THE FIFTH U.S.-JAPAN JOINT MEETING OF HISTOCHEMISTRY AND CYTOCHEMISTRY

23 July - 26 July 1998
On the Campus of University of California,
San Diego, LaJolla, California, U.S.A.

Planned Symposia and Mini-Workshops for Histochemical Society and Japan Society for Histochemistry & Cytochemistry - Joint Meeting

FluoroNanogold Labeling for Correlative Microscopy
Sponsored by Nanoprobes, Inc.
organized by Jim Hainfeld and Dick Burry

Three-Dimensional Microscopy
Sponsored by Edge Scientific
organized by Gary Greenberg and Chuck Hewitt

Antigen Retrieval Immunohistochemistry
Sponsored by BioGenex
organized by Richard Cote, Shan-Rong Shi, and Allen Gown

Peroxisomes
organized by Jan Reddy and Skaidrite "Skai" Krisans

Second Messengers: The Morphology of Intracellular Signalling
organized by Bill Stahl and Keiichi Watanabe

In Situ Hybridization as a Tool for Studying
the Subcellular Compartmentalization of mRNAs
organized by Alain Trembleau

The Cytoskeleton
Plenary Lecture by Tom Pollard

Intracellular Dyes
Plenary Lecture by Roger Y. Tsien

Regulation of Endocrine Function
organized by Akira Kawaoi

Enzyme Histochemistry
organized by Takuma Saito and John Robinson

Hybridohistochemistry including South-Western Histochemistry
organized by Paul Nakane

Histochemistry of Glycoconjugates
organized by Hiroshi Hirano and Shiro Nozawa

Diagnostic Histochemistry and Cytochemistry
organized by Yoshiyuki Osamura and Hiroshi Nagura

Histochemistry and Neuroscience
organized by Yasuhiko Ibata, Makio Kobayashi, & Mark Ellisman
Presidential Symposium (U.S. Histochemical Society)
Sponsored by Hybritech, Inc.

Prostate Cancer 1998: Practical Applications
of Immunohistochemistry and Molecular Biology
organized by David Bostwick and Stephen Carmichael
Introduction and Overview: Stephen Carmichael (Mayo Clinic)
Immunohistochemistry: David Bostwick (Mayo Clinic)
Tumor Suppressor Genes: Robert Bookstein (Canji, Inc)
DNA Ploidy, RT-PCR (Molecular Staging) Ralph DeVere White (UC, Davis)
Fluorescence in situ hybridization (FISH): Satoru Takahashi (Univ. of Tokyo)
Animal Models: Results of Purdue 1996 Meeting: David Waters (Purdue)

Social Events for Histochemical Society and Japan Society for Histochemistry & Cytochemistry - Joint Meeting

Welcome Reception
Stephen Birch Aquarium-Museum
Scripps Institution of Oceanography

Banquet
Sea World

"RESET YOUR CIRCADIAN CLOCK"
GOLF TOURNAMENT
22 July 1998
Torrey Pines Championship Golf Course
organized by Brad Schulte

For more information, contact:
Dr. William L. Stahl
Executive Director, Histochemical Society
wistahl@u.washington.edu
or visit our Website at http:/www.hcs.microscopy.com/

Glutaraldehyde Autofluorescence Useful in Confocal Studies of Fungi

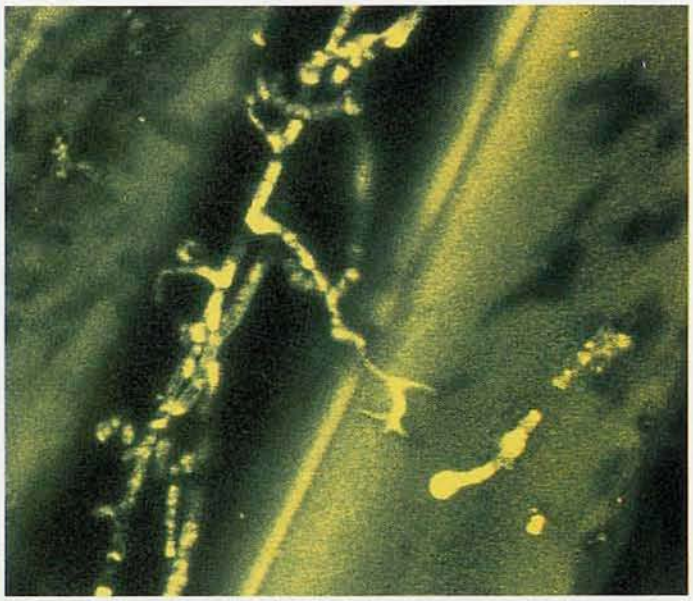
Adya Singh, Ying Xiao and Robin Wakeling
New Zealand Forest Research Institute, Ltd.
Rotorua, New Zealand

In this note we show the potential usefulness of glutaraldehyde (GA) in confocal microscopic studies of wood-fungal interaction. We are presently developing methods to examine by the confocal laser scanning microscope (CLSM), the pattern of distribution of fungal hyphae within wood in relation to fungal degradation and sapstaining of wood. CLSM has the potential to be a very useful tool in such studies for a variety of reasons, including its use for optical sectioning to produce computer assisted 3-D images.

As a first step we examined unfixed and GA fixed wood sections which had been attacked by a wood degrading fungus. Specimens were examined in a Leica TCS/NT confocal microscope using wavelengths of 488 and 568 nm for excitation and 530 and 590 nm for imaging, with a 20X air/dry lens. Series of confocal images were acquired from within the section at a resolution of 1024 x 1024 pixels x 256 grey levels and combined as a dual channel projection using Leica software.

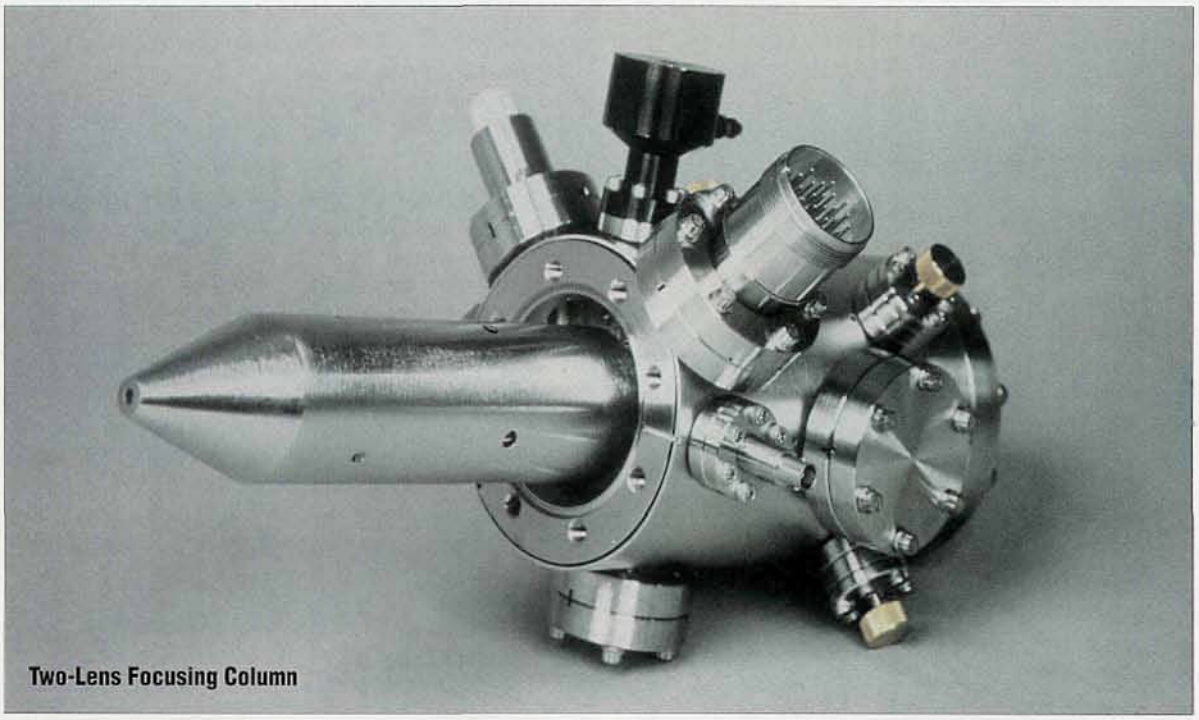
In untreated sections, fungal hyphae present in the wood were not observable as they did not autofluoresce. However, after fixation in GA, hyphae present in wood cells were clearly visible because of the strong autofluorescence of the GA. Although use of GA as a fixative is not considered desirable in confocal studies of living cells, in our work on fungal degradation of wood GA fixation proved useful in revealing the pattern of distribution of fungal hyphae within wood cells. GA reacted only with the fungal hyphae and not with wood components, as the majority of wood cells are dead at maturity and have only cells walls. These consist of cellulose, hemicellulose and lignin, none of which is reactive to GA, and lignin is the only component of wood cells that can autofluoresce. However, the autofluorescence of lignin in the parts of the wood cell walls (shown in the following illustration) is fairly weak and it does not seem to interfere with the GA autofluorescence. The GA has reacted specifically with the fungal hyphae rendering them clearly visible.

Thus a simple method of visualizing fungal hyphae in wood in CLSM has been illustrated here which made use of autofluorescence of GA. In future studies, we intend to also use more specific methods to observe fungi in wood - such as a specific antibodies conjugated to fluorescent dues. ■



The illustration shows parts of wood cells which have been attacked by a wood degrading fungus. Fungal hyphae are present in cell humen as well as with the wood cell wall

Reprinted from the Newsletter of Microscopy New Zealand, Microscopy In



Two-Lens Focusing Column

What does fei components stand for?

Our compact, UHV, *field* emission columns are used by researchers worldwide. Innovative *electrostatic* optics and dedicated electronics allow you to *integrate* a high current density electron or ion column into most vacuum systems. FEI also supplies researchers with other specialized products.

LaB_6 and CeB_6 Cathodes
FEI's Mini Vogel Mount, the *first* universally compatible long-life, high stability LaB_6 cathode, provides *excellent* performance and the best cost-per-use value for *installation* into your EM systems.

Schottky Field Emission Cathodes
FEI supplies Schottky *field* emitters to EM manufacturers worldwide. Schottky *emission's* high current *intensity* has established it as the preferred electron source for high resolution SEM,TEM, Auger, ESCA, EDX, and lithography.

New Components Facilities
Dedicated FEI Components Group *facilities enabling* new technology development through key *investments* in R&D and manufacturing.

fei components

FEI Company
7425 NW Evergreen Parkway
Hillsboro, Oregon 97124-5845
(503) 844-2520 Fax (503) 640-7509
E-mail <components@feico.com>
Subject of e-mail: "MTfei"

Now, when you think of FEI Components, you'll know we are the Specialists in *Field Electron* and *Ion* Technology.

Circle Reader Inquiry #6