

INTERCHANGE

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From the Regional Math & Science Center at Grand Valley State University

Our Vision: Math and Science: Excitement in Learning for Success in Living

Our Mission: Provide and coordinate leadership, programs and services to achieve excellence for all in the teaching, learning and application of mathematics and science.

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Dean Kindschi Leaves a Legacy of K-12 Outreach

Mary Ann Sheline, Director, Regional Math and Science Center

As P. Douglas Kindschi, Dean of the Science and Mathematics Division at Grand Valley State University, begins a new phase in his academic career, the Regional Math and Science Center would like to express our appreciation for his ongoing strong support for our Center and its activities. Dean Kindschi was instrumental in establishing the Center and has helped to guide its growth and leverage resources. This support, coupled with his belief in and enthusiasm for improving K-12 mathematics and science education, have been fundamental in enabling us to develop an outstanding outreach program.

Dean Kindschi has been generous with his time as well as his expertise and, throughout the years, he has attended most of the Center's major events. His vision and leadership have led to the development of many exemplary programs at the RMSC. These include Michigan Science Olympiad, which recently celebrated its 20th

anniversary here at Grand Valley, Science Update Seminars, West Michigan Science Festival, Science Saturdays, Science Odyssey, Teachers in Industry, and Science, Technology, and Engineering Preview Summer (STEPS) Camp for girls. With the encouragement of Dean Kindschi, the RMSC has enjoyed a partnership with the mathematics and science faculty that has made it possible to consistently deliver high quality professional development to the teachers with whom we work and the students who attend our programs.

A teacher at heart, Dr. Kindschi will be assuming a new teaching position, with a joint appointment as a professor in the Mathematics and Philosophy departments. For 28 years, Dr. Kindschi served with distinction as Dean of the Science and Mathematics Division. It has been a privilege for the staff at the RMSC to have worked with him, and we offer our sincere best wishes for his continued success.



Dockeray Scholarship Winners Named

Three Mary Jane Dockeray scholarships will go to 2004 graduating seniors who plan to pursue a career in science. The scholarships are in honor of Mary Jane Dockeray, founding curator of the Blandford Nature Center in Grand Rapids. This year's winners are Catherine Herzog from City High School, Joel Unema from Unity Christian High School, and Megan VanEss from East Kentwood High School.

Catherine Herzog is graduating from City High School, in the Grand Rapids Public School District, and plans to attend the University of Michigan. She will pursue her dream of becoming an astrophysicist; planning to involve herself in research projects and future space missions. Catherine currently spends her free time working at the Roger B. Chaffee Planetarium and is an active member of the Grand Rapids Amateur Astronomical Association.

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These materials were developed under a grant awarded by the Michigan State Board of Education.

She has served as secretary of her Senior Class Student Government,



competed as captain of City High's Science Olympiad team for two years and as a participant for six years, and was captain of Quiz Bowl Team for two years, participating in this event over five years. She is also a member of the National Honor Society, has been honored by the Smith Women's College Book Award, and has been awarded a University of Michigan Regent's Merit Scholarship as well as the MEAP Merit Award, among others. Catherine has contributed over 400 hours volunteering at the Blandford Nature Center and the Van Andel Public Museum Center of Grand Rapids. Catherine's teachers say, "Catherine is very intelligent, works well with others, and has demonstrated excellent work habits and keen insights."

Joel Unema is a graduating senior from Unity Christian High School and he has set his sights on becoming an automotive/mechanical engineer. He has decided to attend Calvin College. Joel's science teacher and Science Olympiad coach has described Joel as an outstanding student who is inquisitive, dependable, creative, and a hard worker. He says, "One of Joel's outstanding abilities is his perseverance with tough physics and math problems. He will work on a problem until it is solved and not give up when the solution does

not come easily." Joel placed 4th and 5th in his events at the 2004 Regional Science Olympiad Tournament, qualified in the top 100 finalists of the Michigan Math Prize for two consecutive years, and is graduating first in his class. In his free time, Joel volunteers his musical talents with his bass guitar for numerous church activities such as "Kids Night Out", vacation bible schools, youth group concerts, and other events. He has recently returned from a week-long



trip for the Guiding Light Mission, working on a Habitat for Humanity project in McCann, Kentucky.

Megan VanEss is graduating from East Kentwood High School and plans to study biology and pre-med science at Loyola University. She plans to be an orthopedic surgeon. Megan's life has been dedicated to sports and her desire to pursue a career in medicine. Megan's Advanced Placement Biology teacher has stated, "Megan is intelligent, persistent, and very highly motivated. She excels in areas that require the use of memory skills and has always led the group to explore when dissecting." Megan is also described as a team player; as a member of East Kentwood's basketball and cross-country teams as well as an integral player on the All-State Academic Softball team.

Megan has excelled with endless energy and a dedication to volunteerism. She spends many hours volunteering at her church,

building houses for the less fortunate, and delivering food to those in need. She is trained and works as a Teen Leader at East Kentwood's Award Winning program called "Teen Challenge". She has tutored elementary students at three of the district's elementary schools, and has volunteered her time at the Comprehensive Therapy Center



for special-needs children over the past two summers. Last year when Megan was recommended to the National Youth Leadership Forum on Medicine, she spent one week in Washington D.C. working at a homeless men's shelter.

Congratulations are extended to all three of this year's winners. The \$ 1,000 scholarships will be presented to Herzog, Unema, and VanEss at the Spring Science and Math Update Seminar on May 5, 2004, which will be held at Grand Valley State University, Allendale campus.

Summer Camps

Regional Math and Science Center

The Regional Math and Science Center at Grand Valley will offer a series of Summer Science Adventure Camps on the Allendale campus. Topics include Flight and Space, Digging Rocks, Forensic Science, and Computer Technology. To obtain a brochure for this program, go to www.gvsu.edu/rmsc/ and click on

Summer Science Adventure Camps, then on the next screen, click on Brochure.

Calvin College

Calvin College will be offering chemistry camps that are specifically designed for students who have just completed the fifth, sixth, or seventh grade. There will be a total of four camps during the month of June.

Calvin College will also be offering seven camps specifically designed for academically gifted and talented middle school students. The camps are:

Science I: Emphasis on Chemistry
Science II: Emphasis on Energy
Science III: Light and Luminescence

For all of these camps there is some scholarship monies available for students with a demonstrated need. Any area teachers who know students who may be interested in the camp should contact Sue Sweetman for registration forms (Ph: 616-957-6200; E-mail: swee@calvin.edu). Other questions about the details of the camps can be addressed to Larry Louters (Ph: 616-957-6493; E-mail: lout@calvin.edu)

Sam Rhine Returning this Fall

On Tuesday, September 28, 2004, Sam Rhine will return to GVSU to present his *Genetic Update Conference*. Mr. Rhine is a nationally known lecturer in the field of genetics. He scours over 1500 scientific articles monthly to make sure every presentation has the very latest information.

This all-day conference is designed for high school students and teachers. Many schools bring their AP biology students to the conference and those students who are interested in careers in medicine or the life sciences.

Watch Sam Rhine's website,

www.samrhine.com, for more information about this conference or contact the Genetic Ed Center at (800) 727-2315 or srhine@aol.com.

Michigan Statistics Poster Results!

There were more than 500 entries in the fifth annual Michigan Statistics Poster Competition for K-12. Judging of the posters took place March 13 on the Allendale campus of GVSU by statisticians from GVSU, Kalamazoo College, Western Michigan University, Central Michigan University, and Carnegie-Mellon University.

Entries were judged in four grade level categories: K-3, 4-6, 7-9, and 10-12. Students worked in groups of up to 4 members except for the K-3 category where students worked as a class. Monetary prizes and plaques will be awarded to the winning students and their schools. The first place posters are:

K-3: "Weather Around Us" by Elaine Albee, Anna He, Olivia Pfund, and Ruth Wang, Angling Road Elementary, Portage

4-6: "Vehicles" by Sarah Fox, Creston Christian School, Grand Rapids

7-9: "Parents vs. Media" by Joanna Slisinger, Jessica Corner, Dalina Ivezaj, and Melissa Sutherland, Carleton Middle School, Sterling Heights

10-12: "Just the Facts... on Abortion" by Patrick Cochrane, Battle Creek Area Math and Science Center, Battle Creek

The committee wishes to thank the teachers around the state who participated in this year's competition. For a complete list of this year's winners along with photos of the winning posters, visit www.gvsu.edu/stat/statposter. The competition is sponsored by the Regional Math and Science Center and the Department of Statistics at GVSU.

Water, water everywhere?

Al Steinman, Director, Annis Water Resources Institute

The recent trial involving the Ice Mountain water bottling plant in Mecosta County has focused attention on Michigan's water resources. Given the apparent abundance of fresh water in this state, it is perhaps paradoxical that water supply is generating such interest. Indeed, the Great Lakes account for approximately 18% of the surface fresh water on the planet. Because water scarcity has historically not been a problem for Michigan, the State has not regulated the quantitative withdrawal of water from either surface or ground water. This is now changing.

Because groundwater and surface water are connected, withdrawal of too much groundwater can influence surface water levels, impacting the ecology of the ecosystem. The Ice Mountain case showed a connection between too much water withdrawal and reduced spawning habitat for northern pike. The judge in the case ruled that the Ice Mountain bottling plant would have to cease operations. This ruling is now being appealed to the State Supreme Court. While this case has the highest profile, other water withdrawal incidents have appeared in Michigan. Residents in southern Saginaw County who live near large agricultural irrigators claim that their well levels and water pressure drop significantly during the growing season. In addition, large groundwater withdrawals, allegedly associated

with rock mining operations in Monroe County, have been linked to significant drops in subsurface water levels.

In August 2003, the Michigan Legislature passed Public Act 148, to address some of these concerns. The Act requires the Michigan Department of Environmental Quality (MDEQ) to prepare a statewide groundwater inventory and map, increase water use reporting fees for large-scale facilities, require farms with large-



the Great Lakes account for approximately 18% of the surface fresh water



scale pumping capacities to register with the _____, and establishes a Groundwater Advisory Council to study the sustainability of the state's groundwater use and make recommendations to the Governor. The Council consists of representatives from government, industry, agriculture, environmental organizations, and academia.

Governor Granholm's first Special Message to the Legislature was about water. She unveiled her Michigan Water Legacy Act, a comprehensive plan to protect our groundwater and our surface waters. Although progressive legislation is surely a critical piece of the solution, it is the responsibility of every resident in the State to be a better steward of this precious natural resource.

Reduce Risk: Change Human Behavior

Steve Glass, Department of Movement Science

One hundred years ago, illness and infection claimed the majority of lives. Most individuals were very active, expending close to 800 calories per day more than today (equivalent to walking 8 miles). As lifestyles became more mechanized and sedentary heart disease and cancer became the leading killers. In the 1960's the Surgeon General reported that smoking was closely related to death from heart disease and cancer. Tobacco use has remained the number one cause of mortality, however there is a new danger: poor diet and physical inactivity. According to a recent article in the Journal of the American Medical Association, in 2000 435,000 deaths (18% of total) were attributed to tobacco use. Alarmingly, poor diet and physical activity resulted in 400,000 deaths (16%), while alcohol consumption (85,000 deaths), microbial agents (75,000) and toxic agents (55,000) rounded out the top five. As a result of this report the US Department of Health and Human Services is implementing a "Calories Count" program that will encourage consumer education, wiser food choices, and sound weight management strategies. Intervention must start early, with children, or within five years diet and inactivity will be the leading killer in this country. Given current health care costs, we must solve this health issue through prevention. The solution: eat less and become more active!

This page is produced by faculty from GVSU.

Success Story: MSTA Leadership

On April 16, 2004, two teachers from West Michigan officially took office in the Michigan Science Teachers Association (MSTA). Robbie Cramer, Curriculum Specialist for the Grand Haven Area Public Schools, assumed the office of president of this organization. Marilee Herremans, elementary teacher and District Science Coordinator for Orchard View Public Schools, took office as the MSTA Region 4 Director.

Robbie Cramer brings a high level of science experience and expertise to this important office. For the past six years, Robbie has served MSTA as a regional director and president-elect. She has been active in science education in a wide variety of arenas including serving as Chair of the K-12 Science Curriculum Committee for Grand Haven Public Schools, a member of the state training team for Operation Chemistry, a Science Olympiad and Odyssey of the Mind coach, and a Building Science Leader. Robbie was also on the Michigan design team for the *Building A Presence for Science* network.

Over the past few years, MSTA has been working on clarifying and updating its mission, vision and values statements. With this infrastructure in place, Robbie indicates that the organization will now be better prepared to focus on current issues, acting as a resource and responding to teacher needs in a proactive manner. The areas of concern include supporting teachers in meeting the requirements for highly qualified teachers under NCLB and looking for creative ways to provide professional development for teachers as funding continues to dwindle. Robbie values your input and may be contacted by email at cramer@ghaps.org or by phone at

work, (616) 850-5082.

Becoming a regional director is just one of the new roles that Marilee Herremans has taken on during this academic year. This is also her first year as the science coordinator for Orchard View Public Schools working with a K-12 Science Committee that will be looking at the scope and sequence of the district's science curriculum. Her goals as regional director include making personal contact with Building a Presence (BaP) Key Leaders (KLs) and Points of Contact (POCs) in her region and finding ways to increase MSTA membership. Marilee may be contacted by phone at her school, (231) 760-1700.

Both teachers were part of the Building Science Leaders (BSL) Program through the Regional Math & Science Center (RMSC) at Grand Valley State University (GVSU). Over the past three years, the RMSC has provided science leadership training for cadres of teachers with funding received through an Eisenhower Higher Education Grant. The objective of this program was to improve the quantity and quality of science teaching in both elementary and middle schools through the development of building level teacher leaders.

Over the three and a half years that Marilee has been a science leader in her building, interest in science on the part of students and teachers has grown tremendously. Through a building-wide needs assessment conducted at the beginning of the BSL program, the staff obtained concrete evidence on what needed to be done to improve science learning for their students. As a result, her building began adoption of the Battle Creek Science Kit curriculum supported by the required professional development for teachers. Marilee's excitement for the students' progress shows when she shares that MEAP science scores

have risen every year since their school's implementation of an inquiry-based science program, and are now well above the state average. Student enthusiasm for science has increased as well. One student commented to an observer of an active science class, "It's OK, we're talking about real science!"

GLOBE Training

The Environmental Education and GLOBE Training workshop for middle school and high school teachers this summer will include:

- training in the GLOBE protocols for collecting environmental data,
- instruction in the of the Murphy Model for Environmental Education, a template for integrating environmental education with other subjects in the curriculum, and
- an introduction to inquiry-based science instruction, including how to use inquiry within the GLOBE curriculum.

Participants will also be introduced to the new environmental classroom units under development through the Department of Environmental Quality of the State of Michigan. This week-long workshop for middle and high school teachers (grades 5-12) will be held at the Lake Michigan Center of GVSU in Muskegon, MI. The workshop will be August 9-13.

More information about this workshop as well as the registration and application forms is available on the Regional Math & Science Center website at www.gvsu.edu/rmsc under "Teachers & Administrators, Professional Development Opportunities and Workshops". There is no registration fee for this workshop, but registration is limited. Participants must meet the criterion for selection and submit an application form. Contact Karen Meyers, Assistant Director, RMSC, at (616) 331.2515 or meyersk@gvsu.edu.

CALENDAR *OF* EVENTS

JUNE

17-18 Thursday-Friday

WMU's **Paper Making in the Classroom** by Dr. David Peterson. For teachers of grades 7-12. Class meets at WMU Parkview Campus, Kalamazoo. 8:30 a.m. - 4:00 p.m. One graduate credit hour available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

21-25 Monday-Friday

WMU's **BioBuddies**, a course in microbiology for elementary and middle-school teachers, by Dr. John Goudie. Class meets at Kalamazoo Area Math and Science Center, 600 W. Vine St., Kalamazoo, MI. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

21-25 Monday-Friday

WMU's **Watershed Science Education Academy** by Mr. David Krebs and Mr. Jeff Auch. For teachers of grades 6-12. Class meets at Girls Scouts of MI Pine and Dunes, Kiskey Env. Ctr., 1217 E. River Rd., North Muskegon. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

21-25 Monday-Friday

Workshop on **Getting to Know the Connected Mathematics Project** for teachers and administrators grades 6-8. 8:15 a.m.-4:20 p.m. Michigan State University's Union Building. For more information see www.math.msu.edu/cmp or contact Judith Miller at (517) 432-2870 or miller@math.msu.edu.

28-July 2 Monday-Friday

WMU's **Crystals, Minerals, and Rocks for Teachers** by Dr. John Grace. For teachers of grades 7-12. Class meets at Room 1120 Rood Hall, WMU Campus. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

28-July 2 Monday-Friday

Science III: Light and Luminescence: Daily sessions from 9:30 a.m.-2:30 p.m at Calvin College will emphasize advanced scientific tools to understand color, light, and materials that glow. Designed for academically gifted and talented middle school students. See more details in this issue or contact Larry Louters at (616) 957-6493 or lout@calvin.edu.

JULY

6-9 Tuesday-Friday

Exploring Flight and Space Camp I (session 1) for students grades 4-7, 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. Additional details available at www.gvsu.edu/rmsc/.

12-15 Monday-Thursday

Get with the Program: Technology Class for students grades 6 and 7. 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. Additional details available at www.gvsu.edu/rmsc/.

12-15 Monday-Thursday

Exploring Flight and Space Camp I (session 2) for students grades 4, 5, and 6, 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. Additional details available at www.gvsu.edu/rmsc/.

12-16 Monday-Friday

WMU's **Activities in Outdoor Education** by Mr. Larry Fegel. For teachers of grades 3-9. Class meets at Outdoor Discovery Center, A-4204 56th St., Holland, MI. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

12-16 Monday-Friday

Flinn Foundation Summer Chemistry Workshop. The workshop is July 12-15 from 8:00 a.m. to 4:30 p.m. and July 16 from 8:00 a.m. to 1:00 p.m. on the Allendale Campus of GVSU. For more information and for registration forms visit www.flinnsci.com/Sections/Foundation/documents/info.asp. Two graduate credits are available. For more information contact Dave Tanis at (616) 331-2238 or email tanisd@gvsu.edu.

12-16 Monday-Friday

WMU's **Teaching Science Safely** by Dr. Marcia Fetters and Mr. Dale Freeland. For teachers of grades 6-12. Class meets at Battle Creek Kendall Center. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

12-22 Monday-Thursday

Science I: Emphasis on Chemistry: Eight daily sessions from 9:30 a.m.-2:30 p.m at Calvin College will emphasize chemistry, biochemistry, and biology. Designed for academically gifted and talented middle school students. See more details in this issue or contact Larry Louters at (616) 957-6493 or lout@calvin.edu.

18-23 Sunday-Friday

Great Lakes Institute on board the U.S. EPA's *Lake Guardian* research vessel and one night at the Learning Center. See article in this issue. Call the IDELC at (219) 395-9555 or email gpidelc@netnitco.net to receive a registration packet and reserve a spot.

CALENDAR *OF* EVENTS

19-22 Monday - Thursday

Exploring Flight and Space Camp II for students grades 5, 6, and 7. 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. Additional details available at www.gvsu.edu/rmsc/.

19-22 and 26-29 Monday-Thursday

WMU's **Ecology for Teachers . . . at the Zoo . . . and at Your School** by Dr. Mark Jenness. For teachers of grades K-9. Class meets at Binder Park Zoo the first week and Battle Creek Kendall Center the second week. 8:30 a.m. - 4:00 p.m. 3 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

19-23 Monday-Friday

WMU's **Chemistry is Fun: Hands-On Activities for the Middle Grades** by Mr. David Nette. For teachers of grades 4-8. Class meets at the Grand Rapids Graduate Center - Beltline. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

19-23 Monday-Friday

WMU's **Hands-On/Minds-On: Exploring the Nature of Science and Scientific Inquiry** by Dr. Renee' Schwartz. For teachers of grades 3-9. Class meets at Room 1127 Wood Hall, WMU Campus. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

26-29 Monday-Thursday

Digging Rocks for students grades 4, 5, and 6. 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. additional details available at www.gvsu.edu/rmsc/.

26-30 Monday-Friday

WMU's **Using Community Resources to Teach Science** by Drs. Marcia Fetters and Paul Vellom. For teachers of grades K-12. Class meets at the West Main School/Professional Development Center. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

26-30 Monday-Friday

WMU's **The Geology of Lake Michigan's Shoreline** by Dr. Ronald Chase. For teachers of grades K-12. Class meets at WMU's Southwest Regional Center. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

July 26-Aug 5 Monday-Thursday

Science II: Emphasis on Energy: Eight daily sessions from 9:30 a.m.-2:30 p.m at Calvin College will emphasize experiments and activities organized around the theme of energy. Designed for academically gifted and talented middle school students. See more details in this issue or contact Larry Louters at (616) 957-6493 or lout@calvin.edu.

AUGUST

2-5 Monday-Thursday

Forensics Science for students grades 5, 6, and 7. 9:00 a.m.-3:00 p.m. on Allendale campus of GVSU. Additional details available at www.gvsu.edu/rmsc/.

2-6 Monday-Friday

WMU's **Issues in Ecology for Teachers** by Dr. David Rudge. For teachers of grades 7-12. Class meets at Room 1127 Wood Hall, WMU Campus. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

2-6 Monday-Friday

WMU's **Forces, Motion and Fun** by Mr. Gregg Zulauf. For teachers of grades 5-12. Class meets at Stevenson Center for Higher Education, Muskegon. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

9-13 Monday-Friday

WMU's **Teaching Science with Toys Using Inquiry-Based Instruction** by Mr. William Burd. For teachers of grades 2-8. Class meets at the Grand Rapids Graduate Center - Beltline. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

9-13 Monday-Friday

Environmental Education and GLOBE Workshop. For middle and high school teachers (grades 5-12), 8:30 a.m. - 4:30 p.m., at the Lake Michigan Center of GVSU in Muskegon, MI. Workshop brochure, registration, and application forms available at www.gvsu.edu/rmsc. Registration is limited. Questions to Karen Meyers at (616) 331-2515 or meyersk@gvsu.edu.

9-13 Monday-Friday

WMU's **Behavior of Light** by Mr. Dale Freeland. For teachers of grades 7-12. Class meets at Room 1413 Wood Hall, WMU Campus. 8:30 a.m. - 4:00 p.m. 2 graduate credit hours available. For additional information, call the WMU's Center for Science Education at (269) 387-3337 or e-mail cse@wmich.edu.

SEPTEMBER

28 Tuesday

Genetic Update Conference by Mr. Rhine at GVSU. Designed for high school students and their teachers. For details call (800) 727-2315, or rhine@aol.com.

Sail and Learn!

K-12 educators are invited to a 6-day workshop. Four nights will be spent on board the U.S. EPA's *Lake Guardian* research vessel and one night at the Learning Center. Participants will travel up the lake and conduct activities exploring issues that face Lake Michigan, discuss solutions, and unravel ecological mysteries of the lake. Live video footage from beneath the surface and water monitoring techniques will add to activities that comply with state standards and are transferable to your classroom. Sessions begin Sunday July 18 and continue through Friday July 23. Possible ports of call are: the Port of Indiana, Grand Haven, Muskegon, Sleeping Bear Dunes area, Milwaukee, and Kenosha. Registration is limited to 20 participants so call the IDELC at (219) 395-9555 or email gpidelc@netnitco.net. Cost of the workshop is \$225 and includes meals, lodging and lots of materials! Participants can earn 3 hours of graduate credit through Indiana University Northwest and Chicago State University, for an extra cost. Register directly with IUN on their website, www.iun.edu. Contact Dr.

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#4-26183

Ken Schoon at (219) 980-7766 for more information. For CSU credit, contact Mike Siola at (773) 995-2964. The U.S. EPA Great Lakes National Program Office is funding the use of the *Lake Guardian*. Sponsors of the workshop are the Lake Michigan Federation, GVSU Annis Water Resources Institute, Indiana Dunes Environmental Learning Center, and Indiana Dunes National Lakeshore

Tap the Datastreme

There are several openings for Datastreme online classes being offered to K-12 teachers this fall by the local LIT team. Three different classes are offered: Datastreme Atmosphere, Datastreme Oceans, and WES (Water and the Earth's Atmosphere). The cost for each class and the tuition for three credits through Brockport College will be picked up by Datastreme. (Approximately \$1900) If you would like more information or an application, you may go to the Datastreme website (dstreme-comet.ucar.edu/), or e-mail Tom Kelly at tkelly@gpsk12.net or Gary Palmer at gpalm6@aol.com

Openings are limited and we would like to have applications processed by June 30th.

Math GLCE Workshop on May 12!

On March 30 of this year, the Michigan State Board of Education and the Department of Education released Michigan's new Grade Level Content Expectations (GLCE) in mathematics.

In response, the Michigan Math/Science Centers in conjunction with the Michigan Council of Teachers of Mathematics are offering workshops to familiarize administrators, curriculum directors, and educators with the mathematics GLCEs while gathering information to inform the process.

The brochure / registration form for this workshop on the new Math GLCEs is on the Regional Math & Science Center website at www.gvsu.edu/rmsc. If you have any questions, please contact Karen Meyers at (616) 331-2515 or by email at meyersk@gvsu.edu. Please note that the registration **deadline is May 3, 2004.**

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