

# The Scientific World Journal

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## ~ 29<sup>TH</sup> ANNUAL ~ MOLECULAR BIOLOGY SUMMER WORKSHOPS

### Learn Molecular Biology in 2 Weeks!

We are pleased to announce the twenty-ninth annual Molecular Biology Summer Workshops, sponsored by New England Biolabs in conjunction with Smith College. Workshops are held at Ford Hall, Smith College, Northampton, MA, USA. Well over 4,000 people have graduated from this intensive training program in the past twenty-eight years. These intensive courses emphasize hands-on molecular biology laboratory work and cover a wide variety of topics and techniques. This course is the largest and longest running molecular biology course for professionals in the world. No prior experience in molecular biology is required.

#### when:

two-week sessions:

Session 1: June 29 - July 12, 2014

Session 2: July 20 - August 2, 2014

#### where:

Ford Hall  
Smith College  
Northampton, MA 01063  
USA

Dr. Steven A. Williams, Director

#### to apply:

website:

<http://www.science.smith.edu/neb>

email:

[biolabs@smith.edu](mailto:biolabs@smith.edu)

phone:

(413) 585-3915

#### Two-week Molecular Biology Sessions Available

Both two-week long courses cover in-depth DNA cloning, PCR, DNA sequencing, genomics, next-gen sequencing and bioinformatics. Learn hands-on techniques used in gene expression analysis including microarray analysis, RNAi and quantitative RT-PCR, bioinformatics and genomics and proteomics.

**application information:** No previous experience in molecular biology is required or expected. Forty participants per session will be selected from a variety of disciplines and academic backgrounds, including principal investigators, directors of programs, medical doctors, postdoctoral fellows, graduate students, research assistants, sales associates, equipment engineers, etc.

**fee:** \$4300 per participant. This fee includes lab manual, use of all equipment and supplies, and room and board (all rooms are singles).

**application deadlines:** June 16, 2014 for session 1 and July 7, 2014 for session 2.

First come, first served (apply now!). Late applications will be accepted on a space available basis.

**payment deadline:** Three weeks following receipt of your email acceptance letter.

#### topics / techniques:

- gene cloning (and library construction)
- gene expression analysis
- PCR and quantitative RT-PCR
- genomics and bioinformatics
- DNA sequencing & next-gen sequencing
- RNAi, siRNA and microarrays
- RNA-Seq
- and much more — visit our website for a complete list!



## HYPOXIA CHAMBER

The new 856-HYPO Hypoxia Chamber from Plas-Labs is ideal for tissue culture work, including tumor cell research and stem cell research in hypoxic conditions. It features a color operated touchscreen display for automatically controlling and monitoring oxygen levels, temperature levels, and carbon dioxide levels. The 856-HYPO includes an easy-to-read 8" touchscreen monitor, inert gas hook-up, ethernet port connection for data logging, thermoelectric assembly, and password protection. The oxygen range is 0%–25% and the carbon dioxide range is  $\pm 0\%$ –20%. The 856-HYPO Hypoxia Chamber also includes the standard two-year warranty for Plas-Labs' products.

**Plas-labs**

For info: 517-372-7177 | [www.plas-labs.com](http://www.plas-labs.com)



## HARDWARE AUTO FOCUS AND CLEANROOM KIT

A new Hardware Auto Focus and Cleanroom Kit for the Axio Imager Vario microscope system is now available. An integratable autofocus system ensures fast and precise focusing. The Hardware Auto Focus is ideal for surface inspections on reflective, low-contrast samples. In transmitted and reflected light, the focus system ensures high precision down to 0.3 of the depth of field of the objective lens. The sensor registers changes to the focus position and automatically and quickly compensates for any deviations via direct access to the z drive of the microscope. As a result, even large samples such as monitors and solar panels in xy direction remain constantly in the focus of the observer. Axio Imager Vario is certified for cleanroom use in accordance with DIN EN ISO 14644-1 and, with the cleanroom kit, fulfills the requirements of ISO 5.

**Carl Zeiss**

For info: 914-681-7782 | [www.zeiss.com/micro](http://www.zeiss.com/micro)

## BACTERIAL CULTURE GROWTH SYSTEMS

The EnPresso B range of reagent-based growth systems for bacterial cultures has been developed to address common challenges with bacterial growth such as insufficient yield, quality problems, and poor protein solubility or low activity. EnPresso B, EnPresso B Animal-free, and EnPresso B Defined Nitrogen-free can be used to significantly increase the yield of  $^{15}\text{N}$ -labeled proteins for NMR analysis. For ease of use, the products are supplied as pre-sterilized tablets, which are simply added to sterile, filtered water. Optimized protocols enable researchers to go from pre-culture to harvest within two days, using standard lab equipment such as shake flasks or 24 deep-well plates. The EnPresso B range incorporates EnBase technology which offers a novel approach to control the feeding, and thereby growth rate, of microbial cultures. A glucose-releasing agent breaks down long chains of polysaccharides, releasing glucose units to feed the microbes. As well as glucose, EnPresso tablets provide other key elements to support growth and control pH.

**BioSilta**

For info: 760-889-0982 | [www.biosilta.com](http://www.biosilta.com)

## TISSUE SAMPLE FREEZING

Two easy-to-use devices designed for the fast freezing of tissue samples and specimens are now available. Ideal for enzyme studies, the Histology Bath features a  $-60^{\circ}\text{C}$  ( $-76^{\circ}\text{F}$ ) working temperature that freezes tissue samples quickly, preventing microscopic ice crystals from developing and samples from distorting. With its flat,  $-34^{\circ}\text{C}$  ( $-30^{\circ}\text{F}$ ) surface, the Histology Freeze Plate enables histotechnicians to observe tissue freezing directly and keep specimen edges flat when preparing samples for examination. The Histology Bath has a 1 L stainless steel reservoir and includes an immersion basket and chuck for the easy submersion and retrieval of samples. The bath work area measures 10.2 cm in diameter by 10.2 cm deep (4 x 4 inches). The unit is available for either 120V, 60Hz or 240V, 50Hz operation. The Histology Freeze Plate features a 877 cm<sup>2</sup> (136 in<sup>2</sup>) working surface that accommodates multiple samples simultaneously and has been shown to reduce overall sample processing time by 40% or more.

**Polyscience**

For info: 800-229-7569 | [www.polyscience.com](http://www.polyscience.com)

## BIOLUMINESCENT ASSAY

A non-horseradish peroxidase (HRP)-dependent, plate-based bioluminescent assay for detecting reactive oxygen species (ROS), ROS-Glo  $\text{H}_2\text{O}_2$  Assay is designed to specifically detect hydrogen peroxide ( $\text{H}_2\text{O}_2$ ) in both enzyme and cell-based applications. The ROS-Glo  $\text{H}_2\text{O}_2$  Assay measures the activity of enzymes that generate or eliminate  $\text{H}_2\text{O}_2$ , and possesses many benefits over other commercially available assays for small molecule screening, including low false hit rate, signal stability, and compatibility with liquid handling. The assay can also be used to measure changes in the level of ROS by directly detecting  $\text{H}_2\text{O}_2$  in cultured mammalian cells after two reagent additions, with no cell sample preparation required, reducing variability and the number of cells required. Due to the bioluminescent format and high sensitivity, ROS-Glo  $\text{H}_2\text{O}_2$  Assay can be multiplexed with a variety of other cell-based assays to gain additional data from a sample.

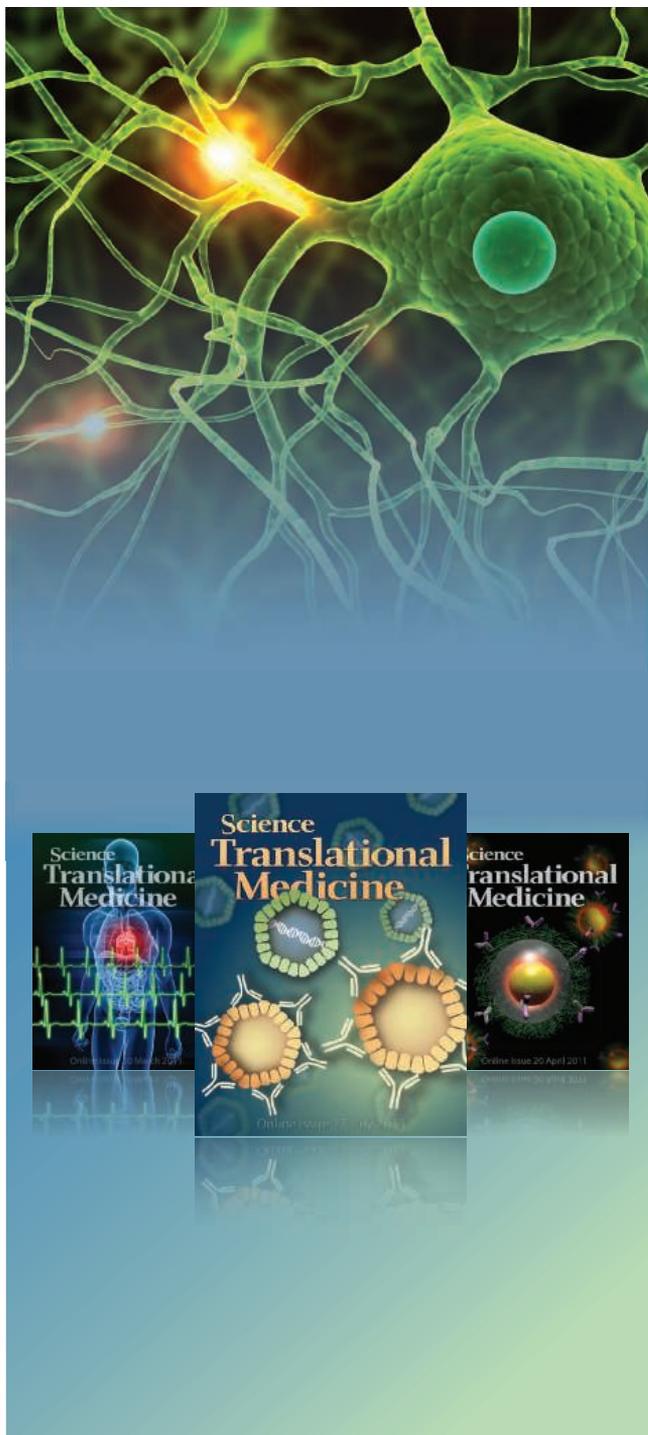
**Promega**

For info: 608-274-4330 | [www.promega.com/ros glo](http://www.promega.com/ros glo)

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#### NEUROLOGY

A Theoretically Based Index of Consciousness Independent of Sensory Processing and Behavior

A. G. Casali *et al.* (M. Massimini), *Sci. Transl. Med.* **5** 198ra105 (2013)

#### IMMUNOLOGY

TGF $\beta$  Receptor Mutations Impose a Strong Predisposition for Human Allergic Disease

P.A. Frischmeyer-Guerrero *et al.* (H. Dietz), *Sci. Transl. Med.* **5** 195ra94 (2013)

#### BIOENGINEERING

A Human Disease Model of Drug Toxicity-Induced Pulmonary Edema in a Lung-on-a-Chip Microdevice

D. Huh *et al.* (D. Ingber), *Sci. Transl. Med.* **5** 159ra147 (2012)

#### CANCER

Genome-Wide Mutational Signatures of Aristolochic Acid and its Application as a Screening Tool

S.L. Poon *et al.* (B. T. Teh), *Sci. Transl. Med.* **5** 197ra101 (2013)

#### TISSUE ENGINEERING

Human Cartilage Repair with a Photoreactive Adhesive-Hydrogel Composite

B. Sharma *et al.* (J.J. Elisseeff), *Sci. Transl. Med.* **5** 167 ra6 (2013)

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*Massachusetts Institute of Technology*

Garret FitzGerald, M.D.

*University of Pennsylvania*

#### Editor

Katrina L. Kelner, Ph.D.

*AAAS, Washington, DC*



[scitranslmededitors@aaas.org](mailto:scitranslmededitors@aaas.org)

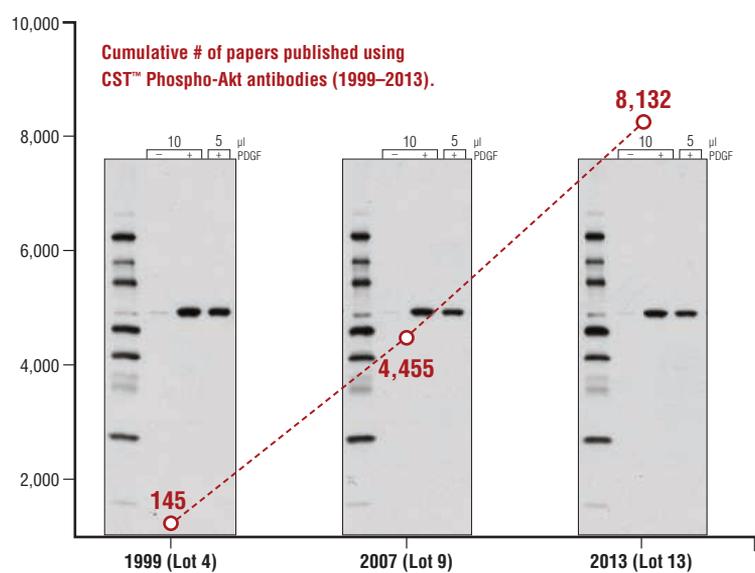
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