

# Minnesota Microscopy Society Newsletter

**Local affiliate of Microscopy Society of America**

**Local affiliate of Microbeam Analysis Society**

**NOVEMBER 1995 MEETING**

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**MMS NOVEMBER MEETING**  
**THURSDAY, NOVEMBER 30, 1995**  
**5:00 - 8:00 PM**

**UNIVERSITY OF MINNESOTA**  
**ST. PAUL CAMPUS STUDENT CENTER**  
**CHERRYWOOD ROOM ( 2nd FLOOR)**

**SPEAKER: Dr. M. Ann Goldstein, Baylor College Of Medicine MSA Current-President**  
**TOPIC: Imaging Muscle: From 3-D To 2-D & Back Again**

## **Program:**

- **5:00 - 6:00** Social Hour with Appetizers  
Cheese - Crackers - Wines - Sodas - Mineral Waters
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- **6:00 - 7:00** Customized Dinner Buffet  
Herbed Chicken Breast  
Stir Fry Vegetable Blend - Mixed Salad Greens  
Whipped Potatoes and Gravy - Assorted Breads  
Coffee, Tea, Milk - Dessert
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- **7:00 - 8:00** Presentation, Dr. M. Ann Goldstein

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Dr. Goldstein will begin her presentation by giving us a summary of what is happening in the Microscopy Society of America (MSA) at the national level. Following this she will give a 30 to 40 minute presentation on imaging muscle.

Power spectra of electron micrographs show that the Z band lattice in mammalian muscle has at least two structural states related to the contractile state of the muscle. Cross-sectional projections of relaxed muscle show the small square pattern, while projections of fixed contracted muscle show a pattern termed the basket weave. Differing three-dimensional models constructed to visualize the transition were consistent with the cross-sectional data; therefore, we produced three-dimensional reconstruction's of Z band lattices from electron tomography of tilted specimens. The relaxed lattice shows features not imaged in micrographs of cross or longitudinal sections of muscle. Generating and analyzing these data lead to challenges in display of these "micro" structures not found in our "macro" world. Issues of perception and vision are of demonstrated importance in the display process.

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**PLEASE MAKE RESERVATIONS BY November 28:**

We need to give a "final" head count to the Cherrywood Room.

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Dinner and Social Hour: \$10.00 per person, \$7.50 for students, payable at the door. Presentation is free for those who come later for the talk only. To reserve, contact [Gib Ahlstrand](mailto:giba@puccini.crl.umn.edu) at (612)625-8249, 625-9728 FAX, or: giba@puccini.crl.umn.edu.

Social hour, dinner and the presentation will all be held in the Cherrywood Room, second floor level of the St. Paul Campus Student Center of the University of Minnesota. This location will be familiar to some who have attended our meetings there before.

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