

SPRING 2014

Geochronicles

SUNY CORTLAND GEOLOGY DEPARTMENT ALUMNI NEWSLETTER

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Message from the Chair

Welcome to the 2014 edition of *Geochronicles*. This is an exciting time for the Geology Department. After six long years of planning and construction, the renovation of the east wing of Bowers Hall (Bowers 1) is almost complete. Geology will be on the ground floor in the renovated wing and we are looking forward to taking occupancy of these bright and spacious rooms later this spring. We will also retain some of our current rooms on the third floor of the south wing (Bowers 2) until the second phase of the renovation is underway. When all is finished, these renovations should provide the Geology Department with a modern science facility to support our teaching and research for many years to come.

We have had some changes in personnel in the ten years since the last edition of *Geochronicles*. Chris Cirimo left SUNY Cortland in 2009 to become Dean of the College of Letters and Science at the University of Wisconsin – Stevens Point. Chris served the Geology Department for just over 11 years, many of them as chair, and we wish him well with the challenges and opportunities of his new position. In Fall 2011 Li Jin joined us as our new hydrologist and geochemist, following her Ph.D. at Syracuse University and some post-doctoral work at the University of Oxford in England. Haley Zurell is now our secretary and brings her considerable energy and organizational talents to the department office. Former SUNY Cortland geology students David Olmstead and John-Luke Henriquez, as well as former Chenango Forks High School teacher Tim Conner, currently help the department with adjunct teaching and technical support. And with these new faces are some that should be familiar to you, with Robert Darling, Christopher McRoberts, Gayle Gleason, Julie Barclay, and myself all continuing as full-time faculty.

Thanks to generous support from alumni and friends, the department now offers four different scholarships to deserving geology students. These scholarships, named respectively for Dominion Corporation, the Kronman Family, Robert C. Brauer and James Kradya, make a big difference to the recipients and we are pleased to be able to direct this financial support to some of our brightest and most enthusiastic students.

Alumni donations also remain important for students on our GLY 400 field trips, with funds being used to offset overnight costs for students on these longer-range excursions to places such as Sudbury in Canada, Rhode Island, Vermont, New Jersey, farther reaches of New York, and occasionally the Florida Keys. The department appreciates any level of donation and ensures that these funds directly benefit students in their geology studies.

With this issue of *Geochronicles* we highlight the contributions of John Fauth to the Geology Department. John served as department chair for many years and was a driving force behind the founding and running of the Brauer Field Station (now known as the Brauer Education Center). To honor John, the department recently created the John L. Fauth Award. This is to be presented each year to a sophomore in the geology programs for outstanding academic achievement and was awarded for the first time last spring at Honors Convocation. Although this award is currently unfunded, we hope in future years to provide a small check as well as a prize (such as a geologic hammer or book to recipients, similar to the check and prize currently given to winners of the W. Maxwell Hawkins Award (outstanding senior) and W. Graham Heaslip Award (outstanding junior).

We hope that you enjoy this edition of *Geochronicles*, and that the news and photos remind you of good times in geology at Cortland. Please stay in touch when you can and stop by to see us in our renovated home if you're in the Cortland area.

Best wishes,



David Barclay, Geology Department Chair



David Barclay Associate Professor



It has been 10 good and productive years for me since the last edition of *Geochronicles*. My research on Holocene glacier and tree-ring records in southern Alaska has continued apace, with the most notable development

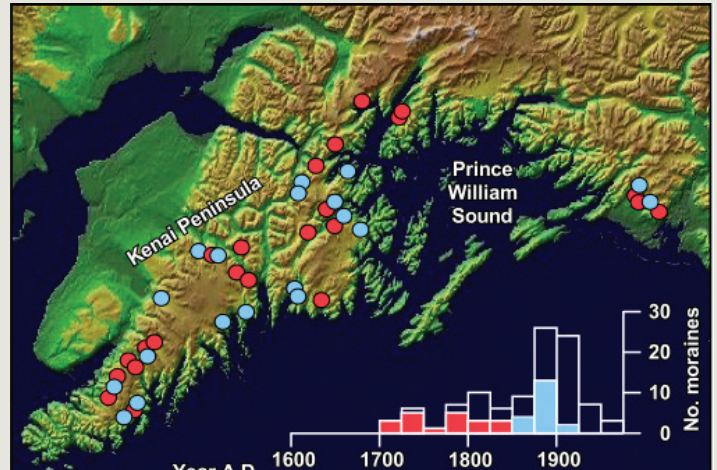
being completion of a continuous tree-ring chronology spanning the past 1,800 years from multiple generations of forest preserved on glacier forefields. This data set has enabled reconstruction of some exceptionally complete and well-constrained valley glacier histories spanning the past two millennia. Results of this work have been published in a number of journals, including most recently a paper in *Quaternary Science Reviews* that had former students Jason Graves '01 and '05 and Mike Kloczko '03 as co-authors.

In New York, I have been working on collecting tree-ring records from historic barns and other buildings in the Champlain and Hudson valleys. These structures contain the original old growth trees of the region, which have otherwise been cleared during settlement, and so the data provide both construction dates for the buildings and long tree-ring time-series for paleoclimatic analysis. I have also

done some coring of living trees closer to home, and last fall with student Dustin Taylor '13 was delighted to find several living hemlock on SUNY Cortland land at Hoxie Gorge that were over 300 years old. Lastly, I have been collaborating



with Li Jin and students over the past couple of years to better understand water flow connections between Otter Creek in the City of Cortland and the underlying glacial-outwash aquifer, with application to the flooding problems in the city.



My teaching has also been going well. In 2008 I was honored to receive the SUNY Chancellor's Award for Excellence in Teaching with the support of my Cortland colleagues and former students. I continue to love teaching Geomorphology and Meteorology, as well as my 500-level Climate Change course. I also take great satisfaction in teaching Natural Hazards and Disasters for the College-wide general education program,

because the 2013 flash flood in Cortland and the 2012 Hurricane Sandy disaster in NYC and N.J. really bring home the importance of students of all majors knowing more about our dynamic and sometimes dangerous Earth.

I will leave it to Julie to provide an update on our family.

Julie Barclay *Lecturer*



For the past 14 years I have primarily taught general education Earth Science for the department, initially as an adjunct instructor and since Fall 2005 as a full time lecturer. During this time I have had the opportunity

to meet and interact with students from almost every major on campus. I still find it rewarding to enthuse such a diverse crowd about the world around us. I have also had the opportunity to work with numerous Adolescence Education Earth Science students as they complete their laboratory practicum experience in my classroom. It is uplifting to work with such dedicated and enthusiastic future teachers.

Probably the only endeavor I enjoy as much (or maybe a little more) than teaching and geology is running. Since 2008 I have competed with SUNY Cortland's team at the annual corporate challenge race in Syracuse (a 3.5-mile road race against corporations from the greater Syracuse area). Both Cortland's men's and women's teams won the challenge in 2012 and thus qualified to run in the championship race the following year against teams from cities all over the world, including Johannesburg, London and Singapore. Getting to know my teammates from Cortland better, as well as meeting other working runners from around the world, was a tremendous experience.

When I am not

teaching or running I am busy with our children, Euan and Zoe. Zoe is in junior high in Groton and Euan will join her there next year. Both swim for the Cortland YMCA Stinger's swim team almost year round. Additionally Euan has just started playing the clarinet and Zoe is in her 9th year of ballet. We continue to supplement their education with geologic field trips and had a great two-week adventure in the Rocky Mountains last summer.



Robert Darling *Distinguished Teaching Professor*

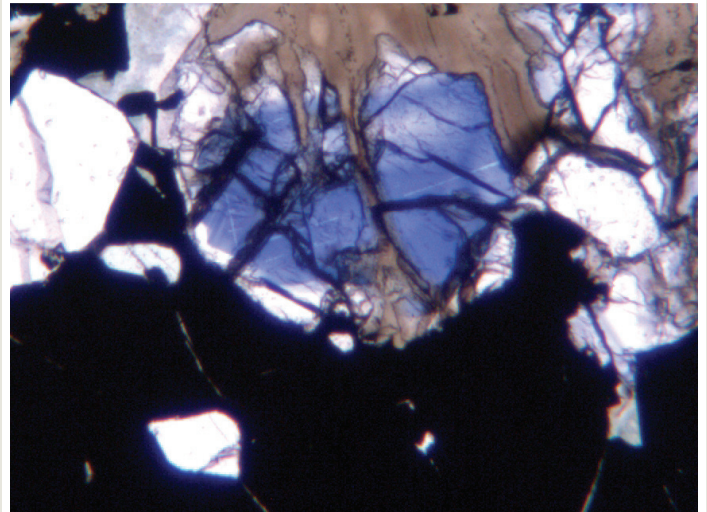


It's hard to believe that I've been teaching here for 21 years now. It seems like yesterday that I was teaching as an adjunct in the Spring of 1992 and at the same time interviewing for Dr. Hawkins' replacement. In the spring of 2013, I

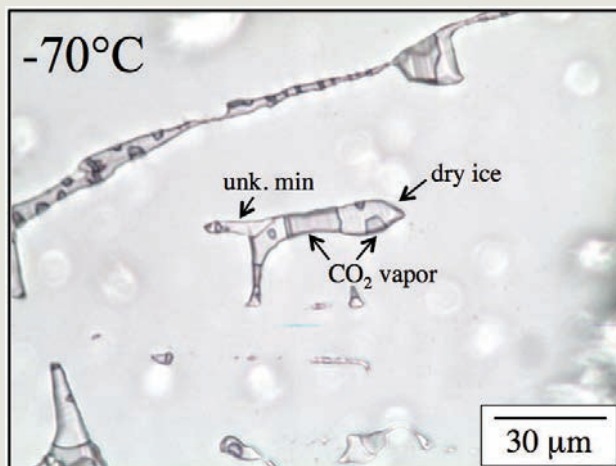
had the good fortune of being promoted to Distinguished Teaching Professor, a rank that would not have been achieved without the help of my colleagues, current students and former students here at Cortland.

After spending a total of seven years as a department chair, I stepped down in the summer of 2012, so that I could devote more time to students, research and my two daughters. Halley, my oldest, graduated with a degree in physics from Union College in June, and Sierra is now a sophomore chemistry major at SUNY Oneonta (that other Red Dragon school). Growing up, Halley and Sierra swore they would never study geology, but the science bug must have sunk in at some point. I am very proud of them.

My research interest still centers around minerals and metamorphic rocks of the Adirondacks, and I try to think of new ways to look at these old rocks. In 2010, I worked with John-Luke Henriquez '09 on some crystallized melt inclusions in garnet from the western Adirondacks. Further work on these melt inclusions required the use of Cornell's Field Emission Scanning Electron Microscope (FESEM) and was recently published in *Geofluids*.



In 2011, I worked with Jessica Crysler '12 on an occurrence of microscopic sapphires on the western edge of the Adirondacks, the first report of sapphires in New York state! Even in thin section, the sapphires are a rich cornflower blue. This year, I worked with Megan Ferguson '14 on CO₂ fluid inclusions in Gore Mountain garnet, the largest garnets in the world. Next fall, I am planning to take a sabbatical leave to map the bedrock geology along the Moose River, in the western Adirondacks.



Gayle Gleason Associate Professor



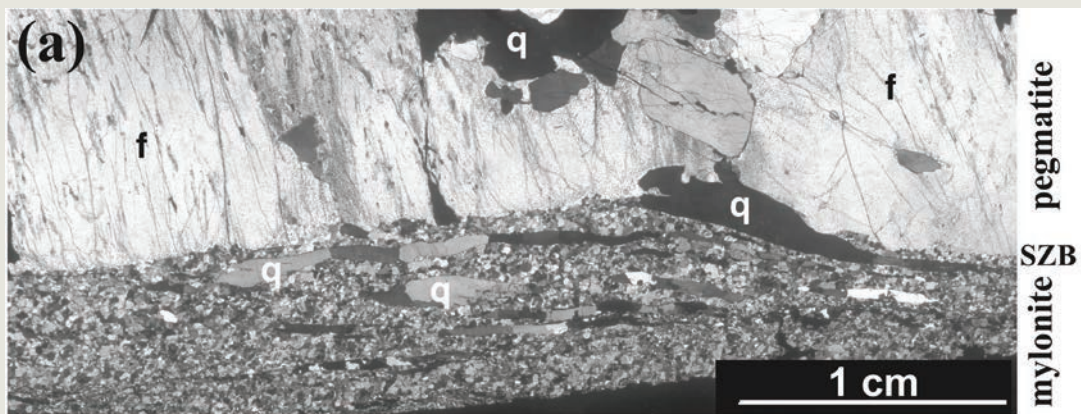
Since our last newsletter, I was promoted to associate professor in 2009. I also serve as the coordinator of Field Geology and run our “field camp” (see separate article for more field camp info). I continue to teach

Structural Geology, Plate Tectonics, and Physical Geology. We still run the Earth & Sky Learning Community for first year students. Many of you tell us that friendships forged in that first semester really made a difference in your career at SUNY Cortland.

Since 2004, I have involved several students in research. Stephanie DeSisto '06 studied water incorporated into quartz found in a mylonite in the western Adirondacks. That work was published in *Tectonophysics* in 2009. John-Luke Henriquez '09 worked with me using fluid inclusions to constrain the pressure/temperature path of those same rocks. Jason Newton '09 helped map a few faults on the Tug Hill. Data collected by the structural geology students in 2007 and 2008, were reported in *USGS Open File Report 2009-1188*, a collaborative effort by myself, Will Hackett of Tully, N.Y., and Bill Kappel of the USGS. More recently I have been working on an NSF funded project on the overprinting of microstructures. I use my Griggs Rig deformation apparatus to apply a second deformation step to previously sheared quartz samples. Students Amie Whitlock '12, Nicole Schaffhauser '13 and Cody Miller '11 all helped out over two different summers and presented at NE GSA in 2011 and 2012. Jessica DeForest '16 is

currently working on a small project on the rocks from Stephanie's work.

My family is doing well. My husband, Brian, continues to teach at OCC where he is the coordinator of the Environmental Tech Program. Several of our alums came through his program and have done very well in consulting. My daughters continue to torture the geology students at the annual Spring Pic-nic (to be at McRoberts' house this year). Elena is a sophomore in high school and aspires to be the next Neil Gaiman. Moira is in 5th grade and wants to be Katniss.



Li Jin Assistant Professor



As the youngest faculty member, I joined the Geology Department at SUNY Cortland in 2011. It is a great honor for me to become part of such a nice, collegial and productive department. Everybody has been so supportive since my arrival.

I am a hydrologist/hydrogeologist. I worked with Dr. Donald Siegel at Syracuse University for my Ph.D and graduated in December 2008. After that, I moved to Oxford, England, with my husband, where we spent two years working at the University of Oxford. He is now an assistant professor in the Earth Sciences Department at Syracuse University.

Since I joined the department, I have been teaching Hydrogeology, Physical geology and Physical Oceanography. They are all great classes to teach. I enjoy teaching Hydrogeology as it is in my specialty. But same time, I also really like to teach Physical Geology and Oceanography. They give me opportunities to meet and interact with students outside of our department with diverse backgrounds and make them aware of the importance of the geology subjects.

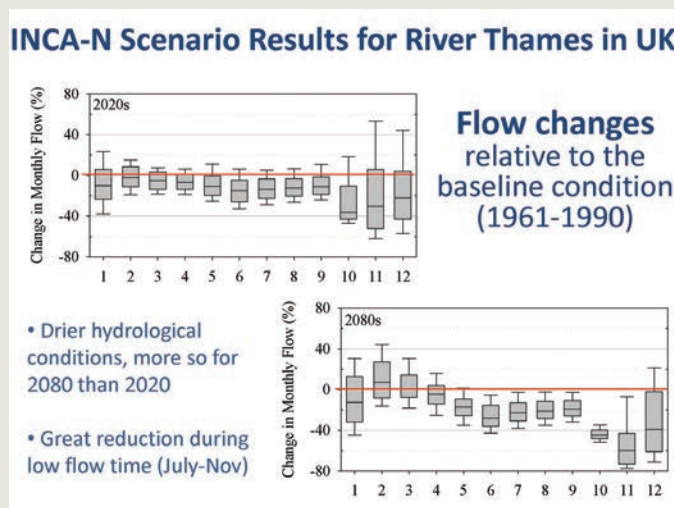
My research interests generally lie in hydrogeology and hydrology coupled with aqueous geochemistry. I use chemical analysis of water, field studies and computer simulation to understand how water moves through watersheds and how natural and anthropogenic

processes influence water quantity and quality. I have been working with my colleagues from the University of Oxford and Syracuse University. We published quite a few papers in the past 2-3 years in the *Journal of Hydrology*, *Science of the Total Environment*, *Philosophical Transactions of The Royal Society*, *Inland Waters*, *Journal of Great Lakes Research*, *Hydrology Research* and the *Journal of Environmental Protection*. So it has been a productive few years.

I also try to involve many undergraduate students in my research. In 2012 and 2013, Dr. Barclay and I had four students (Kristina Gutches, Collin Nowalk, Amie Whitlock and Jami June) work with us on looking at identifying different sources of water into a small local creek, Otter Creek, and used this study to get baseline water quality data in the area. Students presented two posters at the NEGSA meeting in March 2013. Kristina Gutches also has been working with me on another project in the Tioughnioga River basin since September 2012. She is now a graduate student at Syracuse University and will continue working on this as part of her master thesis. Two other students, Eric Fisher and Jared Hall, just joined us this semester on this project. The work is still in progress. We are going to present some results at this year's NEGSA meeting. I will continue to collaborate with our undergraduate students, as it provides valuable research opportunities for our students and it also brings me satisfaction

when I see students gain new experience and important skills from research.

I have a 19-month old son, Alwin. He now runs everywhere and talks in a language that you don't quite understand sometimes. The most exciting and amazing thing is to see him grow and grasp new things every day. My most precious moments are the times when I am being called Mom.



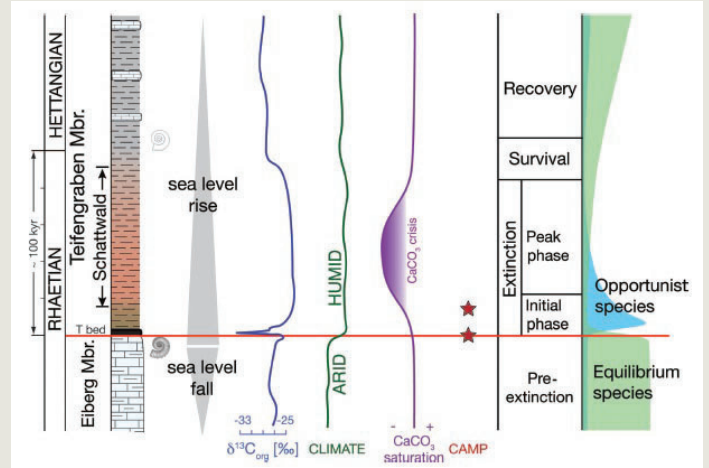
Christopher McRoberts
Professor



Since our last newsletter in 2004, I've been keeping busy and am thankful for this opportunity to catch up. Yes, I still love teaching Historical Geology, Invertebrate Paleontology, and Stratigraphy and am very active in all manner of

research and service to the department and College. Although many of you have heard me say this before – I couldn't have a better job and am constantly in awe that I actually get paid to do what I love!

My research continues to go exceptionally well. I've had some success in obtaining grants (including an NSF award in 2005 to look at the end-Triassic extinction in Italy and Austria) and had have been regularly publishing my research on Triassic bivalves, their paleoecology and biodiversity dynamics in several journals including: *Journal of Paleontology*, *Palaeontology*, *Palaios*, *Journal of the Geological Society of London* and others. I've also been fortunate to conduct fieldwork and present at conferences all around the world (including Austria, Hungary, Italy, Canada and China). An aspect of my work that still brings much satisfaction is the research I've been able to conduct in collaboration with our undergraduate students – especially in areas outside of my expertise. Of particular note is the substantial work with Carolyn Furlong '12 on really interesting commensal sponge borings in Devonian brachiopods that just got published (with Carolyn as first author) in the Jan. 2014 *Journal of Paleontology* (see p. 17 of this newsletter). Likewise, was the work with Jeri Burke '13 who played an integral part in the research



describing and analyzing what turned out to be original camouflage spotted patterns on Devonian trilobites. This work was published in *Geology* and made quite a splash with news and media outlets (including *National Geographic* and *Nature* magazine). I was recently (2011) honored to receive the SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities.

Along with my research and teaching, for the past five years or so I've been very fortunate to serve as Director of SUNY Cortland's Undergraduate Research Program. This is an area in which the College has devoted significant resources and continues to advance as central to its goal of increasing high-impact experiential learning. Several of you have no doubt been a recipient of a travel grant or summer research fellowship and can attest as to the importance of these programs.



My wife and two sons are all doing well. Jacqueline still teaches Earth sciences at Binghamton High. Elliot is a sophomore in high school, is nearly as tall as me and is already thinking about college. My youngest, Alex, will be entering high school next year and is becoming quite the artist and maestro on the piano.

Bowers Renovation: After serving the department well for 50 years, Bowers Hall was in need of improvement. The College has recognized this and has embarked on a substantial (\$43 million) capital construction project to renovate the building. The renovation is planned in two phases aligned with the two wings of Bowers Hall. Phase I is nearly complete and will bring new classrooms, offices, and research spaces for several departmental faculty. Included in the construction is a list of new equipment for student-faculty research and teaching as well as a newly designed planetarium (shown below). The department is eagerly waiting to move in to its new space within the next month!



New Equipment: Ion Chromatograph · JEOL 6010LA Scanning Electron Microscope with integrated EDS Dectector · Cressington 108C Auto Carbon Coater · Rigaku Miniflex Powder X-Ray Diffractometer · PetroThin thin section machine · CHEMetrics: V-2000 Multi-Analyte Photometer · 24" Slab saw and Power Feed Trim Saw · Lecia Petrographic Microscopes · OMANY Binocular Stereo Microscopes · HP DesignJet Z6200 42" plotter · Landform Simulator Systems Stream table · Geometrics Portable Magnetometer · Seistronix Portable Seismic station and Geophones · 24 Garmin Handlend GPS Units



Department Website News

The department website is currently being redesigned to include an area for our geology alums. We envision this page as a place to highlight our alums and also provide a way for our alumni to easily inform us of their achievements or other updates they would like to share. We also have plans to include on the page a mechanism for alumni to network with each other and share both expertise and opportunities. Please let us know by email or check out the website (see p. 18) if you wish to be informed once the changes are in place.

Geo-Bio Fall Softball Classic

- 2013: Geo 14, Bio 8
- 2012: Geo 6, Bio 5
- 2011: Geo 10, Bio 7
- 2010: Geo 4, Bio 12
- 2009: Geo 7, Bio 8
- 2008: Geo 8, Bio 10
- 2007: Geo 5, Bio 8
- 2006: Geo 3, Bio 4
- 2005: Geo 13, Bio 3
- 2004: Geo 15, Bio 11



Haley Zurell Department Secretary

I came to the Geology Department in October 2010 after working in the Admissions Office and the Bursar's Office here on campus. Although, I would have never imagined I'd be working in a science department, I find myself constantly in awe of the amazing, down to earth, and highly intelligent faculty and students that I am surrounded by. I am lucky to be in such great company and I look forward to what lies ahead.



NYSGA: In September 2007, Cortland's Geology Department hosted the 79th New York State Geological Association's Annual Meeting. The Geology faculty, department secretary Susan Nevins and quite a few geology student helpers (including John-Luke Henriquez, Scott Causer, Allison Ammirati, Jennifer Kelly and Jennifer Christoffel shown below) worked to pull off a very successful meeting. In addition to the ten field trips over the weekend, one of the highlights of the meeting was the Saturday Banquet featuring Keynote Speaker James Bell (Cornell University): "Roving on Mars: Geology and Geochemistry of the Red Planet"

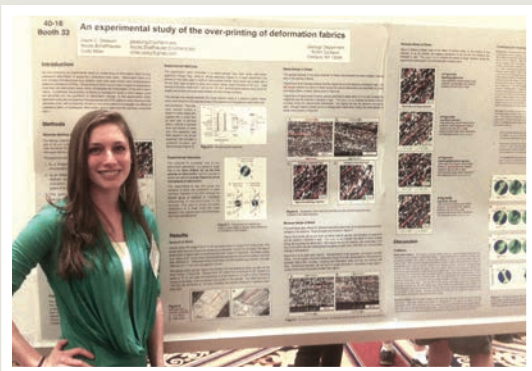
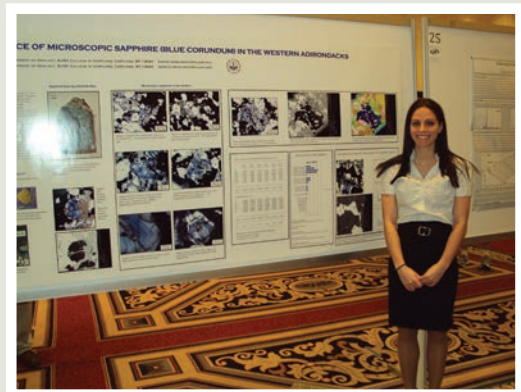
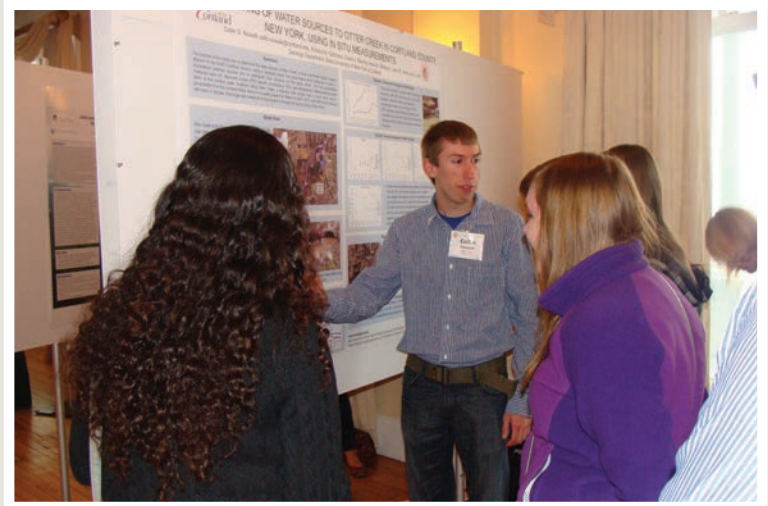
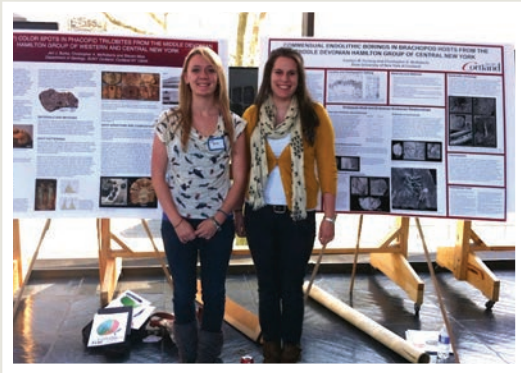


Cortland Geology Student Publications and Presentations

Many Cortland geology students conduct research that leads to presentations at regional and national conferences, and a surprising number of undergraduate students co-author published research in refereed science journals. Below is a representative list of recent (since 2006) presentations and published journal articles with student authors and co-authors.

- 2014**
Furlong, C. and McRoberts, C.A. 2014. Commensal borings from the Middle Devonian of central New York: Ecologic and taxonomic review of *Clionoides*, *Clinolithes*, and *Canaliparva* n. ichnogen. *Journal of Paleontology*, v. 88, p. 131-145.
- 2013**
Barclay, David J., Yager, E.M., **Graves, J., Kloczko, M.**, and Calkin, P. E. 2013. Late Holocene glacial history of the Copper River Delta, coastal south-central Alaska, and controls on valley glacier fluctuations. *Quaternary Science Reviews*, v. 81, p. 74-89
Ferguson, M.M., and Darling, R.S., 2013, Secondary CO₂ inclusions in Gore Mountain garnet, North Creek, NY. Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 45, no. 1, p. 72-73.
Gutchess, K.M., Nowalk, C.S., Jin, Li, **Whitlock, A.M., June, J.R.** and Barclay, D.J., 2013. Understanding spatial and temporal patterns of water chemistry in Otter Creek, New York. Geological Society of America, Abstracts with Programs, v. 45, no. 1, p. 121
Jin, L., **Gutchess, K.M.** P.G. Whitehead, P.G., Findlay, S.E.G., and Siegel, D.I. 2013. How much more can we take? – Road salt as an emerging contaminant in streams. Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 45, no. 1, p. 132.
McRoberts, C., Hegna, T., **Burke, J.**, Stice, M. Mize, S., and Martin, M. 2013. Original spotted patterns on Middle Devonian phacopid trilobites from western and central New York. *Geology*, v. 41, no. 5, p. 607-610.
Nowalk, C.S., Gutchess, K.M., Barclay, D.J., **Whitlock, A.M., June, J.R.** and Jin, L. 2013. Fingerprinting of water sources to Otter Creek in Cortland County, New York, using in situ measurements. Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 45, no. 1, p. 122.
- 2012**
Darling, R.S. and **Cryslar, J.L.** 2012. An occurrence of microscopic sapphire (blue corundum) in the western Adirondacks. Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 44, no. 2, p. 81.
Furlong, C. and McRoberts, C.A. 2012. Commensal borings from the Middle Devonian of central New York and the status of *Paleosabella* Clarke 1921, *Clionoides* Fenton and Fenton 1932 and *Vermiforichnis* Cameron 1969. Geological Society of America Annual Meeting, Abstracts with Programs, v. 44, no. 7, p. 275.
Gleason, G., **Schaffhauser, N.** and **Miller, C.**, 2012. An experimental study of the over-printing of deformation fabrics. Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 44, no. 2, p. 98.
- McRoberts, C., Hegna, T., **Burke, J.**, Stice, M. Mize, S. Martin, M. 2012. Original spotted patterns on Middle Devonian phacopid trilobites from western and central New York. Geological Society of America Annual Meeting, Abstracts with Programs, v. 44, no. 7, p. 374.
Wright, A.L., Rayburn, J.A., **Smith, T.**, and Barclay, D.J. 2012. Evaluating climate effects on tree ring widths in the Champlain Valley, New York: Geological Society of America Northeast Regional Meeting, Abstracts with Programs, v. 44, no. 2, p. 50.
- 2011**
Furlong, C. and McRoberts, C.A. 2011. Commensal endolithic boring traces on spiriferid hosts from the Middle Devonian of central New York. Geological Society of America Northeastern and North-Central Joint Meeting, Abstracts with Programs v. 43, no. 1, p. 68.
Gleason, G. and **Whitlock, A.**, 2011. What happens to microstructures in re-activated shear zones: An experimental approach Geological Society of America Northeastern and North-Central Joint Meeting, Abstracts with Programs, v. 43, no. 1, p. 148.
- 2010**
Henriquez, J-L., and Darling, R.S. 2010. Zircon-clinging inferred melt inclusions in Adirondack garnet. Geological Society of America Northeastern and Southeastern Joint Meeting, Abstracts with Programs, v. 42, no. 1, p. 161
- 2008**
Gleason, G.C., and **DeSisto, S.D.**, 2008. A natural example of crystal-plastic deformation enhancing the incorporation of water into quartz. *Tectonophysics*, v. 446, p. 16-30.
McRoberts, C.A., Krystyn, L. and **Shea, A.** 2008 Rhaetian (Late Triassic) *Monotis* (Bivalvia: Pectinoidea) from the eastern Northern Calcareous Alps (Austria) and the end-Norian crisis in pelagic faunas. *Palaeontology*. v. 51, no. 3, p. 721-735
- 2006**
DeSisto, S., and Gleason, G. 2006. Water content in quartz and shear initiation of a small mylonite in the Western Adirondacks. Geological Society of America Abstracts with Programs, v. 38, no. 2, p. 77.
Hopkin, E., and McRoberts, C. 2005. A new Middle Triassic flat clam (Pterioidea: Halobiidae) from the Middle Anisian of north-central Nevada. *Journal of Paleontology*, v. 79, no 2, p. 796-800.

Cortland Geology Student Presentations



GEOLOGY STUDENT AWARDS AND SCHOLARSHIPS



W. Maxwell Hawkins Award Outstanding Senior

2013	Kristina Gutchess
2012	Carolyn Furlong
2011	Amie Whitlock
2010	Robert Hornung
2009	Jason Newton
2008	Scott Causer
2007	Adriel Shea
2006	Adelina Primiano
2005	James Morgenthein
2004	Amanda Buboltz

W. Graham Heaslip Award Outstanding Junior

2013	Jami June
2012	Kristina Gutchess
2011	Jessica Crysler
2010	Carolyn Furlong
2009	Robert Hornung
2008	Jason Newton
2007	Bobby Taylor
2006	Adriel Shea
2005	Adelina Primiano
2004	Stephanie DeSisto

John L. Fauth Award Outstanding Sophomore

2013	Joseph Cataldo
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Kronman Family Scholarship

2013-14	Alexandra Tillman
2012-13	Alyssa Mastrocola
2011-12	Collin Nowalk
2010-11	Crystal Rauch
2009-10	Michele Teneyck

Robert C. Brauer Memorial Scholarship

2013-14	Joseph Cataldo
2013-14	Jessica DeForest

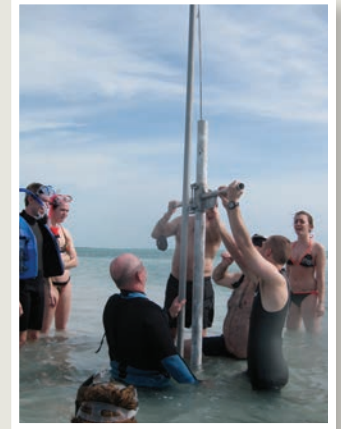
Dominion Scholarship

2013-14	Jami June
2012-13	Kristina Gutchess
2012-13	Collin Nowalk
2011-12	Amie Whitlock
2010-12	Taylor Salsburg
2009-10	Riley Behrens
2007-09	Elizabeth Hensel
2007-08	Bobby Taylor
2005-07	George Holmes
2005-07	Megan Bradley
2005-07	Leslie Tomic
2004-06	Stephanie DeSisto
2004-05	Alex Feulner
2004	Jason Smith

James Kradyna Field Camp Scholarship

2013	Megan Ferguson
2013	Edward Napiorkowski
2011	Amie Whitlock
2011	Kathryn Velie
2009	Marleiah Denka
2009	Frederick Morello
2008	John-Luke Henriquez
2007	Thomas J. Scialo
2007	Adriel Shea
2006	Stephanie DeSisto
2006	James Morgenthein
2005	F. Brian Hidy
2005	Joshua Payne
2004	Kristy Auchampau
2004	Jason Smith

Outstanding in the field



John L. Fauth Professor Emeritus



Last year, the Geology Department established a new award in honor of Dr. John L. Fauth, Professor Emeritus. This award recognizes our most outstanding sophomore geology student and is awarded at Honor's Convocation each April along with the W. Graham

Heaslip award and the W. Maxwell Hawkins awards for the most outstanding junior and senior students in the geology programs.

The Geology Department decided to establish and name this award in honor of Dr. John L. Fauth, for his long-standing and innumerable contributions to the Geology Department both on campus and at the Brauer Education Center. John Fauth was hired at Cortland in 1964 and served the Geology Department as assistant professor, associate professor, professor and department chair until he retired in 1999. As a teacher, Dr. Fauth was known for his challenging geology courses both in the field and classroom as well as his tireless effort to help students improve their writing skills. In 1979, John Fauth secured a \$142,000 grant from the National Science Foundation to construct a field station near Albany, N.Y. to begin

Dr. Fauth was one of those professors who made you think about what he was teaching, the end result being a true understanding of the subject matter and the ability to apply critical thinking skills to other subjects. Many a student owe, not only their knowledge of geology to Dr. Fauth, but also their love and passion for the profession. What greater legacy than to have instilled a desire in others to share that passion and knowledge.



teaching summer field geology courses. A field station was built on land donated to SUNY Cortland by J. Everton and Elise Brauer, parents of Robert C. Brauer, a geology major who was accidentally killed in a mine accident in the summer of 1968. Since the first summer course offered in 1982, several hundred geology students from across the country have completed "field camp" at the Brauer Education Center. The Geology Department still teaches "field camp" at Brauer and will do so for the foreseeable future. None of this would have happened without John Fauth's vision, passion for, and dedication to teaching geology in the field.



In Spring 2013, the Geology Department awarded its first John L. Fauth Award to Joe Cataldo, a sophomore geology major. Pictured are Gayle Gleason, Barbara Fauth, Joe Cataldo and John Fauth, Professor Emeritus. The Geology Department would like to be able to award \$250 annually to the John L. Fauth Award

recipient, but in order to do so we need to raise a total of about \$6,000. We are hoping to identify 30 geology alums that could contribute \$200 each. So, if Dr. Fauth had an immediate and/or long-term impact on you and your career, we invite you to send in a contribution to the Geology Department Founder's Fund, (see p. 18 for details on how to contribute). John Fauth tirelessly gave to the Geology Department from 1964 to 1999, and continued to assist with field camp teaching and operations at Brauer up to the fall of 2012, and continues to this day to serve on the Brauer Advisor Committee, a subcommittee of the College's Center for Environmental and Outdoor Education. We are so happy to honor him with this new departmental award. We whole-heartedly thank you for your support!

Tom Johnson '73

Geology Field Camp at Brauer Education Center

Nationwide, more and more geology students are enrolling in geology field camps. We are benefitting from this trend. After moving to an even-year-only offering of field camp in 2003 due to low enrollment, demand is currently so high we ran field camp three years in a row: in 2012, 2013, and 2014. In addition, students are coming from across the country to our field program. Some New York state residents are coming back to N.Y. to take advantage of the in-state tuition. Whereas other non-Cortland students just want to see East Coast geology. Since 2004, students from over 20 out-of-state colleges participated.



The Brauer Education Center (aka Brauer Field Station) is an aging but very useful facility. Funds from the estate Elsie Brauer left to the College are used to renovate parts of the facility. In 2013 the showers in the women's bathroom were replaced and a third one added. New showers in the men's bathroom are scheduled for Spring 2014. The poison ivy and deer ticks continue to plague the students and staff alike. Maybe the below freezing temperatures of the Polar Vortex this winter will slow the poison ivy down. Meanwhile, tick-checks will still be mandatory!

While you are visiting the department's web page, check out the field camp page, too. There you will find links to pages of more photos of past camps.

<http://web.cortland.edu/gleasong/fdcamp.html>

Dr. John Fauth has effectively retired from helping out at field camp. For many years after his official retirement he joined us at Brauer, working on projects to better the facility and helping students learn to map. We are grateful for his dedicated service. The newer students do not know what they are missing with regards to his expert advice and mentoring in the field. We try to fill some of the void by hiring more teaching assistants.



Alums have proved to be an extremely valuable asset as a teaching assistant pool. Jason Smith '04, George Holmes '07, Jason Newton '09, Marleiah Denka O'Neill '09, Elizabeth Hensel '09, Robert Hornung '10, Michelle TenEyck '10, and Amie Whitlock '12 have all helped us tremendously over the years. Dr. Gleason can't thank them enough!





We are very excited about the accomplishments and growth of the Geology Club here at SUNY Cortland. This year we are represented by a diverse group of close to 30 members that includes not only geology majors, but biology, GIS, physics, and even a few sport management majors.

We continue with the tradition of being a very involved club by participating in numerous events on and off campus each semester. In the fall we continue the classic geology-biology softball game and are proud to say have been the victors and won the “Bat-Ball” trophy for three years in a row. We also take a day trip to the Herkimer Diamond Mine each fall. We have found that this is a great experience for students to get a taste of what fieldwork might be like once they are professionals.

In both the fall and spring we continue to support “dinner with a speaker” as part of the department’s guest seminar series. This gives club members a chance to talk one-on-one with the speaker, ask specific questions about their specialty, and get to know the speaker on a more personal level. This is also nice for our graduating seniors because it gives them a chance to talk to a professional and see what exactly they are getting into after graduation.

This winter we are hoping to go to the Lime Hollow Center for Environment and Culture and have a so-called “snow day” for the club. This would include cross-country skiing, snow-shoeing, or even building a snowman. Later in the spring semester, we go on day trips to some of the gorges and waterfalls in the Finger Lakes area. We do this in the spring as a response to the cabin fever that builds up in our systems throughout the winter here at Cortland (as I’m sure you all remember so vividly). Also in the spring we have our annual bowling night and the end of the year picnic as a farewell to our seniors, which as you all know is so bittersweet.

Our main trip of the year is at the end of March when we go to the Northeastern Geological Society of America Conference. This is where most of our budget and focus is directed to, and is a great experience for students because it gives them a chance to see new research, listen to talks, and a chance to mingle with professionals, students and organizations alike. This year we are taking an unprecedented 21 students and four faculty members to Lancaster, Pa. for the conference. Last year 12 students attended Northeast GSA in Bretton Woods, N.H., and the year before that eight students went to the conference in Hartford, Conn. We are ecstatic to see the numbers for all of our events growing almost exponentially. With such a large group, we have had to ask SGA for an increased budget, and they have been happy to help keep this great experience a possibility.

Alexandra Tillman

Geology Club President



David Cole '73



Dave Cole grew up in Lake George, NY and came to Cortland as a freshman in 1969. After completing his geology degree and with the encouragement of Dr. Fauth, he entered a master's program at the Pennsylvania State University, which he completed in 1976. Dave must

have impressed the faculty at Penn State because they asked him to stay on and work toward a Ph.D, which he earned in 1980. After finishing at Penn State, Dave joined the staff of Earth Sciences Laboratory of the University of Utah in Salt Lake City, a DoE funded facility. Three years later he joined Oak Ridge National Laboratory (ORNL) outside of Knoxville, Tennessee, as a Research Staff Scientist. Between 1982 and 2005, Dave rose through the ranks at ORNL until he headed the Geochemistry and Interfacial Sciences Group of the Chemical Sciences Division starting in 2005, a position he held until 2010. Dave left the ORNL and joined the faculty of the School of Earth Sciences at the Ohio State University as a Professor and Ohio Research Scholar.

Dave Cole has involved himself in a wide variety of research topics in geochemistry. Much of his work at the ORNL focused on light stable isotope exchange between minerals and water at elevated temperatures and pressures. This work has had numerous applications to the study of mineral deposits, hydrothermal systems, as well as engineering systematics of geothermal power plants. Beginning in the early 2000's, Dave's research added a new component, the study of submicroscopic porous media, which has wide application to CO₂ sequestration in sedimentary rocks

in the Earth's upper crust. This work has led to Dave co-editing (with Drs. Don DePaolo [University of California-Berkeley], Ian Bourg [Lawrence Berkeley National Laboratory] Alexandra Navrotsky [University of California-Davis]) the recently published *Reviews in Mineralogy and Geochemistry* volume titled "Geochemistry of Geologic CO₂ sequestration" in late 2013, by the Mineralogical Society of America.

It is difficult to summarize all of Dave Cole's research accomplishments in a single page. Dave has authored or co-authored nearly 200 journal articles, book chapters and proceedings papers, including articles

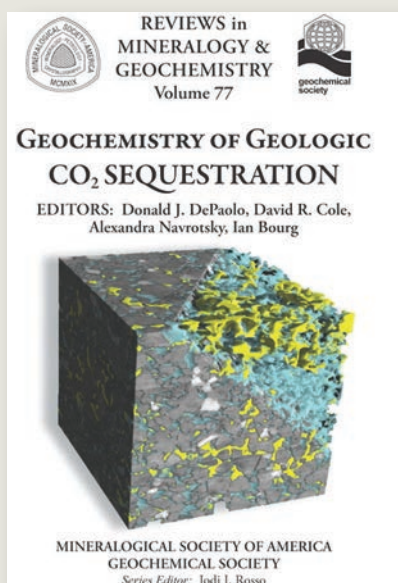
"For me the "atmosphere" in the Geology Department at the time was intoxicating in the sense I couldn't get enough of what they were teaching; I wanted to be challenged and they did a great job of this."

appearing in both *Science* and *Nature*, the world's most prestigious scientific journals. In 1998, Dave Cole was named a SUNY Cortland Distinguished Alumnus and named to the SUNY Alumni Fellow Honor Roll. In 2006, Dave was named a Fellow by the Mineralogical Society of America and in 2009, he received the ORNL Group Leader of the Year Award and the ORNL Director's Award as the Top ORNL Scientist of the

Year. At Ohio State, he is currently working on nine grants totaling over \$4.4 million, which includes funding from the Department of Energy, Offices of Basic Energy Sciences and Fossil Energy, the National Science Foundation and the A.P. Sloan Foundation. He is

Director of the Ohio State University Subsurface Energy Materials Characterization and Analysis Laboratory (SEMCAL) and Chair of the Deep Energy Community of the Sloan Foundation funded Deep Carbon Observatory.

We have many geology graduates who have accomplished great things since leaving Cortland, and this newsletter is, unfortunately, too small to list them all, but Dave Cole's career demonstrates that Cortland graduates are capable of great accomplishments, and we are proud to list him as one of our own.



Carolyn Furlong '12



Carolyn hails from the outskirts of Binghamton and had her mind set on a career in childhood education. Her decision to come to Cortland's Geology Department was in part fueled by taking science

courses at Binghamton High School where her environmental science teacher inspired her to appreciate science and power of discovery. Carolyn enrolled in the Adolescence Education: Earth Science program in our department in the fall of 2008. She quickly distinguished herself and was awarded the W. Graham Heaslip award in 2010 and the W. Maxwell Hawkins award in 2012. She participated in a several Cortland programs that took her abroad — first to China to as part an educational and cultural exchange program in ceramics and then to Belize for a field course in tropical ecology. In 2010, she was awarded a prestigious NOYCE Scholarship. While at Cortland, Carolyn was very active in Geology Club and took many leadership rolls.

Carolyn signed up for an independent research project under the direction of Dr. McRoberts to look at the mineralogy and crystallography of the exceptionally well-preserved fossils from the Rose Hill Quarry. This work was progressing well when she

discovered tiny holes in some of the fossil shells — then things did not go according to plan. As Dr. McRoberts recalls it: "I clearly remember Carolyn bursting into my office, brachiopod in hand, when she excitingly pointed out what turned out to be microborings from



ancient endolithic organisms. Carolyn received a 2010 Undergraduate Research Council Summer Fellowship to study the borings and other traces left by ancient worms and sponges in the fossil brachiopods from Rose Hill and other nearby Devonian localities. Carolyn's fellowship research ballooned into a much larger project than originally anticipated and has yielded significant results, including the discovery of a species of sponge trace fossil new to science. Carolyn has made several presentations of her research including at the national GSA meeting held in Charlotte in 2012. More impressively, her research has been published in the *Journal of Paleontology*.

"Cortland provided me with a group of friends I will have the rest of my life. We survived all the geology classes, GLY 400 trips and cramming sessions in Bowers 339 together. And even though many of us are separated by states and countries, I could not have gotten where I am today without their support."

After finishing at Cortland with a B.S. degree in adolescence earth science education, Carolyn was offered a full scholarship and teaching assistantship into the M.S. program at the University of Alberta to conduct research in ichnology – the study of ancient animal traces preserved in the rock record. Her thesis, nearing completion, focuses on using modern traces of drilling and boring organisms found in rocky intertidal settings within the Bay of Fundy in eastern Canada and sea stacks in Oregon to help understand those found in the fossil record.



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Opportunities to Contribute to Your Department

You can make a difference. Geology, earth science education, and environmental sciences remain strong due in part to the generosity of our alums. Donations are used to enrich our programs, bring fresh voices and perspectives to our department through our speaker series, provide support for important student-faculty research collaborations, and to recognize our top students. Financial support by alumni at any level makes a statement and is appreciated.

Geology Founders Fund: This fund is named to acknowledge the influence of the original department founders on the educational experience and personal development of students in the Geology Department. The Founders Fund supports the annual awards given to our top students: W. Maxwell Hawkins Award for the Outstanding Senior, the W. Graham Heaslip Award for the Outstanding Junior, and the new John L. Fauth Award for the Outstanding Sophomore (see p. 8 of this newsletter).

Geology Department Fund: This is the Geology Department's general fund. These monies are used to sponsor the geoscience seminar and lecture series, provide travel support for students and faculty on field trips and at conferences, and to help purchase equipment and supplies for use in student-faculty research.

Donations to any of the above funds can be made online or by mail. Please make your check payable to: Cortland College Foundation and indicate on check the name of the fund you wish to contribute to. Mail to: Cortland College Foundation, Inc., P.O. Box 2000, Cortland, NY 13045. You can also make an online donation at: cortland.edu/giving and click the Give Now option on the right side of the page.

Keep in touch

We always like to hear what you are up to. Drop us a line, send an email or visit the department

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