

USFCC Newsletter

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Message From The President

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The code of nomenclature for prokaryotes provides an elegant framework for the naming of prokaryotes and the dissemination of the names. One-stop shopping for new names is

accomplished by accessing the International Journal of Systematic and Evolutionary Microbiology (IJSEM), or the derived on-line databases. The IJSEM Instructions for Authors are very clear and comprehensive, containing many useful elements to guide prospective authors. A requirement for publication of a new name in IJSEM is the deposition of the type culture in at least two public collections. The rule as stated in the International Journal of Systematic and Evolutionary Microbiology, Instructions for Authors (revised 22 August 2003) (<http://ijs.sgmjournals.org/misc/ifora.shtml>), is:

“Type strains of cultivable species must be deposited in at least two or more public culture collections from two or more countries and accession numbers must be provided. An extensive listing of culture collections is available on-line.”

The above provides a link to an excellent list of public culture collections. Not given are criteria defining a “public” culture collection. Further, as is well known, many cultivatable species require special conditions for their propagation.

The requirement for two depositions slows publication, and may inhibit further studies in some categories of prokaryotes. Consider the following case study (the names are omitted to protect the innocent):

A manuscript on taxonomy of mollicutes elicited rejection by IJSEM because of the singular deposit of the type cultures in a “public” culture collection (ATCC). Requests for deposition in five other collections met with regrets on their collections’ inability to properly access and manage the mollicutes. The reasons varied from lack

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Neurospora crassa

Image From Fungalcell.org
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USFCC Culture Collection Workshop

President Micah Krichevsky organized a culture collection workshop for the Annual Meeting of the American Society of Microbiology (ASM). The workshop was held at Gallaudet University, Washington D.C., May 17-18, 2003. The program, entitled "Concepts for Establishing and Operating a Microbial Culture Collection," covered the topics of growing and preserving cultures, patent cultures, biosafety, culture distribution, information management and sources of information on culture collections. The latter two topics had hand-ons practice.

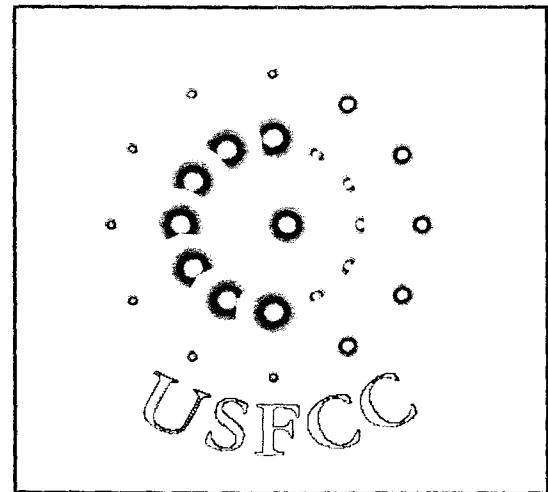
The faculty for the workshop were USFCC members Micah Krichevsky, Gina Koenig, Mary Meeker, Marianna Jackson, Tanya Kuritz and facilitator Lindsay Sutherland. Also included was guest speaker Jesus V. Soriano, from ATCC who spoke on Material Transfer Agreements.



Confocal image showing tip-growing and branched, multinucleate hyphae of *Neurospora crassa*. The nuclei are shown in green (nuclear-targeted GFP) and membranes, especially the plasma membrane and secretory vesicles, are shown in red (stained with FM4-64) (Hickey, Freitag, Selker & Read, unpublished)



USFCC Workshop Staff (left to right):
M. Jackson, J. Soriano, M. Krichevsky, T. Kuritz,
G. Koenig, M. Meeker



USFCC Logo

Many thanks to Vanessa Abadi who designed the new USFCC logo. Ms. Abadi studies graphic design at Savannah School of Art and Design and volunteered her time in creating the first USFCC logo.

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of funds to lack of appropriate expertise. One of these collections suggests a sixth collection that agreed to accept the deposit on a one-time basis, and thus the authors solved the immediate problem.

The future of mollicute taxonomy, in the context of the official system, remains murky.

The mollicute taxonomy problem is not unique. Cynobacteria taxonomy encounters similar roadblocks, as stated in an email from the IJSEM. Studies of bacteria from "exotic" sites, many with specialized growth requirements, can only exacerbate the problem.

Attempts to publish on the taxonomy of such organisms may end in frustration, leading to cessation of traditional taxonomic studies of such organisms. Yet another possibility is that extra-code publication of names will replace publication in the IJSEM. Such publication already occurs in the sequence databases. Searching for the nearest match sometimes yields binomial names not found in the IJSEM. Will such names ever find their way into the official list? Who knows!

I assume the reason for the Two Deposition Rule is to "ensure" the availability of type strain. Other factors may, of course, inhibit access, such as import restrictions, quarantine laws, and price, even demise of the culture collection, etc. The goal is laudable, provided it is practical.

Possible mitigating strategies exist. One, that is unrealistic, is requiring the large service collections to establish facilities for the accession of all possible categories of prokaryotes.

The Two Deposition Rule could be relaxed where the authors have demonstrated a good faith effort to deposit the second type culture in some number (5?) of "approved" collections.

The deposition of "difficult" prokaryotes would benefit from a database of the allowable depositions categorized by organism groups.

Surely other solutions to the problem exist. Send your suggestions and other comments to me at: micahk@bioint.org

Acknowledgment: I thank Joe Tully, first recipient of the J. Roger Porter Award, for his contributions to this article.



In Memoriam Ruth Evelyn Gordon (1910-2003)

Hubert Lechevalier and Phyllis Pienta

Ruth E. Gordon was born in Richmondville, NY, on August 30, 1910. She died in her sleep at her home, in Montgomery Village, MD, on the morning of January 1, 2003. She was an internationally respected bacterial taxonomist specializing in two groups of industrially and medically important organisms, the bacilli and the actinomycetes.

Ruth's early years were spent on the family farm. She attended Cobleskill High School from which she graduated as valedictorian in 1928. This led to the award of a New York State Fellowship to attend Cornell University where she majored in chemistry, receiving a B.A. degree in 1932. She remained at Cornell for graduate studies working on streptococci under the direction of James Sherman. By the time she received an M.A. in 1933 and a Ph.D. in 1934, her vocation as a bacterial taxonomist was firmly established.

The recently minted Dr. Gordon went to work for William H. Hagan at the Cornell Veterinary School studying the mycobacteria and nocardiae of cattle. This led to the examination of acid-fast bacteria in the soil and, eventually, to the study of actinomycetes in general, a subject in which Ruth became a leading expert.

In 1939, Ruth left Cornell for the Department of Agriculture in Washington, DC. Soon, she was working in Charles Thom's Division of Soil Microbiology. More specifically, she collaborated with Nathan R. Smith in a monumental study of bacilli. This led to the publication of a monograph of the genus *Bacillus* that went through three editions, 1946, 1950 and 1973, describing the phenotypic characteristics of the species in the genus *Bacillus*.

During the Second World War Ruth worked in the Army Medical Center on bacterial meningitis. From 1946 to 1950 she was at the American Type Culture Collection (ATCC). She was the curator of the whole collection when she was lured to Rutgers University by Selman A. Waksman to handle the bacterial collection of the Department of Microbiology at the College of Agriculture. When the Institute of Microbiology of Rutgers University opened its doors in 1954, Ruth was an associate professor. She was later promoted to the rank of professor.

It was during her stay at Rutgers University that Ruth did most of her work on *Actinomycetales*. During her entire career, Ruth was a bench worker, showing little

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inclination to be involved in administrative ventures. Her approach to taxonomy was strictly based on overall similarity of taxa, with special emphasis on biochemical and physiological properties. She did not use computers in her work because, as stated by Rita Colwell, "her head was a computer".

Upon her retirement in 1981, Ruth returned to the ATCC as a visiting investigator. She focused on evaluating the existing ATCC collections of nocardiae and mycobacteria, and proceeded to enhance the ATCC holdings by depositing strains that she had extensively studied at Rutgers. She examined ATCC strains of *Rhodococcus*, *Nocardia* and *Corynebacterium* and incorporated the data into the strain files. During this "retirement," she continued collaboration with many for Microbiology (ASM), the Society for General Microbiology and the Canadian Society of Microbiologists. She was Honorary President of the International Symposium on the Biology of Actinomycetes at Merida, Venezuela in 1974 and at Cologne, Germany, in 1979. She received the J. Roger Porter Award of the U.S. Federation for Culture Collections in 1983 and the Alice Evans Award of the ASM in 1992, recognizing her as an outstanding example to women in microbiology. A genus of nocardioform actinomycetes, *Gordona* was named in her honor.

On a personal level, Ruth Gordon was a formidable lady. She was tall, ramrod straight, somewhat intimidating and very opinionated. She would explain to the students taking her course in bacterial taxonomy that there were many ways of doing things but in her laboratory, one had to use *her* way. Once, she refused to write to a senator in support of an issue she favored because the senator was a Democrat. In taxonomy, she had made a vow that, in order not to add nomenclatural clutter, she would never describe a new taxon. As such, she was very good at digging forgotten names out of long forgotten journals. What did she do when she found a new taxon? She passed it on to a colleague. "Let him or her clutter the literature!"

Those who had the privilege of knowing Ruth Gordon found that she had a heart of gold. Moreover, she was a thoughtful, dependable, and loyal friend.

This tribute to Ruth Gordon was written by two of her colleagues for SIM News, July/August 2003, Vol. 53, No. 4. It is reprinted here with permission from the Society for Industrial Microbiology.

Ruth Gordon worked tirelessly for USFCC in its early years. She was instrumental in securing financial support for USFCC by obtaining many sustaining members. Ruth was the second recipient of the J. Roger Porter Award.



Overview of the New CDC Select Agent and Toxin Regulation: 42 C.F.R. Part 73

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Office of Terrorism Preparedness and
Emergency Response, Select Agent Program,
1600 Clifton Rd NE, Mailstop E-79, Atlanta,
GA 30333

INTRODUCTION

The Antiterrorism and Effective Death Penalty Act of 1996 (Public Law 104-132) was the first major comprehensive terrorism bill in the United States. Section 511 of the Act directed the Secretary of Health and Human Services (HHS) to promulgate regulations that identified biological agents and toxins that have the potential to pose a severe threat to public health and safety and that governed intentional or inadvertent transfer of biological agents or toxins. The final regulation (42 C.F.R. 72.6, Additional requirements for facilities transferring or receiving select agents) was published in October 1996 and became effective on April 15, 1997.

Historically, the Centers for Disease Control and Prevention (CDC) has had the responsibility for providing guidance to the research community for safely packaging and shipping biohazardous materials. This regulation resulted in a significantly expanded role for CDC by placing additional controls and oversight on facilities that transfer selected etiological agents and toxins that could be used by bioterrorists.

In the wake of the September 11th terrorist attack and the deliberate release of anthrax spores through the U.S. mail, President Bush signed the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002" (Public Law 107-188) on June 12, 2002. The purpose of this Act is to improve the capacity of the United States to prevent, prepare for and respond to bioterrorism and other public health emergencies and to enhance controls of dangerous biological agents and toxins. Section 201 of this Law requires the Secretary, HHS to regulate the possession use and transfer of biological agents or toxins deemed a severe threat to public health and safety. Likewise, Section 212 of the Law requires the Secretary, United States Department of Agriculture (USDA)

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to regulate the possession, use and transfer of biological agents or toxins deemed a severe threat to animal or plant health, or to animal or plant products.

The Law required that these regulations be promulgated as an interim final rule within 180 days after enactment and take effect 60 d afterward. Through a mandatory registration process, these interim regulations (42 C.F.R. Part 73; 7 C.F.R. Part 331; and 9 C.F.R. Part 121) will also meet the requirement of the Act to establish a national database and tracking system for select agent pathogens and toxins, as well as individuals authorized to have access to select agents or toxins. The Secretary, HHS, designated the CDC as the agency with primary responsibility for implementing the provisions of the Act with regard to human pathogens and toxins; whereas the USDA has designated the Animal and Plant Health Inspection Service (APHIS) with primary responsibility for implementing the provisions of the Act with regard to animal and plant pathogens and toxins. The new legislation expands on previous regulations (i.e., 42 C.F.R. 72.6) to include not only "possession," but "possession, use and transfer" of select agents and toxins. Also, in addition to ensuring that laboratories safely handle these select biological agents and toxins, the Act requires increased safeguards and security measures over these agents to include controlling access, screening of entities and personnel (i.e., security risk assessments), and establishing a comprehensive and detailed national database of registered entities. The Act also imposed criminal and civil penalties for the inappropriate use of select biological agents and toxins.

On December 13, 2002, HHS published an Interim Final Rule that established requirements regarding possession and use in the United States, receipt from outside the United States, and transfer within the United States, of select agents and toxins. Ultimately, the goal of these regulations is to ensure appropriate availability of biological agents and toxins for research, education and other legitimate purposes within the framework of a safe and secure environment.

Regulated entities include academic institutions and biomedical centers; commercial manufacturing facilities (the pharmaceutical industry); federal, state, and local laboratories; clinical and diagnostic laboratories, and research facilities.

Select agents and toxins described by the new regulations are categorized as HHS-only, overlap, and USDA-only agents (Table 1). "Overlap" select biological agents and toxins are those that appear in both CDC and APHIS regulations. Criteria for

determining if the agents were included in the list were specified in the Public Act and included: the effect on human, animal and plant health of exposure to the agent or toxin; the degree of contagiousness and the methods by which the agent is transferred or transmitted; and, the availability and effectiveness of pharmacotherapies and immunizations to treat and prevent any illness resulting from the agent.

Requirements set forth in this rule are registration, security risk assessments, safety plans, security plans, emergency response plans, training, transfers, record keeping, inspections, and notifications. The regulation is designed to establish a system of safeguards to be followed when specific agents are possessed, used, or transferred; collect and provide information concerning the location where certain potentially hazardous agents are located; track the acquisition and transfer of these specific agents; and establish a process for alerting appropriate authorities if an agent is lost, stolen, or if an unauthorized attempt is made to acquire these agents. These regulations also establish and enforce safety and security procedures for select agents and toxins, including measures to ensure proper training and appropriate skills to handle agents and toxins.

A critical element of the safety and security provisions limits access to personnel with a "legitimate need" and requires that entities provide names and identifying information of individuals seeking access to the Department of Justice. A security risk assessment is performed by the Federal Bureau of Investigation (FBI) for each entity (except federal, state and local government entities), the Responsible Official and alternate Responsible Officials (see below), and for persons the entity has identified as needing access to select agents and toxins. More information regarding security risk assessments may be found on the FBI website (<http://www.fbi.gov/hq/cjisd/cjis.htm>).

The regulations required all entities possessing select agents to submit an application for registration with HHS (HHS-only and overlap agents and toxins) or USDA (USDA-only and overlap agents and toxins) by March 12 February, 2003.

Each entity must have a responsible official (RO). A responsible official is an individual that acts on behalf of the entity and has the authority and control to ensure compliance with the regulations. The RO must be approved by the Department of Justice for access to select agents or toxins, and be familiar with the requirements of these regulations. An alternate RO may be designated to conduct these duties when the RO is unavailable. The RO and alternate RO must ensure compliance by developing and implementing safety, security and emergency response plans. In addition the RO allows only approved individuals

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to have access to select agents, and assures appropriate training for staff is conducted. The RO is also responsible for conducting yearly inspections and ensuring all record-keeping requirements are met.

Entities may not possess, use or transfer select agents and toxins without a certificate of registration from HHS or USDA. Currently there is no fee for registration with HHS or USDA. To apply for a certificate, an entity must complete a registration application. An application that covers HHS-only select agents or toxins must be submitted to the HHS Secretary; an application for USDA-only agents or toxins must be submitted to USDA. For overlap agents and toxins, an application may be submitted to either CDC or APHIS. The CDC and APHIS have established a single registration form and procedure for the registration of entities with overlap select biological agents and toxins. Regardless of which agency receives an application, concurrence from both agencies is required to grant or deny a certificate of registration for overlap agents. An application package and additional forms may be downloaded from the CDC website at <http://www.cdc.gov/od/sap>.

The registration is valid only for the specified select agents and toxins and the specific activities and locations provided on the application. Changes or modifications to the certificate can be made by the RO in writing to the agency that issued the certificate. Obtaining a new certificate of registration requires the submission of a new application.

Exemptions and Exclusions

Exclusion applies to biological agents and toxins that are of a form (or for toxins, an amount) that do not pose a threat to public health and safety. Entities may apply for an exclusion by submitting a letter to the HHS Secretary (see 42 CFR 73.21) or to the USDA Secretary (9 CFR 121) that provides information establishing that it is eligible for exclusion. Information should include at a minimum: strain, how strain was derived; how it is ascertained that it is avirulent, and all citation or pertinent data to support the request. In response to the request for exclusion, the HHS Secretary or the USDA Secretary (or both, for overlap agents) will provide a written decision granting the request in whole or in part or denying the request. Exclusions will be published in the Federal Register, and are posted on the CDC internet site (<http://www.cdc.gov/od/sap>) or the APHIS website (<http://www.aphis.usda.gov/vs/ncie/bta.html>). An exclusion will be effective upon notification to the applicant. Reintroduction of virulence factors to these agents result in subjection to the interim final regulations.

Exemptions were mandated by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 and may require an application to HHS or USDA for

consideration. Five different categories are listed whereby an entity, biological agent or toxin, or individual may be permanently or temporarily exempted from some or all of the provisions of 42 C.F.R. Part 73, depending on the specifics of a particular exemption. An entity is exempt from the provisions when the only activities conducted concern select agents or toxins that are contained in specimens or in isolates from specimens presented for diagnosis, verification or proficiency testing. If specific select agents are identified, in order for the entity to be exempt from the requirements of the regulation it must be report the identification to CDC (42 CFR 73.6(a)(2)) and the specimen or isolate must be transferred to a registered entity, or destroyed on-site by autoclaving, sterilization, incineration or neutralization. The transfer or destruction must be documented on CDC form 0.1318 and submitted to HHS within seven calendar days, or 90 days for proficiency testing.

Products that contain listed agents or toxins and have been cleared, approved, licensed or registered under the following laws are exempted: The Federal Food, Drug and Cosmetic Act (21 U.S.C. 301 et seq.), Section 351 of the Public Health Service Act pertaining to biological products (42 U.S.C. 262), the Virus-Serum-Toxin Act (21 U.S.C. 151-159) or the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C 136 et seq.). Entities using investigational or experimental products that contain a select agent or toxin must apply for an exemption (CDC Form 0.1317). These exemptions are made on a case-by-case basis when utilized in an investigation authorized by one of the Federal Acts specified above.

In rare circumstances exemptions may also be granted based on a public health or an agricultural emergency. These exemptions allow entities to provide timely participation in response to an emergency. Entities must apply for this exemption (CDC Form 0.1317). Though not to exceed 30 calendar days, a single additional 30 days extension may be granted by either the HHS or the USDA Secretary.

Safety

Safety practices and policies described in safety plans should include the standards and requirements of previous published documents (CDC/NIH publication "Biosafety in Microbiological and Biomedical Laboratories" ("BMBL"); 29 CFR 1910.1450 "Occupational Exposure to Hazardous Chemicals in Laboratories"; NIH Guidelines for Research Involving Recombinant DNA Molecules"). A safety plan will also require routine inspections to ensure compliance with all the procedures and protocols outlined in the safety plan.

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Safety goals for each facility can be met by documenting procedures, maintaining adequate equipment, proper training for laboratory staff and complying with recommended guidelines. Recommendations can be found in several sources including the fourth edition of CDC/NIH publication *Biosafety in Microbiological and Biomedical Laboratory*. This reference also provides recommendations for biosafety levels for activities using infected vertebrate animals and guidelines for working with toxins. These safety guidelines also encompass the levels to be used for select agents.

Security

The new law recommends development or revision of a plan that describes procedures for security of areas containing select agents and toxins. The security plan must be based on a systematic approach in which threats are defined, vulnerabilities are examined, and risks associated with those vulnerabilities are mitigated by implementing actions to reduce that risk. Risk assessment and the level of risk depend on the type of select agents and toxins, and how these agents are used. The risk assessment and threat analysis are the first steps in devising a security plan. These steps involve the identification and evaluation of factors that pose a threat or risk to the entity, such as the capability, intent and likelihood of success of a breach of security. Risk management principles are based on the fact that although risk may not be eliminated, it can be reduced. Vulnerabilities identified can be mitigated with a security systems approach. The security systems will include facility security, policies for personnel, access control, select agent accountability, emergency response plans and incident reporting. Each of these security mechanisms and precautions, implemented as an integral part of daily operations, will serve to minimize risk and maximize confidence in the security of the nations select agents and toxins.

A security plan must include specific provisions and procedures that outline all aspects for securing a facility. Contracting or consulting with security specialists is encouraged. The Act also gives the authority to specified federal agencies to withhold from public disclosure certain information submitted under these regulations including: site-specific information regarding the identification of persons, the nature and location of agents present in a facility, and the local security mechanisms in use.

Transfers

Transfers of select agents or toxins from one entity to another require that certain steps and criteria be met before a transfer can be completed. First, the sender must have a certificate of registration that covers the specific agent, or meets the exemption requirements specified above. Transfers from outside the United States may be required to meet certain import permit requirements, which are available for viewing at: <http://www.cdc.gov/od/ohs/biosfty/imprrtper.htm> or http://www.aphis.usda.gov/vs/import_export.htm.

The recipient of the transfer also must have a certificate of registration that includes the particular select agent or toxin. Prior to receipt, the sender must complete and submit a CDC form (EA-101), which will be authorized prior to the transfer. The transfer requires pre-approval before shipments can be arranged. The sender must also comply with all applicable laws concerning packaging and shipping. Upon receipt, the RO for the recipient must complete and submit a CDC form (EA-101) within 2 business days of receipt. If the select agent or toxin has not been received within 48 hours after expected delivery time or is damaged on arrival, the recipient RO must immediately notify CDC or APHIS.

Enforcement

Inspections by HHS may occur without prior notification and with or without cause. The Inspector General of HHS is charged with the authority to impose any penalties against an individual or entity in accordance with the regulations. The Public Health Security and Bioterrorism Preparedness and Response ACT of 2002 provide specific criminal penalties for violation of these regulations that include fines, imprisonment for not more than 5 years, or both.

The Interim Final Rule established a phase-in period for certain requirements to allow entities to comply without causing disruption or termination of research or educational projects. Due to unanticipated delays, the Attorney General requires additional time to complete the security risk assessments for individuals and entities meeting this requirement. Therefore, HHS has amended the applicability requirements associated with this regulatory requirement to ensure that both ongoing and new research and educational efforts important to the national defense are not disrupted (see Federal Register Notice; Volume 68 (212), Pages: 62245-62247, Nov 3, 2003).

Under the amended interim final rule, HHS issued provisional registration certificates for all entities, and provisional grants of access for all individuals, from whom, as of November 12, 2003, the Attorney General had received all of the information required to conduct a security risk assessment if those entities and individuals otherwise meet all of the requirements of Part 73. HHS also issued provisional registration certificates for entities not currently in possession of select agents or toxins from whom, as of November 12, 2003, the Attorney General has received all the information required to conduct a security risk assessment if those entities and individuals otherwise meet all of the requirements of Part 73 and the Secretary, HHS, determines such action is in the interest of the public health and national security.

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Table 1. List of select biological agents and toxins as defined by 42 C.F.R. 73, 7 C.F.R. Part 331; and 9 C.F.R. Part 121.

HHS Non-Overlap Select Agents and Toxins

Crimean-Congo hemorrhagic fever virus
Coccidioides posadasii
Ebola virus
Cercopithecine herpesvirus 1 (Herpes B virus)
Lassa fever virus
Marburg virus
Monkeypox virus
Rickettsia prowazekii
Rickettsia rickettsii
South American hemorrhagic fever viruses
Junin
Machupo
Sabia
Flexal
Guanarito
Tick-borne encephalitis complex (flavi) viruses
Central European tick-borne encephalitis
Far Eastern tick-borne encephalitis
Russian spring and summer encephalitis
Kyasanur forest disease
Omsk hemorrhagic fever
Variola major virus (Smallpox virus)
Variola minor virus (Alastrim)
Yersina pestis
Abrin
Conotoxins
Diacetoxyscirenol
Ricin
Saxitoxin
Shiga-like ribosome inactivating proteins
Tetrodotoxin

Overlap Agents: USDA and HHS Select Agents

Bacillus anthracis
Brucella abortus
Brucella melitensis
Brucella suis
Burkholderia mallei (formerly Pseudomonas mallei)
Burkholderia pseudomallei (formerly Pseudomonas pseudomallei)
Botulinum neurotoxin producing species of Clostridium
Coccidioides immitis
Coxiella burnetii
Eastern equine encephalitis virus
Hendra virus
Francisella tularensis
Nipah virus
Rift valley fever virus
Venezuelan equine encephalitis virus
Botulinum neurotoxin
Clostridium perfringens epsilon toxin
Shigatoxin
Staphylococcal enterotoxin
T-2 toxin

USDA Non-overlap Select Agents and Toxins

Akabane virus
African swine fever virus
African horse sickness virus
Avian influenza virus (highly pathogenic)
Blue tongue virus (Exotic)
Bovine spongiform encephalopathy agent
Camel pox virus
Classical swine fever virus
Cowdria ruminantium (Heartwater)
Foot and mouth disease virus
Goat pox virus
Lumpy skin disease virus
Japanese encephalitis virus
Malignant catarrhal fever virus (Exotic)
Menangle virus
Mycoplasma capricolum/ M.F.38/ M. mycoides capri
Mycoplasma mycoides mycoides
Newcastle disease virus (VVND)
Peste Des Pestits Ruminants virus
Rinderpest virus
Sheep pox virus
Swine vesicular disease virus
Vesicular stomatitis virus (Exotic)

Plant pathogens

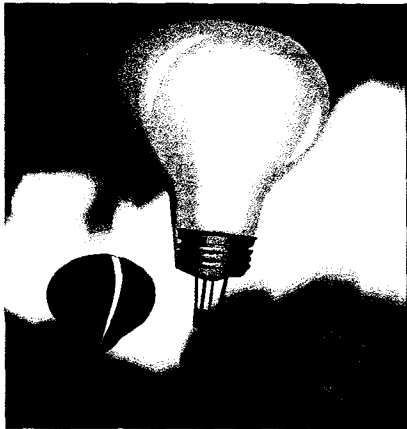
Liberobacter africanus
Liberobacter asiaticus
Peronosclerospora philippinensis
Phakapsora pachythizi
Plum Pox Potyvirus
Ralstonia solanacearum race 3, biovar 2
Schlerophthora rayssiae var zae
Synchytrium endobioticum
Xanthomonas oryzae
Xylella fastidiosa (citrus variegated chlorosis strain)

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The select agent regulation, forms (including the application for registration), and other information is available at the CDC Select Agent Program Web site (<http://www.cdc.gov/od/sap/>), or you may contact the CDC Select Agent Program by telephone (404-498-2255), FAX (404-498-2265), or e-mail (lrsat@cdc.gov).

Address for correspondence: Mark Hemphill, Select Agent Program, Centers for Disease Control and Prevention, Mailstop E-79, Atlanta, GA 30333; Telephone: (404) 498-2255; FAX: (404) 498-2265; E-mail: MHemphill@cdc.gov



Attention USFCC Members

We would like to hear from you. If you have a photograph or an article to submit please email:

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LSutherland@genencor.com.



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Photograph by Jeff Post



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2004/2005 Calender of Events: Meetings and Workshops

Meetings:

55th Annual Meeting of the American Institute of Biological Sciences

March 16-18, 2004

Westin Grand Hotel, 2350 M Street, NW, Washington, DC.

Topic: Invasive Species: The Search for Solutions

Register and obtain forms online at www.aibs.org or contact AIBS Meetings Key Dept. at 1-703-790-1745

Food Microbiology: Safeguarding the Nation's Food Supply from Farm to Table

March 28-31, 2004

Bridge Marriott, Arlington, VA

Contact Society for Industrial Microbiology, 3929 Old Lee Highway, Suite 92A, Fairfax, VA 22030-2421 or 703-691-7991

email: info@simhq.org.

American Society for Microbiology General Meeting

May 24- 27, 2004

New Orleans, CA

Contact: www.asm.org

Society for Industrial Microbiology Annual Meeting

July 25-29, 2004

Anaheim, CA

Contact: www.simhq.org

41st Annual Meeting of the Society of Cryobiology

World Congress of Cryomedicine and Cryobiology

July 28-31, 2004

Beijing, P.R. China

Contact: <http://www.engr.uky.edu/cryo2003>

ASM Conference on Extremophiles 2004

September 19-23, 2004

Chesapeake Bay, MD

Contact ASM Conferences, 1752 N Street, NW, Washington, DC 20036-2904 or Conferences @asmusa.org.

Tenth International Congress for Culture Collections (ICCC-10)

October 10-15, 2004

International Congress Center (Epochal Tsukuba)

Tsukuba, Japan

ICCC-10 Secretariat

Environmental Biology Division, National Institute for Environmental Studies

Email: iccc10@nies.go.jp

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2004/2005 Calender of Events: Meetings and Workshops

Meetings: (continued)

Microbes in a Changing World, IUMS 2005

July 24-29, 2005

San Francisco, CA

Joint meeting of three divisions of the International Union of Microbiological Societies.

Workshops:

The Center of Professional Advancement

Mar. 14-18, 2004

“Lyophilization Technology”

Millbrae, CA

Contact: www.cfpa.com/

WFCC/USFCC/CCMM/BCCM Training Course

”Management of Culture Collections of Microorganisms”

May 3-7, 2004

Rabat, Morocco

Contact: www.wfcc.info

Introduction to Food and Air-borne Fungi, a course in fungal identification (Ottawa, Canada)

June 17-19, 2004

Sponsored by Centraalbureau voor Schimmelcultures and Eastern Cereal and Oilseed Research Centre, Agriculture and Agri-Food Canada

Contact K. A. Seifert, K.W. Neatby Bldg., Agriculture and Agri-Food Canada, Ottawa, Ontario K1A 0C6, Canada or seifertk@agr.gc.ca

University of Alberta Microfungus Collection and Herbarium

Individual Training:” Fungal Taxonomy Workshop”

Edmonton, Canada

Contact: www.devonian.ualberta.ca



United States Federation For Culture Collections

Fungal Identification Course

“Introduction to Food and Air-Borne Fungi”, a course in fungal identification, will be offered in Ottawa, Canada June 2004. The course is sponsored by the Centraalbureau voor Schimmelcultures (Netherlands) and the Eastern Cereal and Oilseed Research Centre of Agriculture and Agri-Food Canada. More than 100 mould and yeast species common in indoor air and on food will be examined, including important species of *Penicillium*, *Aspergillus*, *Fusarium*, *Trichoderma*, *Cladosporium*, *Mucor*, *Rhizopus*, *Alternaria* and *Scopulariopsis*. The three day course is appropriate for those interested in food spoilage, indoor air quality, industrial hygiene, mycotoxins, pharmaceuticals and biodeterioration. Moulds on food or in indoor air are becoming increasingly important. In food, moulds and yeast cause spoilage or produce toxic compounds that may induce serious health problems in man and animals. The important role of toxigenic moulds as allergens and in indoor air is now recognized.

The instructors are R. A. Samson of the Centraalbureau voor Schimmelcultures, and Keith Seifert, John Bissett and Carolyn Babcock of the Eastern Cereal and Oilseed Research Centre. The course will consist of lectures to introduce fungal groups and discuss methodology and other relevant topics. Extensive practical sessions provide hands-on experience in fungal identification. Demonstration of critical species using video-microscopy, computerized identification keys, biochemical identification procedures and other “expert systems” for identifying fungi are also planned. There will be ample opportunity for consultation with the scientists teaching the course.

The course is appropriate for personnel from educational, research or industrial settings with an interest in food spoilage, indoor air quality, industrial hygiene and biodeterioration. Some familiarity with basic microbiological techniques is assumed but not a requirement. There are a limited number of spaces available and early enrollment is recommended. Although we recommend that students bring their own compound microscope, we have good quality microscopes available for students who do not wish to travel with their own microscope. The daily sessions are 9 am to 5 pm with the following schedule:

Day 1: Introduction, Zygomycetes, *Aspergillus*

Day 2: Ascomycetes, *Penicillium*, *Fusarium*

Day 3: Deuteromycetes

The course fee is CDN \$1500. Cheques are payable to ‘Centraalbureau voor Schimmelcultures’. Credit card payment is not possible. The textbook is “Introduction to Food-Borne Fungi”, 6th edition, by R.A. Samson, E.S. van Reenen-Hoekstra, J. C. Frisvad and O. Filtenborg. It is included in the course fee. [The textbook can be purchased separately from the Centraalbureau voor Schimmelcultures (Netherlands).]

The course will be held on the campus of the University of Ottawa, a 10-15 minute walk from downtown Ottawa. The teaching lab is a modern, air-conditioned facility. Students are expected to arrange their own accommodations. Costs are not included in the course fee. Relatively inexpensive accommodation (approximately CDN \$35 per night) is available at the University of Ottawa Student Residences. Specific information on accommodation will be provided to those who register for the course. The course will be taught in English.

For more information or to preregister contact:

Keith A. Seifert
Eastern Cereal and Oilseed Research Centre
K. W. Neatby Bldg.
Agriculture and Agri-Food Canada
Ottawa, Ontario K1A 0C6 CANADA
Phone: 613-759-1378
Fax: 613-759-1924
Email: seifert@agr.gc.ca

Website for the course: http://res2.agr.ca/ecorc/fungi/04_e.htm

Note: R. A. Samson received the J. Roger Porter Award in 2001. Carolyn Babcock served as a Member-at-Large on the USFCC Executive Board.

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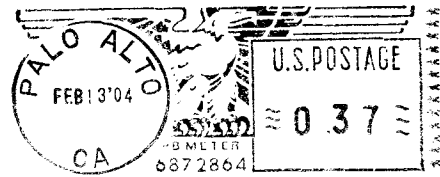
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United States Federation For Culture Collections

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