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# WESTERN MICHIGAN UNIVERSITY

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## COLLEGE OF ARTS AND SCIENCES DEPARTMENT OF GEOLOGY NEWSLETTER

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Volume 1 No. 21

December 1996

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Greetings --

The WMU campus looks like a winter wonderland as the result of the "lake effect" snow we received last weekend. The abrupt transition from Winter is similar in some ways to the one John Grace and I will be making the first of the year. But for now, the department is gearing up for the last few weeks of the semester. Students and faculty trying to catch up or stay up, class evaluations, finals, grades, a litany familiar to each of us. The Department is in the midst of change. Dr. John Grace and I are retiring as the first of the year. John's replacement, Dr. George Guthrie, will join the Department Fall Semester, 1997. A search is under way for a faculty member to replace me, and Dr. Alan Kehew has been appointed Chair as of January 1, 1997. Dr. William Smith is on a one-year appointment at Grand Valley State University, and his permanent replacement, Dr. Michelle Kominz, will also join the Department at the beginning of the Fall Semester.

As most of you will recall, Dr. Grace (1969) and I (1968) joined the faculty quite some time ago, and our retirements bring to a close the last "vestiges" of the sixties. To illustrate the youth and vigor of our Department, Dr. Chase (1973), Dr. Harrison (1973) and Dr. Schmidt (1978) are the only remaining faculty members who were hired in the seventies. When the on-going search for my replacement is completed, four faculty members will have been hired in the nineties. This coupled with the very active research that is being conducted by the faculty and our students clearly shows that this is a department on the move.

We have enjoyed our years in Kalamazoo and at Western Michigan University, but the time has come to move on. Odessa and I have purchased a home in New Harmony, Indiana, a small historic town near where we spent our youth. The University of Southern Indiana, which manages "Historic New Harmony", has given me an office and I expect to remain active with wetland studies and to begin anew to work on the Ohio-Wabash River system. I hope that I find time to learn the intricacies of crappie fishing (calico bass to some Michiganders), but if I don't, that will be ok too (note the laid back attitude expected of retirees).

I will miss the people, I will miss WMU, I will miss Kalamazoo, but I will not miss the telephone! Taking a line from an old Weaver's tune from the early fifties, we will simply say,

"So long, it's been good to know you, but a long, long time since I been home."

Best wishes--if you ever get near New Harmony, give us a call.

Tom



## DEPARTMENT OF GEOLOGY NEWSLETTER

### FACULTY NEWS

#### ESTELLA ATEKWANA ASSOCIATE PROFESSOR

Greetings to all alumni and friends. It has been a very fast and busy year for me both at school and at home. Our Geophysical Test Site is up and running and we now have targets buried in an area 40 m x 200 m. This is providing hands-on training to our students in the Hydrogeology Field Camp and Geophysics Courses. If you happen to stop by Kalamazoo, please let us know so that we can show you our latest state-of-the-art geophysical equipment purchased with help from our recent NSF grant. We now have a Geometrics Rx Strataview 24-channel engineering seismograph, a Geometrics cesium vapor magnetometer (G858), an Iris R2 Syscal resistivity unit with induced polarization capabilities and a Geonics EM-31. We will proudly show you the work we have been doing with the equipment and recent results from our test site.

We also have a very strong geophysics group going consisting of Dr. Sauck, myself and about 12 graduate and undergraduate students. We meet regularly every Wednesday morning and discuss recent developments in the field as well as student projects. We have also recently formed a student chapter of the Environmental and Engineering Geophysical Society. As a result of this, we get two free student admissions to SAGEEP (Symposium on the Application of Geophysics to Environmental and Engineering Problems). These are exciting times for us at WMU. Please visit our Web page to see what our students are doing. Dr. Sauck and myself co-taught our first Environmental Geophysics Field course last spring. This course was taught at the Wurtsmith Air Force Base, in Oscoda, MI where more than 80 plumes of different chemical compositions exists. We had a wonderful time and I am sure the students learned a great deal. We currently have two students working at two sites at the base for their MS thesis. Thanks to Dr. Michael Barcelona for granting us access to the base.

Results from some of the work we did at Wurtsmith Air Force Base is in review with the Journal of Environmental and Engineering Geophysics. My last paper "Precambrian basement beneath the central midcontinent United States as interpreted from potential field imagery" has recently been published in Geological Society of America Special Paper 308 - Basement and

Basins of Eastern North America, ed. By Ben A. VanderPluijm and Paul Catacasinos. If you would like a reprint, please drop me a card.

On the home front, Kyra is now a preschooler and attends the new daycare on campus, while Kyle is in First Grade. He loves First grade because he gets to play on the playground. Eliot has finally finished his dissertation. He successfully defended this Fall.

#### DAVID BARNES ASSOCIATE PROFESSOR

Hello and greetings from Dave Barnes. I received my ten year commendation from the University earlier this fall. Do any of you remember the first time I stepped outside, after a Sed Strat class, on a gray November and looked up in amazement at the snow flakes on the windows of Rood Hall. Only a few short months previously it had been ungodly hot and humid. "This sure isn't California" I think I said. Well I guess I have finally settled in and am a Michigander. I spend a lot of time on Lake Michigan and am generating my own yarns; may never fill Tom Straw's shoes, but I am getting a little salty.

Well, I still have three not-so-small children now; Nick (six), Lily (eight) and Brendan (nine). They are all doing well and providing me with as much distraction as I ever need. They all read, and back talk, and I am learning resignation, to some things. Teresa is very well and is attempting to make the transformation between house and children-bound mother back to artist. It is difficult. Any of you who have been away from your profession for nine or ten years will realize the difficulty of getting back into the swing.

University life is still quite all-consuming, perhaps a little neurotically so. The final aspects of Michigan basin research activities were published in a GSA Special Publication earlier this year. I continue to plug along with efforts to develop a Coastal Research Program with emphasis on the Great Lakes and Lake Michigan Coastal Change in particular. We continue the seemingly interminable coastal monitoring program; monitoring experimental shore protection structures near Muskegon, Manistee, and Onkama in the face of essentially unanimous disdain and disregard for structural intervention on the coast by most technical and management people. Our studies seem moribund;



## DEPARTMENT OF GEOLOGY NEWSLETTER

### FACULTY NEWS (CONT.)

however, the State Legislative Initiative funds provide the opportunity to explore various useful aspects of the Coastal Geology of Michigan. On the basis of my attention to highly politicized coastal issues, I certainly am not sure that our State's spectacular coastal resources are very effectively managed. This is vaguely reminiscent of our state's petroleum resource management, I think.

I recently attended the Annual Meeting of the American Shore and Beach Preservation Association in Chicago. This rather up-scale group decided to meet in the Great Lakes and emphasized Great Lakes coastal issues. This is an acknowledgment of the significance of coastal resources in the Great Lakes region. The meeting was elegantly hosted and I gained a new appreciation for (1) the city of Chicago, (2) the complexity of urban as well as rural coastal issues and (3) the fact that we really don't have all the answers with regards to coastal processes in the Great Lakes States and, especially, the Canadians in Ontario are really leading the way in terms of insightful and technically based coastal management. I hope to submit a paper concerning our coastal monitoring program to a Meeting Volume to be published in the Journal Shore and Beach next year.

Other news relating to ongoing Coastal Research includes:

(1) The US government surplus boat armada was partially decommissioned this summer and liquidated to generate resources for the purchase of a NEW coastal research vessel...a 19 ft. Carolina Skiff. A very sturdy craft that should serve our Great Lakes as well as inland lake research activities for years to come. We still don't have a decent place to store our equipment (a perpetual problem with all of our departmental equipment).

(2) We have acquired new Geographic Information System (GIS) software, Grassland, installed on a couple of fast PC computers in the Department. This software is a PC-windows interface software built around the US Army Corps of Engineers powerful (but cumbersome, public domain, UNIX-based) GIS software system, GRASS 4.1. We are making (slow) progress with this new and powerful application related to coastal research activities. Several student/private proposals for work along the Lakes have been submitted/are pending based on GIS approaches.

(3) Grass 4.1 is currently installed and fully functional on the University UNIX network. A public domain version

of Grassland, the graphic user interface-(GUI) based software is also installed on our University UNIX system...(not fully functional, however). We hope to have a University-wide gui-based GIS system on the UNIX network available soon. Use of this system could be available to the public based on University Computing Services policies for access to University computing resources. Learn about it! I view the application of GIS to earth science and natural resource issues as a real professional opportunity for earth scientists.

(4) I am hoping to continue a coastal resource assessment program along the coast, in a GIS context. I hope that local governments in counties along the coast see this sort of work as useful in the future.

Other notable activities include the use of World Wide Web (W3) to support classroom teaching. Check out <http://www.wmich.edu/geology> and cruise through what has been generated in the department. We are trying to stay abreast of rapidly expanding information superhighway resources. Much credit goes to Santis Limezs for his huge contributions to incorporating computer information into our program.

Enough for now and best wishes. Do let me know what you are doing and what we should be doing in the interest of future geoscientists.

RONALD B. CHASE  
PROFESSOR

The academic year 1995-96 was an excellent one for me. In the area of teaching, I continue to do my thing in Optical Mineralogy and Petrology, plus occasionally teach Earth Studies, Advanced Petrology, one half of the Structural Analysis course and the Upper Peninsula field courses. The Earth Science course is undergoing significant revision in light of the new university general education course requirements. I guess I am sort of in charge of the revision activities. Of greatest recent interest to me in the teaching area is a major change in the science curriculum for Elementary Education majors. This may seem rather remote to the Geology Department, but it is not remote to me because I watched my four sons receive rather bad science experiences during their youth and have tried to do something about it. This curriculum revision project is interdisciplinary. I am working with several Co-Principal Investigators from other science departments with very



## DEPARTMENT OF GEOLOGY NEWSLETTER

### FACULTY NEWS (CONT.)

sizable support from a U.S. Department of Education FIPSE grant.

My biggest research boost was the awarding of a U.S. Army Research Office - Terrestrial Sciences Program grant (with Al Kehew as Co-PI) of \$176,000 to study the structural, geotechnical and hydrologic aspects of bluff failures along a representative section of the Lake Michigan coast. The project started in May, 1996 and will be funded for three years with funds available for significant student involvement (currently Bill Montgomery is using part of the project for his Ph.D. Dissertation). The subject is fascinating from a practical standpoint, and also because I can apply my general petrologic and structural background to examine slope failure problems in manners that differ from traditional civil engineering. I am also continuing my involvement in Rocky Mountain geology through a project that will, hopefully, perfect an isotopic technique to identify igneous bodies that have been decapitated and transposed by thrust movements.

On the personal side, my lovely wife continues to teach adult learners in the Comstock Public School system. After several years of trying, I think she is finally beginning to pull out of the empty nest syndrome. Karl is majoring in Earth Science - Teaching in our department, a natural career path for him considering his gregarious personality and communication skills. Andy still works for AT&T in Seattle as a computer person. He started with on-line tracking of cellular phone shipments to the far east, but he seems to be branching into overseer of the Seattle office computer system. A bit of a stretch for a person with a Journalism degree. Scott graduated last May from Washington University (St. Louis) and is now in his first year of Medical School at Barry University, Miami, FL. Jamie is currently a senior at Wesleyan University (Conn.) with a dual major in Political Science and East Asian Studies. He is madly applying for Law School, mostly at snobbish eastern schools.

I am certainly interested in hearing from former students. Please let me know about your lives. I can be reached on line at CHASER@WMICH.EDU and have been known to respond rapidly to messages.

JOHN GRACE  
PROFESSOR

I didn't think I would be contributing this missive for this newsletter this year as I thought I would be retired as of this past August, but it didn't work out that way. I stayed on an extra semester as the department was a little short handed with the two new additions to the faculty having been delayed as far as their starting dates here at Western are concerned. However, when the snow begins to blanket the ground in January, my wife and I plan to head south to warmer climates. We hope to visit relatives in Florida, the Bahamas and Arizona before returning to Michigan in April. I might try to collect some beer debts from some of the alumni who now live in the southern states during our travels - so beware!

Our future plans are uncertain, but we will live in Michigan for most of the year, so I certainly plan to keep in contact with this department. If you want to reach me, just send a note and I'll get it sooner or later.

DUANE HAMPTON  
ASSOCIATE PROFESSOR

Hello, geology grads. During the last year I have participated in some gratifying accomplishments. Seven Masters students that I advised completed their thesis last year. Some of them had been pending for up to 7 years. I completed draft and final reports on my EPA grant to improve free product monitoring and recovery. That was considerable baggage for me to remove. I also worked with a WMU graduate, Stone, who has developed into quite a modeler, on a modeling paper that has been on the back-burner for many years. We hope to finish the final draft in the next week or two and probably will submit it to Ground Water Monitoring and Remediation. So this year has really been good for my soul.

On the new front, I have been looking for funding to use the hydrocarbon tracers we have developed in a field-scale free product plume. I sent a proposal to the U.S. Department of Energy that was rejected, but hope to improve that proposal and find funding support. I would like to use tracers to determine the rate and direction of hydrocarbon movement, something that could help us validate computer models of multi-phase flow and could help us evaluate remedial system design



## DEPARTMENT OF GEOLOGY NEWSLETTER

### FACULTY NEWS (CONT.)

and performance. We would probably perform this research at the Crystal Refinery in Carson City, MI, which is about two hours from here. However, if any of you would like to suggest a closer site with substantial free product accumulation for this research, I would appreciate it.

In the last year, our hydrogeology enrollments have decreased, particularly at the Masters level. I believe this shows that the university is not isolated from the economy. The hydrogeology market in Michigan was difficult last year, and is still tough. Nevertheless, our graduates at all levels seem to be getting jobs, and there are still opportunities for our graduates. I get phone calls almost weekly asking for recommendations for students who are available. So, I believe that the work that our students do is serving as a good reference for this program. My crystal ball is cloudy about future hydrogeology jobs in Michigan, but I believe there will be a continued need for well-trained, motivated graduates in Michigan as well as outstate. Simultaneously, I should add that our field hydrogeology program is going to gradually close over the next several years since we believe we don't need two hydrogeology B.S. degree programs to meet the demand.

My oldest daughter is currently a sophomore at Michigan State. Seeing her go through college gives me additional perspective on the problems students face. That doesn't mean my tests will be any easier, though. Best wishes to you for a good year.

WILLIAM HARRISON, III  
PROFESSOR

1995-1996 was very busy for me. In addition to teaching the normal compliment of Oceanography and Paleontology courses, new courses on Ocean Systems and Evolution were added to the curriculum. I have also been very busy with a research project funded by the U.S. Department of Energy to investigate the potential of improved recovery from old oil fields in the Dundee Formation of Michigan. This joint project with Michigan Tech and Terra Energy of Traverse City, drilled a test well in Crystal field in October, 1995. The well was successful and has been producing 100 barrels of oil per day for the past year. The project is stimulating loss of interest in renewed oil exploration in Michigan. I have also made my third trip to Latvia in August, 1996. I made additional contact with several geological entities there including

visits to the Latvian National Gas Company and return visits to the University of Latvia and the Latvian Geological Survey. I am currently working on a research project funded by the U.S. Trade Development Agency to evaluate potential sites for underground gas storage. My graduate student, Santis Limezs from Latvia, is also working on the project.

Linda continues to be a Visiting Research Scientist in the Core Lab and has been active in much of the Latvian work, especially in the educational exchange activities with the University of Latvia. She is also helping me prepare for my upcoming sabbatical to study horizontal drilling technologies in Michigan and Texas. Linda and I traveled to Hawaii to see Kilauea erupt and to California for Linda to participate in the Big Sur Marathon and Ten mile walk. Linda did the Walk and II studied the vineyards of Santa Cruz and Monterey.

ALAN E. KEHEW  
PROFESSOR  
DIRECTOR, INSTITUTE FOR WATER SCIENCES

Hi. The past year seemed to go by faster than ever. I could claim I was busier than usual, but it's probably just a sign of aging. In my own activities, the year was notable for several reasons. The mapping project in St. Joseph County that Tom Straw and I began a year ago is now in its second year. We are mapping the glacial geology of the county on 7½ minute quads and producing the maps by GIS techniques in the GIS Research Center in the Geology Department. This program, which has one more year to go, is funded by USGS through the Michigan Department of Environmental Quality under the direction of Kevin Kincare (WMU Geology M.S.). My other major research endeavor is the Lake Michigan Bluff erosion study that I am working on with Ron Chase and Bill Montgomery, a Ph.D. student. By the time this is sent out, we will have given several talks on the project at the annual GSA meeting. My grad students Lisa Anderson, Carrie Lovetere and I gave talks on our Cass County project at North Central GSA last spring. This project has been a very productive long-term effort to study the groundwater and surface water quality in a watershed impacted by agricultural non-point source degradation. Mike Kirby, a new Ph.D. student, will be picking up that project for his dissertation research. Other than research, and the normal teaching responsibilities, I managed to fit in a NSF Chautauqua



# DEPARTMENT OF GEOLOGY NEWSLETTER

## FACULTY NEWS (CONCLUDED)

trip to Alaska to look at glaciers and family vacations to Maine and Washington, D.C.

R.V. KRISHNAMURTHY  
ASSOCIATE PROFESSOR

The past year was a very productive and rewarding one for me. My research in stable isotope geochemistry continued to flourish and thanks to the relentless efforts put in by my graduate students, we had a year very much worth repeating! Several manuscripts were submitted for publication, many of which are in press and others that are going through the tough review process. We also presented several papers in national meetings. Carla and Eliot presented papers at the American Geophysical Union's Spring Meeting in Baltimore, with Eliot obtaining a travel grant from American Geophysical Union. I was invited to present a paper at the Geological Society of America's Annual meeting in New Orleans. New Orleans experienced my capabilities as a geochemist as well as my ability to meet head on their celebrated "cajun" flavors! Madhav's years of hard work received recognition when he was selected as and "All University Research Scholar". Norman has launched with greater vigor and his determination to tackle the challenging task of measuring the hydrogen isotope ratios in sedimentary organic matter. This project incidentally has been accepted by the National Science Foundation for a two year funding. NSF's decision is particularly gratifying when we were told that ours was one of the seven or eight proposals out of seventy five that were approved for funding. I was also delighted to receive the Dean's Appreciation Award in recognition of my contributions to the department and the College of Arts and Sciences. On the teaching front, I had the "first time" experience of teaching Environmental Earth Science to undergraduate students. Going by the student evaluations, I felt quite satisfied in having taught a group of students drawn from such diverse areas as biology and criminal justice. On the family front, we moved into our own home thus exhibiting our willingness to face the many responsibilities that come with it. So far, I have been managing to hide inside the sanctum of the stable isotope laboratory, leaving the arduous tasks of mowing and snow blowing to my ever understanding wife! I am sure she will hand over all the garden equipment to me once she feels that my productivity has dropped! Thus, I have added pressure to do more and do well. Our

summer was spent in the New England states. The rising mountains of New Hampshire and Massachusetts brought back sweet memories of California. The trip back from the east was capped by visits to the Niagara Falls and the safari near Hamilton. The safari where animals of all sorts are separated from you only by the thin car window glass is a must for every one!

## AWARDS AND SCHOLARSHIPS

Presidential Scholar - Tony Clark  
Senior Honor Awards  
Geology - Robin Mihill  
Hydrogeology - Artist Kirkpatrick  
Geophysics - Tony Clark  
Field Hydro - Theodore Seitsema  
Earth Science - Brenda Folkert  
Kalamazoo Geological & Mineral Society Field Camp  
Scholarship - Robin Mihill  
Sigma Gamma Epsilon Field Camp Scholarship  
- Mike Nash  
- Ben Kozlowicz

## A SCHOLARSHIP TO CELEBRATE THE LIFE OF DR. ELIZABETH (BETTY) GARRETT

As many of you know, Betty Garrett passed away last year (summer, 1995) after a long battle with cancer. Lloyd Schmaltz approached several of her friends with the idea of establishing a scholarship in her name. A committee consisting of Lloyd, Betty's daughter Julie Hotchkiss, Bob Havira and friends from Western and Kalamazoo with the help and encouragement of the Development Office have started the ball rolling. The scholarship will be for women in the sciences. We are hoping to accumulate a large enough endowment to make this a truly helpful award. Please pass the word to anyone you know that knew Betty.

Thanks, Bob Havira





Western Michigan University  
**GEOLGY COMMUNITY**  
 1980

Front Row: A. Davis, D. Convasi, T. Han, S. Wygant, B. Hornvick, J. Luby, B. Leonard, M. Schaefer, D. Spruit, D. Pennington, C. Kenton, D. Wendler, K. Schmitt, C. Janson, J. Jessmore, B. Glorke, G. Niewondt, S. Hobb, J. Malasa, J. T. Dantuan, G. Brandon, R. Gentry, B. Schroeder, W. Eppel, G. Stefaniak, S. Toja, J. McGeehan, G. Seaton, J. Grace



## DEPARTMENT OF GEOLOGY NEWSLETTER

### ALUMNI/FRIENDS/FORMER FACULTY NOTES

**Richard Andrews** is working for Geo Information Systems as a project geologist for Oklahoma's fluvial-deltaic reservoir studies. His professional interests include application of rock facies identification and interpretation of depositional environments in exploration or development drilling, or reservoir modeling of oil/gas sandstone reservoirs. His current employer was interested in his hydro background from WMU and was a key factor in getting his present job. He has had recent contact with Bill Raddiman (MS, 1993), Carl Babb (MS, 1993) and Nick Stellavato (MS, 1993) and indicates that they are all doing good in their new careers relating to the environmental industry. He also notes that he really enjoyed the 2nd MS program, especially contaminant transport, wetlands and environmental geology.

**Jeannie Baier** is currently working as a spa massage therapist. She is living and loving S. Florida in her new townhouse. She visited Mar-a-Largo for High Tea and performed massage therapy on Jane Fonda, Celine Dioné and Palamo Picasso.

**Pat Ellsworth** passed away February 1993 in an avalanche while skiing in the Wasatch.

**Nate Fuller** found through several doctor visits that he suffers from severe sleep apnea. He has since had surgery and is doing well. His trips for work included one to St. Petersburg, FL in January, one to East Lansing, MI in May and two to Woods Hole Mass in April and October.

**Mike Gallagher** is working for the State of Washington in the Ecology Department. His professional interests include Hydrogeology at hazardous waste sites, management of professional staff with varying viewpoints, governmental reforms and efficiency, and environmental protection and economic development. Mike and his wife Rosalie had twin girls in September 1995 and they seem to be a handful!

**Brian Hill** is now living in West Jordan, Utah. He is working at USDA-Natural Resources Conservation Service as a Hydraulic Engineer. He was just promoted to this position as of 2/4/96. Part of his

job is serving on a wetlands team responsible for making wetland determinations, mainly on agricultural land. He's heard that it can be quite a challenge out there due to the limited weather and stream gage data available, the arid to semi-arid environment and the added effects of irrigation water application. He stated that, "he has a lot to learn in order to be able to fulfill that portion of his responsibilities" and "it's too bad he didn't have time to take Dr. Straw's Wetlands class!"

**Brian Jeffs** is working as a Senior Geologist at Michigan Department of Environmental Quality (DEQ). His professional interests include Hydrogeologic Investigations and Magnetics. Brian and his wife Jane had a baby girl on October 4, 1994. Her name is Brenna.

**Tom Massimino** is currently employed at Akebono America, Inc.

**Phil McLaren** wrote to the department and is doing well. He is making three to five trips a year to Belize and one trip a year to Scotland, Hawaii and New Zealand.

**Mike Pendergrass** received his Masters at Northern Arizona University in 1984 and is working at Unocal in Southern California.

**Mark Powers** is working as a Research Assistant (MS Student) at the Department of Geological Sciences, University of South Carolina. He is working on a study of seismic source discrimination with portable broadband seismometers.

**Christopher Saxon** is working at Chesapeake exploration and is also a Doctoral Candidate at University of Oklahoma. His professional interests include Structural Styles of Foreland Determination, Structural Geology (in general) and Petroleum Geology. He received his MS from Baylor in 1994 on Structural Geometrics in Arbuckle Mountains, OK. Dissertation is "Structural Styles of the Wichita and Arbuckle Orogenies, South OK." One of his hobbies is brewing beer. He is married to Victoria French, who is a Pet. Geologist and Ph.D. candidate also.



## DEPARTMENT OF GEOLOGY NEWSLETTER

**Yvonne Scarbrough Mickens** is working at W.K. Kellogg Junior High School as an Adult Education Instructor of Science. Her professional interests include outdoor/nature photography. She also took a trip to the Smokey Mountains in 1995 where she studied environmental issues and geology.

**Wendy Schlett (formerly White)** is working at Envirologic Technologies in Kalamazoo, MI.

**Steve Schmitt** is working at Fox Environmental in Milwaukee, WI. He married Julianne Burkhardt July 22, 1995.

**Dwight Sempert** is currently teaching high risk dropouts at Fremont County School District in Wyoming. He is working on starting an alternative school for at risk students.

**Rupert "Rocky" Shaft** is working at Holt Public Schools teaching Earth Science and is also the head high school wrestling coach. They won the team wrestling state title in 1996 (1st state title in Holt in 25 years!).

**Vince Szymanski** is currently operating a consulting business in Traverse City by the name of Evergreen Exploration. He has enjoyed moderate success utilizing Horizontal Drain-Hole Technology in abandoned Niagaran reefs in Otsego county. He stated that, "this is an exciting trend that will see much use in Michigan". He's also had the opportunity to design and interpret a 3-D seismic survey in the reef trend.

**Beno Thomas** is a hydrogeologist at Roy F. Weston Engineering Consulting in Pennsylvania. His professional interests include aquifer testing and analysis, groundwater modeling, 3-D visualization of MODFLOW, MT-3D, FEMWATER and FEMWASTE. He's thinking about getting another Masters degree in Computer Science.

### GEOLOGY DEVELOPMENT AND NEW ALUMNI

The following people received their degrees from WMU's Geology Department between September 1995 and November 1996. Congratulations!

#### Bachelor Degree Recipients

Earth Science Majors - Anthony Lumbard, Dawn Malestein, Jill Downing, Brian Drobnich, Brenda Folkert, Adam Marek, David Smith, Howard Blonde, Jr., Michelle Morton, Thomas Newton, Patricia Painter, Royce Robertson

Field Hydrogeology Majors - Thomas Stolz, Barri Faiz, Edward Cote, Paul DeLisle, Gary Godin, Nathan Peterson, Melissa Kendzierski, Gipp Klien, Emad Barri, John Grosskurth, Scott Kendzierski

Geology Majors - Roger Greve, Patrick Bolander, David Delonis, Robin Mihills, Angela Scotese, Andrew Tenbrink, Michael Zarbeck

Geophysics Majors - Michael Albertson, Anthony Clark, Jill Shaughnessy

Hydrogeology Majors - Janna Ellsworth, Rebecca Jenkins, Martha Spiewak, Briget Doyle, Artist Kirkpatrick, Patrick Palus, Lisa Powell, Mark VanDoren, Michael Dorgan, Brian Haas, Daniel Jordan

Earth Science Minors - Rosetta Bredael, Bary French, Alan Stone

#### Master's Degree Recipients

Geology - Lisa Anderson, Christen Christensen, Ishwar Lal, Ross Wagner

#### Doctoral Degree Recipients

Hydrogeology - Timothy Clarey, Cole Lovett



## DEPARTMENT OF GEOLOGY NEWSLETTER

### THANK YOU FOR YOUR DONATIONS

During the past year, we have been able to accomplish many things because of your generosity. We have hosted several speakers, helped pay the way of undergraduate and graduate student researchers to conferences, purchased maps, photos and small equipment to support student and faculty research and a wide array of additional items. Although we have been enjoying unprecedented support by the University administration, our program needs are simply developing faster than they can follow adequately. Your help is sincerely appreciated.

We hope that you will consider making a contribution to the Geology Community. You may do this by sending a check payable to: WMU Foundation - Department of Geology.

You may specify that your donation go to the Department of Geology Development Fund, the W. David Kuenzi Scholarship Fund, the Core Lab, the Earth Science Fund, or the Department's Museum. The Development Fund is used to support a wide array of activities, including undergraduate scholarships, student travel, supplemental support for equipment purchases, student activities and a variety of projects for improvement of teaching and research in the Department. The Kuenzi Fund is used to support graduate student research with emphasis on students studying sedimentology.

### GEOLOGY DEVELOPMENT AND SCHOLARSHIP DONATIONS

Your generous contributions to the Department support a wide array of activities and we appreciate your help. We try to thank each donor, but as with all bureaucracies, we do miss someone occasionally. If we missed you, please know that we rely on your support and will continue to make every effort to acknowledge your gifts. Please accept our sincere thanks for your generous support.

Alumni and Friends - Miss Jenny Kay Hoffman, Mrs. Lisa Phillips, Mr. Michael Phillips, Dr. Roger Steininger, Mr. Daniel Truckle, Mr. Brian Coles, Mr. Dennis Gebben, Mrs. Nancy Gebben, Mr. Alan Lawson, Mrs. Wendy Lawson, Mr. Stacy Clark, Miss Dawn Adams, Mrs. Elizabeth Jem

Oldham, Mr. Robert Oldham, Mrs. Karen Kerhin, Mr. Randall Kerhin, Mrs. Chanda Jensen, Mr. Timothy Mayotte, Mr. James Nidy, Ms. Angela Gout, Mr. Glenn Oliver, Mrs. Dianne Holman, Ms. Barbara Helen Vetort, Mr. Alan Kehew, Mrs. Loretta Perigo, Dr. William Williams, Mr. William Carl Phillips, Mr. Peter Klemkowsky, Mr. Harold Hoelzle, Mrs. Sherry Hoelzle, Mrs. Debra Lefler, Mr. James Lefler, Mrs. Janice Hylland, Mr. Thomas Hylland, Mr. Matthew Brewer, Mr. Ronald Lee Erickson, Mr. James Meinke, Mr. Jack Dipisa, Mrs. Kathleen Dipisa, Mrs. Molly Hobson Rice, Mrs. Vicki Dunham, Mr. Hilton Kuenzi, Mrs. Gayle Lopiccolo, Dr. Robert Lopiccolo

Company Donors - Shell Oil Company Foundation, Armstrong International, Inc. The Pharmacia and Upjohn Company, Unocal Foundation, Consumers Power Foundation, Union Texas Petroleum

Matching Gifts - Muskegon Development Co., Great Lakes Drilling Co.

### G.E.M. Regional Center

1996 has been a busy and productive year for the G.E.M. Regional Center. We initiated a drive to increase our funding resources and underwent several personnel changes in addition to carrying out numerous projects. Dr. David Dickason, Co-Director of the G.E.M. Center, Director of the GIS Research Center, and a member of the faculty of the Geography Department at WMU, accepted a two year position in 1995 as Resident Director-Sunway College in Malaysia and will be returning the summer of 1997. He continues to serve as Co-Director via e-mail and fax. Dave has long been an effective proponent of groundwater protection and maintains oversight of the land use, growth management, and GIS based research and services provided by the G.E.M. Center. Dr. Alan Kehew, Director of the Institute for Water Sciences and faculty member of the Geology Department, was appointed as Co-Director of the Center in late 1995, filling a position left vacant with the retirement of Dick Passero in 1994. Al oversees the technical consultation and research projects for the Center's water resource program. In October, 1995, Sue Nap joined us as secretary for the Center and has added a bright and efficient note to our permanent staffing. Since becoming part of the Geology Department in July of 1995, our Center has received tremendous support from the Geology Department staff and faculty. Various members of the faculty serve as advisors on individual



## DEPARTMENT OF GEOLOGY NEWSLETTER

### GEM (CONT.)

projects the Center is involved in and also as members of our advisory committee. This support has made our period of transition much easier.

June 30, 1996 marked the official end of our last funded project with the W. K. Kellogg Foundation. The I-94 Corridor Project has focused on forming partnerships with 5 townships in Berrien, Van Buren, Kalamazoo, and Calhoun counties to promote awareness of ground-water vulnerability and land use issues with local government. This has been a very active project and has resulted in adoption of ground-water protection ordinances in Oshtemo Township (which served as our pilot township) and Comstock Charter Township both in Kalamazoo County. Texas Township, also in Kalamazoo County, is considering adoption of a similar ordinance.

The major news has been an announcement by the Kellogg Foundation that the G.E.M. initiative will not be continuing. However, the Foundation has been very pleased with the success of the G.E.M. initiative and has decided to fund the 5 regional centers and MSU for an additional 18 months in order to make one last high profile effort to promote the lessons learned and many educational products of the G.E.M. program. This will include a significant media drive to focus public attention on water quality/water resource issues. In addition, the Center will be developing several individual township workshops for our partner townships in the I-94 Corridor Project to specifically address land use and growth management issues for that township. Mark Wycoff, a leading consultant in the state on land use planning and growth management, will be speaking at these workshops and answering questions from the members of the township government.

The decision to close the G.E.M. initiative has necessitated our search for alternative funding sources. We have been reasonably successful in identifying new partners in southwest Michigan who have contracted with the Center to provide services for grant funded projects undertaken by these partner agencies. The G.E.M. Center has been contracted with to work on the Nottawa Creek Watershed Study and the Dowagiac River Watershed Study both funded through section 604b funds of the Clean Water Act. These projects will provide field

experience and work opportunities for several students in the hydrogeology program of the Geology Department. Projects such as these present an excellent opportunity for the Institute and the Department to share their experience and expertise with communities and local governments throughout our region.

In December, 1995, the Center conducted a phone survey of rural residents in Calhoun and Branch Counties to assess local knowledge of groundwater issues and farm practices. The project was contracted through Calhoun and Branch Soil Conservation Districts and MSU Extension. The survey was carried out through the Kercher Center for Social Research at WMU.

The G.E.M. Center contracted with the Van Buren Soil Conservation District in May, 1996, to produce a publication highlighting the results of the Paw Paw River Watershed Demonstration Groundwater Project. This study was funded through section 319 of the Clean Water Act. The report summary has been designed for distribution to the general public.

The past year has also seen the introduction of a set of education modules for grades 7-12. The Groundwater Protection Education Modules address drinking water, public health, land use planning and wellhead protection. The modules were written and compiled by Laura Rauwerda, educational consultant for the G.E.M. Center, and Dr. Richard Passero. These modules combine the science of ground-water protection with social science and the responsibility of society to understand and protect limited resources.



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