IOWA SCIENCE TEACHERS SECTION OFFICERS

President .................................................. Kenneth Frazier, Ames
Past President ............................................ Donald Murphy, Des Moines
Vice-President ............................................. Elwood Garlock, Cedar Rapids
Secretary ................................................... Joseph Beach, Cedar Rapids
Treasurer ................................................... Robert Wilson, Belmond
Editor .......................................................... Robert Yager, Iowa City
Managing Editor ............................................ Tony Heiting, Iowa City
Executive Secretary ....................................... Robert Hanson, Cedar Falls

REGIONAL DIRECTORS

Northwest .................................................. Carl Gochnauer, Lake Park
Northeast ................................................... Melissa Happ, Dubuque
East Central ............................................... Clair Rausch, Iowa City
North Central ............................................. Ray Mitchem, Union
Southwest ................................................... Phillip Olive, Red Oak
West Central ............................................... Dave Koester, Carroll
South Central ............................................. Sondra Waltz, Norwalk
Southeast .................................................... Sister Claire Patik, Davenport
Central ........................................................ Roger Spratt, Ames

THE IOWA SCIENCE TEACHERS JOURNAL

The Iowa Science Teachers Journal is published quarterly by the Iowa Academy of Science for its members and special subscribers. The Division of Extension and University Services at The University of Iowa supervises and financially supports the printing, handling and the mailing. The central theme of the journal is science teaching at all academic levels.

Subscription rates: Single copies, $1.25; subscription, $4.00. For subscription, circulation data, additional copies, and changes of address, contact Dr. Robert Hanson, Iowa Academy of Science, University of Northern Iowa, Cedar Falls, Iowa 50613.

Advertising rates: For advertising information contact Tony Heiting, Managing Editor, Science Education Center, The University of Iowa, Iowa City, Iowa 52242.

Publication: Open to all people interested in science education; preferential consideration for Academy members. For information as to policy as well as submission of news items or general articles, contact Dr. Robert Yager, Science Education Center, The University of Iowa, Iowa City, Iowa 52242. All manuscripts should be typewritten, double-spaced on one side of the paper, and submitted in duplicate. They must reach the editor six weeks prior to publication date if they are to be considered for a given issue.
This month's cover shows two views of an unusual chloroplast—a supergranal chloroplast from virus-infected plant cells. The upper micrograph is a normal electron microscope view of one of these chloroplasts magnified 39,000 times. The lower micrograph shows one of these chloroplasts following freeze-fracture preparation and is magnified 65,000 times. The freeze-fracture technique reveals the interior surfaces of the membranes within the chloroplast and the characteristic particles associated with these surfaces. (Photographs by Dr. Richard Sjolund and Dr. Donna D. Smith)