Geomorphorum

FALL 2019

News of the AAG Geomorphology Specialty Group

It's back…..

Inside

After a brief hiatus….the Geomorphorum is back! I'm sure there are more tech-savvy ways that this could be done in 2019 (Tweet? Vlog?), but I'm taking on the traditional newsletter format this time.

It has been my pleasure to serve the GSG as chair this year. I've enjoyed working with our talented board members (past and present). This issue of Geomorphorum is full of happy news to share. There will be more good news to come at the GSG Business meeting at the 2020 AAG meeting in Denver too! Mark your calendars for the GSG Business Meeting on Wednesday April 8 at 6:20 pm. Cash bar as enticement!

Deadlines are rapidly approaching for 2020 GSG awards, so read on for more information about how to submit your nominations.

If anyone is interested in joining the GSG board, please feel free to reach out to me. We invite one new member to join the board each year.

If you have new ideas for the GSG, please send them my way too. We are always interested in new ideas and staying current. In fact, just last year we added an undergraduate poster award.

I highly recommend that faculty encourage their undergraduate students to participate in GSG through our poster competition (1/31 abstract deadline!) and joining the business meeting. Who knows, someday they might be the ones writing the Geomorphorum!

Thank you to all of you who have supported your students, nominated colleagues for awards, welcomed new members, promoted geomorphology, and made the GSG a great team to be a part of.

We have a great line-up of geomorphology sessions and events at the 2020 AAG meeting in Denver. I hope to see you there!

Jennifer Burnham

Augustana College

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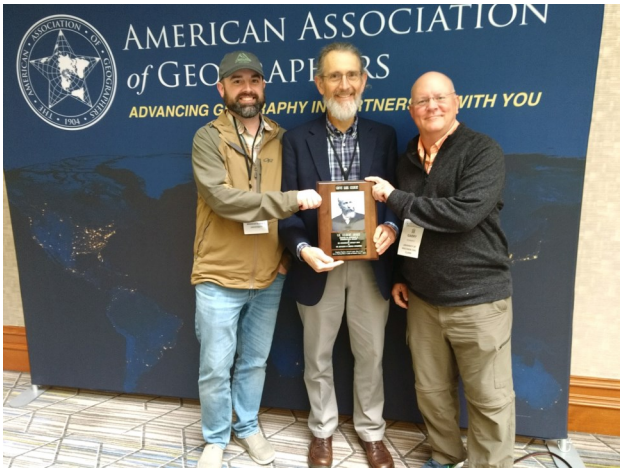
2019 G.K. Gilbert Award

We are pleased to share the news that the 2019 Grove Karl Gilbert Award for Excellence in Geomorphology research goes to: Douglas J. Faulkner, Phillip H. Larson, Harry M. Jol, Garry L. Running, Henry M. Loope, and Ronald J. Goble, for their paper, *Autogenic Incision and Terrace Formation Resulting from Late-Glacial Base-Level Fall, Lower Chippewa River, Wisconsin, USA* (published in Geomorphology in 2016).

Below is the nomination statement from Don Friend:

My nomination is supported by letters from five colleagues across the spectrum of our discipline. Before I extoll the virtues of the work of our awardees, I wish to publicly acknowledge (in alphabetical order) Eric Carson, Wisconsin Geological Survey, Allan James, University of South Carolina, Frank Magilligan, Dartmouth College, Randy Schaetzl, Michigan State University, and Andy Wickert, University of Minnesota. They and I find our awardees paper foundational, providing an increased understanding of geomorphology and landscape evolution. They use the Upper Mississippi River Basin to provide a substantial theoretical contribution to the broader field of geomorphology, and the work builds a framework for future research in fluvial geomorphic systems. Also worth noting, the publication is the culmination of 15 years of research with undergraduates as field workers and collaborators.

It has long been recognized that tributary fluvial systems to the upper Mississippi River experienced both prolonged and abrupt base-level fluctuations driven by the presence and retreat of the Laurentide Ice Sheet at and after the last glacial maximum. Although we well understand this background, little is understood about the how these tributary fluvial systems actually evolve through time in response to abrupt base-level change. The authors use the Chippewa River to illustrate how meltwater aggradational tributary systems evolve. They meticulously document longitudinal profile evolution as it illustrates a time-transgressive complex response to Upper Mississippi River incision events. Moreover, they reveal that the Upper Mississippi River landscape is still actively adjusting to baselevel lowering that occurred 10-13 thousand years ago. Their findings provide a new and significant contribution to our understanding of the impact of base-level change on the fluvial system. Their study documents a transient landscape actively responding to abrupt base-level fall. Their work records sluggish diffusion of knick zones through sandy, glaciofluvial outwash which results in reactivation of stored sediment in the river systems tributary to the Chippewa.



L to R: Phil Larson, Doug Faulkner, and Garry Running

This, in turn, results in enormous amounts of stored sediment being flushed into the main stem of the stream. They present a 16,000 year long timetransgressive complex response model to base-level lowering that informs on geomorphic theory.

Ultimately, our awardees plant seeds for future research. Sediment derived from a paraglacial environment has been stored within this system for at least 30,000 years. Today, this sediment is being reactivated as the Chippewa and its tributaries strive for a new equilibrium condition. The snapshot in time of ongoing change that they observe in the Chippewa allows them to examine the entirety of a fluvial system in flux.

Most significantly, it is an analogue that allows geomorphologists to understand how change propagates through space and time and across a variety of scales - from the individual channel to an entire drainage basin. Findings from this work can be applied to former glacial meltwater and paraglacial systems around the world, as well as to other instances of episodic and catastrophic base-level lowering. Our honorees seminal publication on the Chippewa River is steering the global conversation on fluvial geomorphology towards a better understanding of sediment-laden rivers and their connections with environmental change.

Our honorees paper is indeed a “single significant contribution to the published research literature in geomorphology during the past three years,” thus it is most deserving of our highest honor.

2019 Mel Marcus Distinguished Career Award

We are pleased to announce that Heather Viles (University of Oxford) is the 2019 recipient of the Mel Marcus Distinguished Career Award.

Below are citation by David Butler

I write to most strongly nominate **Professor Heather Viles,** Professor of Biogeomorphology and Heritage Conservation at Oxford University, for the Mel Marcus Distinguished Career Award of the Geomorphology Specialty Group. I have known Heather Viles for nearly 20 years, since when I first met her at the 1995 Binghamton Geomorphology Symposium on Biogeomorphology, held at the University of Virginia. Professor Viles and I share a mutual interest in biogeomorphic processes and the resulting landscapes, and in geomorphology in general.

Professor Heather Viles is a credit to the profession of geomorphology, and especially to the subfields of biogeomorphology and weathering geomorphology. Her career is an exemplar for us all. Since 2001 she has received over ca. $2,000,000 in external funding for her research in weathering and biogeomorphology. She has, over the course of her career, published well in excess of more than 100 refereed papers in top-flight international journals. She has been an invited speaker at the Binghamton Geomorphology Symposium, North America's oldest and most recognized annual conference on geomorphology, on *four separate occasions* – at the 1995 Biogeomorphology Symposium, at the 2001 Coastal Geomorphology Symposium, at the 2005 Weathering and Landscape Evolution Symposium, and at the 2011 Zoogeomorphology and Ecosystem Engineering Symposium, where she was the keynote speaker. Through her participation at Binghamton Symposia she has interacted and influenced a generation and more of North American geomorphologists with her keen intellect, wit, and graciousness. Only the late Marie Morisawa participated in more Binghamton Symposia than has Professor Viles.

GSG Awards Chair, Mike Daniels, presents the Mel Marcus Award to Dr. Heather Viiles at the 2019 GSG Business

Heather Viles' edited book, *Biogeomorphology*, published by Blackwell in 1988, provided a focal point in the development of research on the two-way interrelationships between biological and geomorphological processes. It is cited extensively around the world, and in virtually every publication focusing on phytogeomorphology, ecogeomorphology, and/or zoogeomorphology. I know first-hand how important the exciting work described in *Biogeomorphology* was in influencing my own developing research in the field of zoogeomorphology in the early 1990s. The importance of her book in my thinking is, perhaps, best illustrated by the fact that I had her autograph my tattered copy of the book when we crossed paths at the 2011 Binghamton Symposium. I also can mention that her keynote address at that meeting was truly outstanding, once again pointing toward a new frontier in biogeomorphology by directing our attention to the role of microbes as agents of biogeomorphic work.

Heather Viles is, however, not a "one-trick pony", she is equally well known for her outstanding research in salt weathering. Her co-authored book *Salt Weathering Hazards* (John Wiley, 1997, with Andrew Goudie) is still widely cited as the key assessment of the geomorphological and applied importance of salt weathering processes. She has carried out rigorous fieldwork on salt weathering both in desert and coastal environments, often in extreme environments. And many of her students, including Drs. Larissa Naylor and Martin Coombes, have combined biogeomorphology and salt weathering in their own research in coastal biogeomorphology.

Dr. Viles' c.v. provides numerous examples of the worldwide recognition she has received in the global geomorphological community, including the dozens of doctoral and master's students she has mentored, several of whom are establishing outstanding careers of their own in the discipline. Her c.v. also illustrates Professor Viles' profound dedication to our discipline through her extensive service to geomorphology, her university, and her students.

The body of Dr. Viles's work is extensive and clearly of the highest quality. Heather Viles is class, she is enthusiasm, she is scientific rigor, and above all, she is an outstanding scientist and geographer whose career is truly deserving of being called "Distinguished". Professor Heather Viles is one of our discipline's most prominent, outstanding scientific scholars whose influences have spread around the world.

2019 GSG Student Awards

Reds Wolman Student Research Award

Ph.D level

Greta Wells (University of Texas) *Reconstructing Holocene jökulhlaups along the Hvítá River and Gullfoss Waterfall, Iceland*. Advisor: Sheryl Luzzadder-Beach

M.S. level

Jordan Fields, (Dartmouth College) *River recovery and channel reach evolution following dam removal in a small upland channel*. Advisor: Frank Magillian

Graduate Student Paper Awards

Ph.D. level

Cesar Castillo, (Texas A&M University). *Channel-floodplain connectivity within a coastal riverine landscape of Texas*. Advisor: Inci Güneralp

M.S. level

Miranda Jordan, (Missouri State University). *Watershed disturbance history as interpreted through floodplain core analysis, Big River Watershed, Ozark Highlands, Missouri*. Advisor: Robert Pavlowsky

Undergraduate Poster Award (NEW award for 2019)

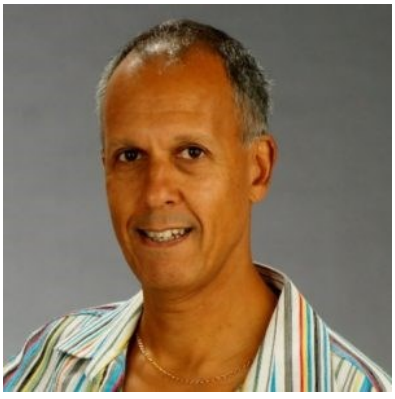
Inaugural winner: **Andrew Vanderheiden, Nicole Hernandez, Haoyan Chen, Billy Hales, and Cesar Castillo (Texas A&M University):** *Comparison of geomorphometric approaches for extracting channel dimensions of meandering rivers*. Advisor: Inci Güneralp

2020 AAG Fellows

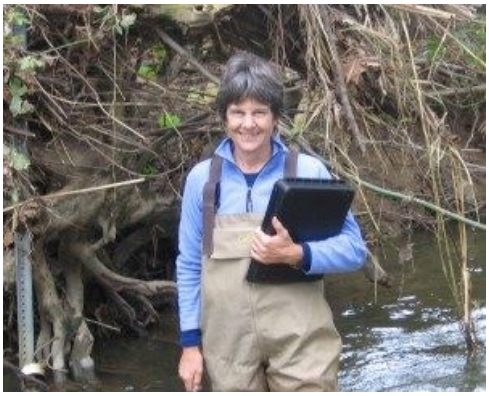
Congratulations to THREE geomorphologists who have been awarded the title of AAG Fellow this year!

Ann Chin
University of Colorado Denver

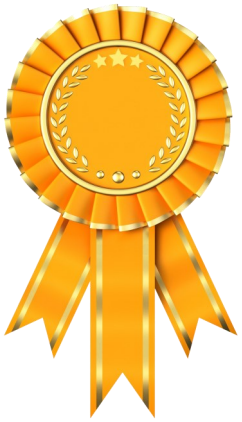
Basil Gomez
KBay Environmental Services LLC, University of University of Hawai`i, Mānoa



Carol Harden
University of Tennessee, Knoxville



2020 Award Nominations Due



Don't wait any longer! Nominations for the G.K. Gilbert, Mel Marcus, Reds Wolman, and student research awards are **due on February 14th.**

For details on how to submit your nominations, visit https://aag-gsg.org/awards/

Undergraduate poster award submissions are due by the abstract submission deadline of **January 31**.

Geomorphology Sessions at AAG

Below is a listing of GSG-sponsored sessions at the 2020 meeting in Denver. Some sessions may have been missed, so be sure to check your program for other great sessions.

4/7/20

8:40 am Teaching Critical Physical Geography

5:35 pm Celebrating the Contributions and Career of David R. Butler

4/8/20

8:00 am River Observations, Monitoring, and Management

8:00 am Floodplains and Riparian Zones: Pattern, Process, and Management of Dynamic Ecosystems I

9:35 am Floodplains and Riparian Zones: Pattern, Process, and Management of Dynamic Ecosystems II

1:35 pm Annual Distinguished Geomorphology and Society Lecture Series — **Dr. Ellen Wohl**

3:20 pm Geomorphology Poster Session

4:55 pm Periglacial Environments II: General

6:20 pm GSG Business Meeting

4/9/20

11:10 am Fluvial Forms and Processes

1:45 pm Fluvial Forms and Processes II

3:20 pm Fluvial Forms and Processes III

4:55 pm Fluvial Forms and Processes IV

4:55 pm Session in Honor of William L. Graf

4/10/20

9:35 am Long-term Environmental Change in the Neotropics: Part 1

Thank you to our 2019-2020 GSG board members!

Chair —Jennifer Burnham

Treasurer—Mike Daniels

Awards Chair—Lisa Davis

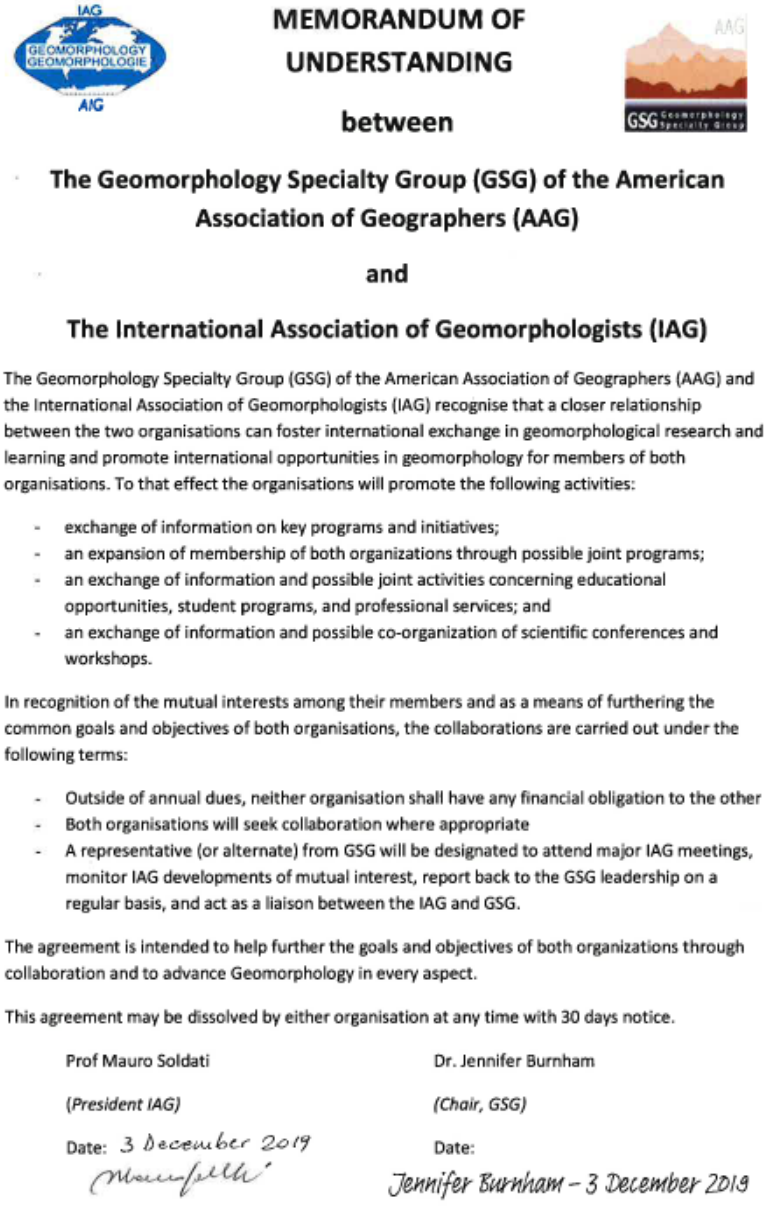
Awards Committee members, Kory Konsoer and Ranbir Kang

Webmaster—Kory Konsoer

MOU Signed with IAG

In consultation with Allan James and the GSG board members, we have signed a memorandum of understanding (MOU) between the GSG and the International Association of Geomorphologists (IAG) as a means of encouraging collaborations. Allan writes "The MOU is primarily a formal recognition of the relationship between two scholarly organizations and their mutual interests without financial or other resource obligations other than maintaining some form of representation. "

Outside of our normal dues and sending a representative to the IAG meetings (which Allan has graciously been doing for us), nothing has changed about our relationship with IAG.



MEMORANDUM OF UNDERSTANDING

between

The Geomorphology Specialty Group (GSG) of the American Association of Geographers (AAG)

and

The International Association of Geomorphologists (IAG)

The Geomorphology Specialty Group (GSG) of the American Association of Geographers (AAG) and the International Association of Geomorphologists (IAG) recognise that a closer relationship between the two organisations can foster international exchange in geomorphological research and learning and promote international opportunities in geomorphology for members of both organisations. To that effect the organisations will promote the following activities:

- exchange of information on key programs and initiatives;
- an expansion of membership of both organizations through possible joint programs;
- an exchange of information and possible joint activities concerning educational opportunities, student programs, and professional services; and
- an exchange of information and possible co-organization of scientific conferences and workshops.

In recognition of the mutual interests among their members and as a means of furthering the common goals and objectives of both organisations, the collaborations are carried out under the following terms:

- Outside of annual dues, neither organisation shall have any financial obligation to the other
- Both organisations will seek collaboration where appropriate
- A representative (or alternate) from GSG will be designated to attend major IAG meetings, monitor IAG developments of mutual interest, report back to the GSG leadership on a regular basis, and act as a liaison between the IAG and GSG.

The agreement is intended to help further the goals and objectives of both organizations through collaboration and to advance Geomorphology in every aspect.

This agreement may be dissolved by either organisation at any time with 30 days notice.

Prof Mauro Soldati	Dr. Jennifer Burnham
(President IAG)	*(Chair, GSG)*
Date: 3 December 2019	Date:
Mauro Soldati	Jennifer Burnham – 3 December 2019