax if you reserve through IBASM. **Room cancellations will be accepted no later than noon on March 15, 2006** (notify John McKillip by email for cancellations). Payment for lodging will need to be sent with your registration fee. Alternatively, you can call Turkey Run Inn directly and make your own reservations (toll-free 1-877-500-6151). You will pay the lodge directly when you check out. A room tax will be added to your room bill. See newsletter for further details on lodging & meal options.

If you reserve a room through the IBASM, please select the type of room you want to reserve:

- Double (1 double bed) - \$49.00/night
- Double/Double (2 double beds) - \$64.00/night
- Cabin
- Queen-Queen (two queen beds) - \$79/night
- Studio (two double beds, one pullout couch) - \$89/night
- Studio Conference (one double bed, two pullout couches) - \$89/night

There is only a limited number of rooms available for each type. The rooms will be assigned on a first come first served basis.

Name of room mate(s) if applicable:

If more than one person occupies a room, who will submit payment for the room?

| | | | |
|--|---------------|-----------------|---------------|
| Registration | | | |
| Member (\$25) | | | \$ |
| Student (\$5) | | | \$ |
| | Friday | Saturday | Sunday |
| # of rooms (\$59-89/night; see page 1) | | | ----- \$ |
| # of adult meals | | | |
| Breakfast (\$ 10.04) | ----- | | \$ |
| Lunch (\$ 12.38) | ----- | | \$ |
| Dinner (\$17.06* or 13.55) | | | \$ |
| # of children's meals** (age 4-12) | | | |
| Breakfast | ----- | | \$ |
| Lunch | ----- | | \$ |
| Dinner | | | \$ |
| Late fees (if any) | | | \$ |
| Total Enclosed | | | \$ |

*Friday dinner is a seafood buffet.
 **Children's breakfast & lunch = free if ages 0-4y; \$0.50 per year of age between 5-10 years. Children's dinner = \$0.70 per year of age between 5-10 years.

A check payable to "Indiana Branch ASM" for the total costs of registration, lodging and meals must be sent by mail by Monday, **March 15, 2006** to:

John L. McKillip
 Ball State University
 Department of Biology
 CL121
 Muncie, IN 47306





Join us at the
2007 SPRING MEETING
of the
Indiana Branch
of the
American Society for Microbiology

April 20 - 22, 2007
Turkey Run State Park
Marshall, IN



Guest speakers include
David E. Briles, UAB, and Cindy H. Nakatsu, PU

Students presenting their research can compete for awards at the undergraduate, MS, and PhD level. Travel support is available for student presenters.

For more information please contact
John McKillip at jlmcillip@bsu.edu
 or visit: <http://users.ipfw.edu/merkel/IndianaASM.html>

ABSTRACT FORM FOR THE 2007 IBASM ANNUAL MEETING

Complete this form and submit by **March 20** to: Dr. Jim Mitchell, Department of Biology, Ball State University, Muncie, IN 47306-0440. **ELECTRONIC SUBMISSIONS ARE PREFERRED** (e-mail abstracts to: jkmitchell@bsu.edu). Abstracts should be prepared according to the National ASM guidelines. All abstracts should include the title, authors, and institutional address. Abstracts will be published in the meeting program as submitted. Limited funding will be available to subsidize lodging and food for student presenters (see registration form).

Name and mailing address of presenting author:

| | |
|----------------|---------------|
| Name | Phone |
| Address | Fax |
| | E-mail |

Subject Category

(i.e. pathogenesis, DNA viruses, etc.)

Are you a student presenter? Yes or No (check one)

Oral and/or Poster presentation (check appropriate boxes)

If you are not selected for an oral presentation, are you willing to present a poster? Yes No Does not apply

Check if presenting author is a student competing for:

High school Undergraduate M.S. Graduate or Ph.D. Graduate Student Award (a short paper is required from the award winners). If left blank student will not be judged in competition.

Check if presenting student will also be presenting at the ASM general meeting:

Are you competing for the national travel award to the 2007 ASM general meeting in Toronto? : Yes No

ABSTRACT

Highlights from the Journals of the ASM, **November 2006** (from ASM Tipsheet)

New Treatment Using Human Antibodies to Target Harmful Toxins May Protect Against *C. difficile*

A new therapeutic method using human antibodies to neutralize toxins was found to prevent *Clostridium difficile*-induced death in hamsters say researchers from New Jersey and Massachusetts. They report their findings in the November 2006 issue of the journal *Infection and Immunity*.

C. difficile is the leading cause of nosocomial antibiotic-associated diarrhea, often resulting from the administration of antibiotics such as clindamycin, ampicillin, or cephalosporins. *C. difficile* associated diarrhea (CDAD) affects approximately 300,000 patients per year in the U.S. alone. Treatment available to date includes discontinuation of the antibiotic causing the illness as well as administration of medication such as metronidazole or vancomycin. Although both methods offer initial relief, there is currently a 10 to 20% relapse rate among patients. Due to the recent emergence of more virulent *C. difficile* strains, in addition to increasing vancomycin resistance, researchers are focusing on new treatments and relapse prevention therapy. In the study mice were used to isolate human monoclonal antibodies (HuMAbs) capable of neutralizing *C. difficile* toxins A and B. Researchers then tested anti-toxin A HuMAb CDA1 alone and in conjunction with anti-toxin B HuMAb MDX-1388 for the ability to protect hamsters from *C. difficile*-induced death and relapse prevention. Results showed that combination therapy reduced mortality from 100% to 45% in the primary disease model and from 78% to 32% in the relapse model.

“These human and animal studies, taken together, demonstrate the relevance of toxin-reactive antibodies in disease outcomes,” say the researchers. “Here we describe the characterization of a panel of neutralizing, fully human monoclonal antibodies (HuMAbs) directed against either toxin A or toxin B. HuMAb CDA1 (against toxin A) alone could protect hamsters from mortality, but significantly enhanced protection was observed when the antibodies were administered as a combination therapy.”

G.J. Babcock, T.J. Broering, H.J. Hernandez, R.B. Mandell, K. Donahue, N. Boatright, A.M. Stack, I. Lowy, R. Graziano, D. Molrine, D.M. Ambrosino, W.D. Thomas, Jr. 2006. Human monoclonal antibodies directed against toxins A and B prevent *Clostridium difficile*-induced mortality in hamsters. *Infection and Immunity*, 74. 11: 6339-6347.)

Novel H3N1 Swine Influenza Virus Identified in Pigs in Korea

For the first time, researchers from the U.S. and abroad have identified the H3N1 swine influenza virus in domestic pigs in Korea. They report their findings in the November 2006 issue of the *Journal of Clinical Microbiology*.

A highly infectious respiratory pathogen, the H3N1 influenza A virus is a new genetic reassortment of influenza viruses first identified in pigs in the U.S. in 2004. The virus can be found in birds and mammals (including humans and pigs), but is not generally transmissible between birds and humans. Pigs are believed to be susceptible to both origins resulting in them being deemed “mixing vessels” for the virus and ultimately reinforcing concerns of zoonosis and pandemic outbreaks.

In March and April of 2006 researchers isolated H3N1 influenza A viruses in pigs with respiratory diseases at two commercial swine farms in Korea. Further testing confirmed the H3N1 viruses presenting were reassortments of an H3 human-like virus and other genes from swine influenza viruses and that pig-to-pig and farm-to-farm transmission had occurred. Additionally, analysis of experimentally infected mice suggested the potential to transmit the virus between pigs and other mammalian hosts.

“We report here the first isolation and characterization of H3N1 swine influenza viruses from pigs with respiratory disease in Korea,” say the researchers. “Given the evidence that pigs can support the reassortment of influenza viruses from humans and other species, it is prudent that we enhance surveillance for atypical influenza viruses in pigs as part of overall pandemic preparedness efforts.”

(J.Y. Shin, M.S. Song, E.H. Lee, Y.M. Lee, S.Y. Kim, H.K. Kim, J.K. Choi, C.J. Kim, R.J. Webby, Y.K. Choi. 2006. Isolation and characterization of novel H3N1 swine influenza viruses from pigs with respiratory diseases in Korea. *Journal of Clinical Microbiology*, 44. 11: 3923-3927.)

Highlights from the Journals of the ASM, **December 2006** (from ASM Tipsheet)

New Test May Allow for Rapid Detection of the Smallpox Virus

Researchers from Spain have developed a new test that may rapidly detect the variola virus, the etiological agent of smallpox, as well as differentiate it from other orthopoxviruses while avoiding false-negative results. Their findings appear in the December 2006 issue of the *Journal of Clinical Microbiology*.

Smallpox, one of the most serious and deadly diseases in the history of mankind, is attributed to the variola virus (VARV). Belonging to the orthopoxvirus genus, humans are the only known reservoir and despite its eradication in 1980, smallpox is currently considered to pose major risk as a biological weapon.

In the study researchers used a specific probe to detect the variola virus and simultaneously differentiate it from other orthopoxviruses using a real-time genome amplification test based on TaqMan 3'-minor groove binder. A series of tests utilizing this method regularly detected 100 copies of variola virus DNA while avoiding false-negative results.

"The results obtained suggest that the assay is rapid, sensitive, specific, and suitable for the generic detection of orthopoxviruses and the identification of variola virus and avoids false-negative results in a single reaction tube.

(C.G. Fedele, A. Negredo, F. Molero, M.P. Sanchez-Seco, A. Tenorio. 2006. Use of internally controlled real-time genome amplification for detection of Variola virus and other Orthopoxviruses infecting humans. *Journal of Clinical Microbiology*, 44. 12: 4464-4470.)

Novel Peptide Targets Viral Cells and May Inhibit Influenza Virus Infection

Researchers from the University of Wisconsin have identified a novel antiviral peptide that may inhibit influenza viruses including the H5N1 strain. They report their findings in the December 2006 issue of the *Journal of Virology*.

Influenza A viruses are associated with approximately 31,000 annual deaths in the U.S. alone and currently pose a serious health threat throughout many parts of the world. Yearly vaccinations are the primary method of protection, however antiviral therapy plays an important role in treatment and transmission control. Although two classes of antiviral drugs are currently available, the H5N1 strain has demonstrated resistance in recent testing.

In the study researchers tested the newly identified peptide, EB (entry blocker), for antiviral activity against influenza viruses including the H5N1 strain in mice. Results showed the peptide capable of inhibiting viral attachment to the cellular receptor ultimately preventing infection.

"This novel peptide has potential value as a reagent to study virus attachment and as a future therapeutic," say the researchers.

(J.C. Jones, E.A. Turpin, H. Bultmann, C.R. Brandt, S. Schultz-Cherry. 2006. Inhibition of influenza virus infection by a novel antiviral peptide that targets viral attachment to cells. *Journal of Virology*, 80. 24: 11960-11967.)

Categories to be Judged in Student Poster Competition

Students will be judged in 5 categories:

Professional Appearance (*New Category!*): Jeans and sweat pants are unacceptable; torn, dirty, or frayed clothing is unacceptable. Business casual dress is the standard for this dress code. (20 points)

Scientific thought: Is there a clear hypothesis? Are the goals of the study defined? Were data correctly analyzed? Were statistical analyses performed? Did a logical conclusion result? (20 points)

Creativity: Was the topic original? Is there anything new in the approach to answering the question? Were new methods developed? (20 points)

Thoroughness: Was the study as complete as possible? Does the student understand the background material? Was there an introduction? Is the student aware of the drawbacks of the study? (20 points)

Presentation (poster): Were the results/conclusions clearly presented? Was the student's verbal expression clear and concise? Was the student able to answer questions? How well did the poster convey the information? (20 points)

Abstract submission form/procedure is included in another portion of this newsletter. We will be utilizing 4x4 sq.ft. tri-fold styrofoam poster boards and each student is limited to one board. Tacks will be supplied but it wouldn't hurt to bring some extras in case we run short. You may participate in both oral (limited # of time slots available) and poster sessions but you will only be judged in poster competition for an award. Awards will be presented in the following divisions: High School, Undergraduate, MS graduate and Ph.D. graduate. Post-Doctoral Fellows are welcome to participate in either session but are not eligible for award competition.

2007 Membership Application/Renewal

It is time to pay your IBASM dues for 2007 (or to pay for 2006 if you are a bit late...). You can do it now either online when you pay your dues to the ASM National Organization (www.asm.org) or by using this form. Dues are \$15.00 for non-students and \$5.00 for students (per year). Please return the completed form with check, payable to IBASM, to

Dr. Christian Chauret
Biological and Physical Sciences
Indiana University Kokomo
2300 South Washington Street
Kokomo, IN 46904-9002
Phone: (765) 455-9290; Fax: (765) 455-9371; email: cchauret@iuk.edu

Please check:

New Member Application
 Renewal for 2007

and

Student Member for 2007 (\$ 5)
 Full Member for 2007 (\$15)

Name:

Current Position & Title:

Institution:

Mailing Address (new address Yes/No) :

Phone:

Email:

Fax:

National ASM Member #:

Background

Highest Degree:

Institution:

Professional Interests:



2007 Indiana Governor's Summer Internship Program at the Indiana Department of Environmental Management (IDEM)

27 Governor's Summer Internships positions within IDEM are posted as vacancies on the state e-recruit website.

How to Apply: Students may apply online at www.jobs.in.gov.

Deadline: Applications should be received by February 16, 2007.

Qualifications: To be considered, students must currently be enrolled in an accredited college or university and have completed at least one full year of college-level education.

Salary: \$11.12 per hour

Dates: The summer program will run from May 14, 2007 to September 14, 2007.

Information on IDEM can be accessed at :

<http://www.in.gov/idem/>

Important Dates

- March 15 2007:** Completed registration form due for the IBASM meeting to jlmckillip@bsu.edu
- March 20, 2007:** Completed abstract form due for the IBASM meeting to jkmitchell@bsu.edu
- April 20-22, 2007:** Annual IBASM meeting at Turkey Run State Park
- May 21-25, 2007:** 107th Annual Meeting of the ASM, Toronto, Canada

2006-2007 IBASM OFFICERS

Dominique M. Galli, President. Department of Oral Biology, Indiana University School of Dentistry, Indianapolis, IN 46202. Phone: (317) 278-1936; e-mail: dgalli@iupui.edu

John McKillip, President-Elect: Department of Biology, Ball State University, Muncie, IN 47306. Phone: (765) 285-8830; e-mail: jlmckillip@bsu.edu

Christian Chauret, Secretary/Treasurer. Department of Biology, Indiana University Kokomo, Kokomo, IN 46904. Phone: (765) 455-9290; e-mail: cchauret@iuk.edu

Jeanne K. Barnett, Councilor. Department of Biology, University of Southern Indiana, Evansville, IN 47712. Phone: (812) 464-8600; e-mail: barnett@usi.edu

Jim Mitchell, Alternate Councilor & Educational Representative. Department of Biology, Ball State University, Muncie, IN 47306. Phone: (765) 285-8820; e-mail: jkmitchell@bsu.edu

Shivi Selvaratnam, Newsletter Editor. Office of Water Quality, Indiana Department of Environmental Management, Indianapolis, IN 46219. Phone: (317) 308-3088; e-mail: sselvara@idem.in.gov