

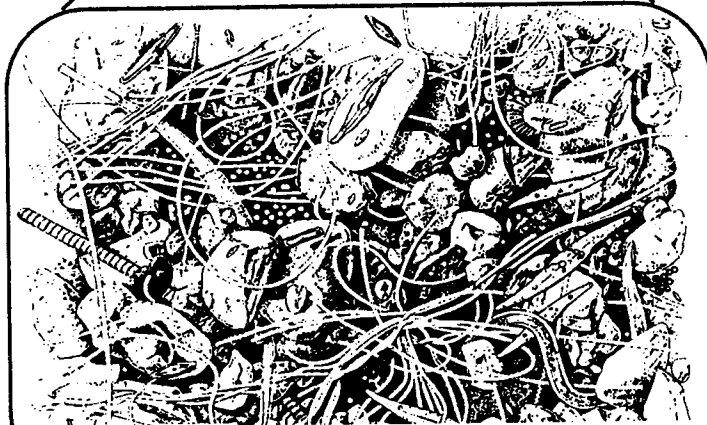
# PROGRAM AND ABSTRACTS



**Marist College**

**Poughkeepsie, NY**

*algal biofilms*



**21-23 April, 2006**

## Welcome to the 45<sup>th</sup> Northeast Algal Symposium, NEAS 2006!

It is our pleasure to welcome you to Marist College in New York's beautiful Hudson River Valley. We will do our best to make this a gratifying meeting and to facilitate the exchange of algological information between meeting attendees. Our goal is to provide you with a solid, cutting-edge scientific program organized to provide a comfortable and supportive atmosphere for students—both graduate and undergraduate—to present the results of their research.

Many of you may not be familiar with Marist College. We hope that you will have an opportunity to learn more about the college during your time here. The hosting of NEAS 2006 is indicative of Marist's commitment to improving the reputation of its programs in the Natural Sciences and we are very happy to be hosting this years meeting.

Perhaps this is your first visit to the Hudson Valley. This area along the middle stretch of the Hudson River boasts world-renowned natural beauty, several sites of historic interest, and a variety of other fun places to visit. We hope you will have an opportunity to take some time, look around, and enjoy some activities in addition to the great symposium we have in store for you.

Best wishes for a scientifically-productive and enjoyable symposium,

Ray Kepner, Marist College  
David Domozych, Skidmore College  
John Heimke, Russell Sage College  
NEAS 2006 Co-Convenors

45<sup>th</sup> Northeast Algal Symposium  
Honorary Chair



H. William "Bill" Johansen  
NEAS Chairman 1987-1992

"One fine phycologist, one exceptional human...a true professional, a teacher, colleague and friend to many.

He continues to study and willingly shares his knowledge of the algae and the oceans.

Go well good friend"

Bob T. Wilce

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**Honorary Chair**

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## Activities and Locations

- Registration: Friday at the Courtyard by Marriott.  
Saturday in the breezeway between Marist College Student Center and Champagnat Hall.
- Opening Mixer: Friday 6-9pm Courtyard by Marriott.
- Breakfast: The Marriott serves a complete breakfast (hot) that is free for registered NEAS attendees staying at the Courtyard.
- Program & Oral Presentations: Student Center (SC) Room 349
- Posters: Posters will be displayed in SC 346 (The Performing Arts Room), SC 348 and their adjoining Hallway.
- Saturday Lunch and Banquet: Student Center Cabaret. Lunch from 12-1:30  
Pre-banquet mixer 6:30-7:30, Banquet 7:30-9:30
- Executive Comm. Lunch: Saturday 12-1:30, President's Dining Room A in SC
- Vendor Display: Saturday Rm 348 SC
- Break Time: Hot & cold beverages and light snacks will be available in hallway outside of room 348
- Sunday Lunch: Box lunches will be available following the General Business Meeting outside SC 348.

# General Program: 45<sup>th</sup> Northeast Algal Symposium

Friday, April 21, 2006

6:00 – 9:00pm Registration and mixer at Courtyard by Marriott

Saturday, April 22, 2006

Opening remarks (and presentations, Student Center, Marist College)

8:15 – 8:30am Welcome and Opening Remarks – Raymond Kepner

**SESSION 1 Student Presentations Moderator: Chris Lane**

8:30 – 8:45am Wilce Award Candidate  
MOLECULAR ANALYSIS OF SPECIES LIMITS OF THE BROWN ALGAL GENUS *FUCUS* IN THE NORTHEAST PACIFIC. Hana Kucera and Gary W. Saunders. Centre for Environmental & Molecular Algal Research, Department of Biology, University of New Brunswick, Fredericton, New Brunswick, E3B 6E1, Canada.

8:45 – 9:00am Wilce Award Candidate  
EXAMINING ALGAL VIRUS RECEPTORS USING CONFOCAL LASER MICROSCOPY. Paesani, V.I.<sup>1</sup>, Lawrence, J.E.<sup>1</sup> <sup>1</sup>University of New Brunswick, Fredericton, New Brunswick, E3B 6E4, Canada.

9:00 – 9:15am Wilce Award Candidate  
RESURRECTING THE GENUS *GRANIA* FOR *GRANIA EFFLORESCENS* Susan L. Clayden and Gary W. Saunders. Centre for Environmental and Molecular Algal Research, Department of Biology, University of New Brunswick, Fredericton, N.B., E3B 6E1, Canada

9:15 – 9:30am Wilce Award Candidate  
CHARACTERIZATION OF GROUP IA INTRONS IN THE CHLOROPLAST *RBCL* GENE OF FIVE *PEDIASTRUM* AND TWO *BRACTEACOCCLUS* ISOLATES (SPHAEROPLEALES, CHLOROPHYCEAE). Hilary A. McManus<sup>1</sup> and Louise A. Lewis<sup>1</sup>. Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, Connecticut, 06269, USA.

**9:30 – 9:45am** Wilce Award Candidate  
COMPARISON OF DIATOM AND MACROINVERTEBRATE INDICES IN ACID MINE DRAINAGE IMPACTED STREAMS. Jason T. Zalack and Morgan L. Vis Department of Environmental and Plant Biology, Ohio University. Athens, OH 45701.

**9:45 – 10:00am** Wilce Award Candidate  
TEMPORAL DYNAMICS OF EPS PRODUCTION, LOSS AND COMPOSITION FOR BIOFILMS WITHIN THE COLNE ESTUARY, U.K. Brent Bellinger<sup>1</sup>, Graham Underwood<sup>2</sup>, and Michael Gretz<sup>1</sup>.  
<sup>1</sup>Department of Biological Sciences. Michigan Tech University, Houghton, MI 49931 USA  
<sup>2</sup>Department of Biological Sciences. University of Essex, Colechester, CO4 3SQ U.K.

**10:00 – 10:30am** Break

**SESSION 2**                      **Student Presentations**                      **Moderator: Craig Schneider**

**10:30 – 10:45am** Wilce Award Candidate  
DESICCATION EFFECTS ON GROWTH RATE AND NITRATE UPTAKE OF *PORPHYRA* SPP. IN RELATION TO TIDAL ELEVATION. Jang K. Kim<sup>1,3</sup>, George P. Kraemer<sup>2</sup>, and Charles Yarish<sup>1</sup> <sup>1</sup>Department of Ecology & Evolutionary Biology, University of Connecticut, Stamford, CT, 06901, USA. <sup>2</sup>Departments of Biology & Environmental Studies, Purchase College, State University of New York, Purchase, NY, 10577, USA. <sup>3</sup>Department of Ecology & Evolutionary Biology, University of Connecticut, Groton, CT, 06340, USA.

**10:45 – 11:00am** Wilce Award Candidate  
MOLECULAR AND ANATOMICAL ANALYSIS OF CRYPTIC SPECIES IDENTIFIED AS *RHODYMENIA* IN AUSTRALIA. Brian McDonald & Gary W. Saunders. Department of Biology, University of New Brunswick, Fredericton, N.B., E3B 6E1 Canada.

**11:00 – 11:15am** Wilce Award Candidate  
A MOLECULAR GENETIC INVESTIGATION OF HETEROTROPHIC BACTERIA ASSOCIATED WITH *Aureococcus anophagefferens* (CCMP 1708). Kristopher M. Baker<sup>1</sup> and Jackie L. Collier<sup>1</sup>. <sup>1</sup>Marine Science Research Center, Stony Brook University, Stony Brook, NY 11794-5000

11:15 – 11:30am

Wilce Award Candidate

PHYLOGENETIC AFFINITIES OF AUSTRALASIAN SPECIMENS OF *BATRACHOSPERMUM* (BATRACHOSPERMALES, RHODOPHYTA) INFERRED FROM MOLECULAR AND MORPHOLOGICAL DATA.

Sarah A. Stewart<sup>1</sup>, Morgan L. Vis<sup>1</sup> and Timothy J. Entwisle<sup>2</sup>

<sup>1</sup>Department of Environmental and Plant Biology, Ohio University, Athens, OH 45701, USA. <sup>2</sup>Royal Botanic Gardens and Domain Trust, Mrs. Macquaries Road, Sydney, NSW 2000, Australia.

11:30 – 11:45am

President's Award Candidate

AN INVESTIGATION OF THE FACTORS CONTROLLING THE GROWTH OF *GLOEOTRICHIA ECHINULATA* IN AN OLIGOTROPHIC LAKE.

Cayelan C. Carey<sup>1</sup>, Kathleen C. Weathers<sup>2</sup>, Kathryn L. Cottingham<sup>1</sup>, and James F. Haney<sup>3</sup>. <sup>1</sup>Department of Biology, Dartmouth College, Hanover, New Hampshire, 03755, USA. <sup>2</sup>Institute of Ecosystem Studies, Millbrook, New York, 12545, USA. <sup>3</sup>Department of Zoology, University of New Hampshire, Durham, New Hampshire, 03824, USA.

12:00 – 1:30pm

**Lunch**

1:30 – 1:45pm

**Buffer**

SESSION 3

**Student and Professional Presentations**

**Moderator: Don Cheney**

1:45 – 2:00pm

President's Award Candidate

ADHESION STRUCTURES AND MECHANISMS IN THE DESMID, *PLEUROTAENIUM TRABECULA*: BIOFILM DYNAMICS. Leah E. Elliott and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, NY 12866

2:00 – 2:15pm

President's Award Candidate

THERMAL STRESS INTENSIFIES PATHOGENIC EFFECTS OF *VIBRIO* BACTERIA ON CLADE SUBSPECIES OF *SYMBIODINIUM* IN REEF BUILDING CORALS. J.M. Cervino<sup>1</sup>, J.M. McClanahan<sup>2</sup>, E.A. Lorence<sup>3</sup>, A. Perovic<sup>4</sup>, A. Skritnik<sup>5</sup>, T.J. Goreau<sup>6</sup>, R.L. Hayes<sup>7</sup>

**2:15 – 2:30pm** Contributed Paper  
THE NUCLEOMORPH GENOME OF THE CRYPTOMONAD  
*HEMISELMIS RUFESCENS* CCMP644 **Christopher E. Lane**<sup>1</sup>, Catherine  
Kozera<sup>2</sup>, Sharen Bowman<sup>2</sup>, Bruce Curtis<sup>2</sup> and John M. Archibald<sup>1</sup>  
<sup>1</sup>Department of Biochemistry and Molecular Biology, Dalhousie  
University, Halifax, NS, Canada <sup>2</sup>The Atlantic Genome Centre, Institute  
for Marine Biosciences, Halifax, NS, Canada

**2:30 – 2:45pm** Contributed Paper  
WHOLE-LAKE INORGANIC <sup>13</sup>C ADDITIONS AND COMPARATIVE  
STUDIES REVEAL DIFFICULTIES IN PREDICTING ALGAL  
ISOTOPE SIGNATURES IN LAKES **Darren L. Bade**<sup>1</sup>, Michael L.  
Pace<sup>1</sup>, Jonathan J. Cole<sup>1</sup>, and Stephen R. Carpenter<sup>2</sup> <sup>1</sup>Institute of  
Ecosystem Studies, Millbrook, NY, USA. <sup>2</sup>Center for Limnology,  
University of Wisconsin-Madison, USA.

**2:45 – 3:00pm** Contributed Paper  
DNA BARCODING: A POWERFUL MOLECULAR TOOL TO  
UNCOVER DIVERSITY IN THE CANADIAN RED ALGAL FLORA  
Line Le Gall and Gary W. Saunders, CEMAR, Dept of Biology, University  
of New Brunswick, Fredericton, NB, E3B 6E1, CANADA [legall@unb.ca](mailto:legall@unb.ca)

**3:00 – 3:15pm** Contributed Paper

**SESSION 4** **Poster Presentations**

**3:15 – 5:00pm**

**5:00 – 6:00pm**

**Distinguished Speaker Presentation:**

**Dr. Graham J. C. Underwood,**

Department of Biological Sciences, University of Essex, U.K.  
with introduction by David Domozych

**Life in Estuarine Biofilms: Small-Scale Complexity  
and Large-Scale Importance**

**6:30 – 7:30pm**

**Pre-Banquet Mixer**

**7:30 – 9:30pm**

**Banquet, Awards and Auction**

**Sunday, April 23, 2006**

**9:00 – 9:30am      Coffee Break**

**SESSION 5      Mini-symposium: Life on a Surface: Algae and Biofilms  
Moderator: John Heimke**

**9:30 – 10:15am      D. Domozych, DESMIDS: THE STORY OF BIOFILM EUKARYOTES  
OF NORTHERN WETLANDS. Dept of Biology, Skidmore  
College, Saratoga Springs, NY 12866, USA.**

**10:15 – 11:00am      R. Jan Stevenson, BENTHIC ALGAE ARE EVERYWHERE,  
IMPORTANT. WE NEED TO KNOW MORE! Dept of Zoology,  
Center for Water Science, Michigan State University,  
East Lansing, Michigan 48864**

**11:00 – 11:45am      Z. Lewandowski, STRUCTURE AND ACTIVITY OF BACTERIAL  
BIOFILMS, Center for Biofilm Engineering, Montana State  
University. Bozeman, MT 59717. USA**

**11:45am – 12:00      Buffer**

**12:00 – 1:00pm      Lunch and General Business Meeting**

**1:00 – 1:15pm      Closing Remarks**

**Judges:**

**President's Award (oral and poster presentations)  
Chris Lane, Deb Robertson, Brian Wysor**

**Wilce Award (oral presentations)  
Jack Holt, Alison Roberts, Darren Bade**

**Wilce Award (poster presentations)  
Jim Foertch, Eric Roberts, Andy Ryder**



## POSTER PRESENTATION SUMMARY

### Undergraduate (President's Category) Presentations

§§

IDENTIFICATION OF FLAGELLA CAP PROTEINS FROM *CHLAMYDOMONAS REINHARDTII* MUTANTS USING DIFFERENTIAL FLUORESCENT LABELING. Adel Abdo, Lisa Kortfelt, James Hampton, Mike Adams, Biology Dept, Eastern Connecticut State University, Willimantic, CT 06226

§§

MORPHOLOGICAL VARIABILITY WITHIN THE GENUS *STENOPTEROBIA* IN NORTH CAROLINA BAYS. Lee Camfield and Peter A. Siver. Department of Botany, Connecticut College, New London, CT, 06320, USA.

§§

SEARCH FOR CHAPERONE FLAGELLAR PROTEIN COMPLEXES DURING REFLAGELLATION IN *CHLAMYDOMONAS REINHARDTII*. James Hampton, Lisa Kortfelt, Adel Abdo, Mike Adams. , Biology Dept, Eastern Connecticut State University, Willimantic, CT 06226

§§

STRUCTURE AND DYNAMICS OF WETLAND BIOFILMS: *COSMARJUM* SPECIES AS MAJOR DESMID RESIDENTS. S. Hocine and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, NY 12866, USA.

§§

THE EFFECT OF FLAGELLA LENGTH AND NUMBER ON THE KINETICS OF REFLAGELLATION IN *CHLAMYDOMONAS REINHARDTII*. Lisa Kortfelt, James Hampton, Adel Abdo, Mike Adams., Biology Dept, Eastern Connecticut State University, Willimantic, CT 06226

§§

ALTERATION OF CELL DIVISION PROCESSES IN THE DESMID, *PENIUM MARGARITACEUM*: LONG TERM EFFECTS OF BREFELDIN A AND CYTOCHALASINS. Rachel Lay and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, NY 12866, USA.

§§

THE EFFECTS OF EXTENDED PERIODS OF ANOXIA ON *VAUCHERIA* PROPAGULES IN CONNECTICUT RIPARIAN SEDIMENTS. Alison A. Parpal<sup>1</sup> and Craig W. Schneider<sup>1</sup>.

<sup>1</sup>Department of Biology, Trinity College, 300 Summit Street, Hartford, CT 06106-3100, USA.

§§

PROPHAGE: HARMLESS HITCHHIKERS OR CYANOBACTERICIDAL MANIACS?

Alexander Ruck<sup>1</sup> and Raymond Kepner<sup>2</sup>

<sup>1</sup>Department of Microbiology, Marist College, Poughkeepsie, New York 12601, USA

<sup>2</sup>Department of Microbiology, Marist College, Poughkeepsie, New York 12601, USA

§§

ASYMMETRIC CELL WALL DEVELOPMENT IN "SYMMETRIC" DESMIDS.

Ashley A. Serfis and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, NY 12866, USA

§§

IN-STREAM AND RIPARIAN CHARACTERIZATION OF FOUR NEW ZEALAND STREAM SEGMENTS CONTAINING *BATRACHOSPERMUM* SPECIES (RHODOPHYTA).

Katherine F Snyder, Kim J. Brown and Morgan L. Vis. Department of Environmental and Plant Biology, Ohio University, Athens, Ohio, 45701, USA

§§

THE GOLGI APPARATUS AND EPS SECRETORY MACHINERY OF THE DESMID, *NETRIUM INTERRUPTUM*. Anne L. Thomae and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, New York, 12866, USA.

§§

THE EXTRACELLULAR MATRIX OF *COSMARIUM RENIFORME*, A UNIQUE DESMID FOUND IN ADIRONDACK WETLAND BIOFILMS. Richard Wilson, Christine Chang, Catherine E. Domozych and David S. Domozych, Department of Biology, Skidmore College, Saratoga Springs, NY 12866, USA.

## Graduate (Wilce Category) Presentations

§§

WHOLE CELL IMMUNOLOCALIZATION OF THE HEPATOTOXIN MICROCYSTIN IN FRESHWATER CYANOBACTERIA. Heidi Langer Atkinson and Ellen Braun-Howland, University at Albany, School of Public Health, Albany, NY

§§

RESOLVING SPECIES DIVERSITY WITHIN THE ALGAL GENERA *CALLOPHYLLIS*, *PUGETIA* AND *EUTHORA* (KALLYMENIACEAE, RHODOPHYTA) USING MOLECULAR TOOLS. Bridgette Clarkston and Gary W. Saunders. Center for Environmental & Molecular Algal Research, Department of Biology, University of New Brunswick, Fredericton, N.B., E3B 6E1, Canada.

§§

UNRAVELING THE EVOLUTIONARY HISTORY OF GLUTAMINE SYNTHETASE II IN PHOTOSYNTHETIC LINEAGES WITH AN EMPHASIS ON RHODOPHYTES. Sohini Ghoshroy, Aurélien Tartar and Deborah L. Robertson. Department of Biology, Clark University, 950 Main Street, Worcester, MA01610

§§

PROPOSED USE OF THE RED MACROALGA *PORPHYRA* AS A PROTEIN AND FATTY ACID ADDITIVE IN FISH FEEDS. Timothy Hogan, Angela Silvestro, and Donald Cheney. Biology Department, Northeastern University, Huntington Avenue, Boston, MA, 02115, USA.

§§

MICROCYSTIN PRODUCTION IN LAKE ONTARIO. Hotto, A.M., Satchwell, M.F, and Boyer, G.L., SUNY College of Environmental Science and Forestry, 1 Forestry Dr., Syracuse, NY 13210

§§

CHEMICAL CHARACTERIZATION OF DESMID (ZYGNEMATALES) EXTRACELLULAR POLYMERIC SUBSTANCES. IMPLICATIONS FOR EUKARYOTIC EPS FUNCTION IN FRESHWATER BIOFILMS. Sarah N. Kiemle<sup>1</sup>, David S. Domozych<sup>2</sup>, and Michael R. Gretz<sup>1</sup>

<sup>1</sup>Department of Biological Sciences, Michigan Technological University, Houghton, MI 49931

<sup>2</sup>Department of Biology, Skidmore College, Saratoga Springs, NY 12866

§§

DESICCATION TOLERANCE IN *PORPHYRA* SPECIES. Yen-Chun Liu<sup>1</sup> and Donald Cheney<sup>2</sup>. <sup>1</sup>Northeastern University, 360 Huntington Avenue, Boston, MA, 02115, USA

§§

ASSESSING SPECIES RICHNESS AND PHYLOGENETIC RELATIONSHIPS OF THE BROWN ALGAL (PHAEOPHYCEAE) FLORA OF CANADA. Daniel McDevit and Gary Saunders. University of New Brunswick, Fredericton, NB, Canada.

§§

DISTRIBUTION AND RECRUITMENT ECOLOGY OF THE INVASIVE SEAWEED *CODIUM FRAGILE* SSP. *TOMENTOSOIDES* IN MASSACHUSETTS EELGRASS COMMUNITIES. Chris McHan and Donald P. Cheney. Biology Department, Northeastern University, Huntington Avenue, Boston, MA, 02115, USA.

§§

COMPARISON OF TWO ALGAL INDICES FOR USE IN BIOMONITORING OF SOUTHEASTERN OHIO STREAMS. Nathan J. Smucker<sup>1</sup>, Emily K. Hollingsworth<sup>1</sup>, Robert G. Verb<sup>2</sup> and Morgan L. Vis<sup>1</sup>. <sup>1</sup>Department of Environmental and Plant Biology, Ohio University, Athens, Ohio, 45701, USA. <sup>2</sup>Department of Biological & Allied Health Sciences, Ohio Northern University, Ada, Ohio, 45810, USA.

§§

A BASELINE STUDY USING PERIPHYTON COMMUNITIES IN SHAMOKIN CREEK, AN ACID MINE IMPACTED STREAM IN NORTHUMBERLAND COUNTY, PENNSYLVANIA. Laura Wirpsza, Nicole Sweeney, and Jack R. Holt. Department of Biology, Susquehanna University, Selinsgrove, PA 17870, USA.

