

Fredric Robert Govedich, PhD

**Associate Professor of Biology, Department Chair**

***Education:***

Bachelor of Science in Biology (Summa Cum Laude, with research) from Northern Arizona University, 1994

Master of Science in Biology from Northern Arizona University, 1996

Ph.D. in Biology from Monash University (Australia), 2001



***Awards:***

Intergovernmental internship Cooperative (IIC) Outstanding Mentor Award (2014)

College of Science Outstanding Faculty Member. 2009-2010. Biology Department.

***Service Activities:***

I participate in service activities including the Southern Utah Science Fair Advisory Committee, as a journal editor, journal peer-reviewer, undergraduate research mentor, and when asked I will gladly share my knowledge with the public in any forum that presents itself.

***Research Activities:***

I am interested in various aspects of aquatic ecology, animal behavior, and invertebrate evolution, including the evolution of parental care strategies, population genetics, systematics, and the reconstruction of the evolutionary relationships (phylogeny) of invertebrate groups, predator-prey interactions, feeding behavior, and migration within (including the hyporheic) and between systems (migration, dispersal, etc.). Currently I am working on several aspects of population biology, evolutionary biology and animal behavior, including the evolution of reproductive strategies, parental care, sex allocation, paternity and the ecology of freshwater leeches and I am also involved with iUTAH an interdisciplinary research and training program aimed at strengthening science for Utah's water future.

***Selected Professional Presentations:***

Govedich, Fredric R. and Bonnie A. Bain. 2015. Leeches of North America. Society for Freshwater Science, 2015 Annual Meeting. Milwaukee. May 17-21, 2015.

Fredric R. Govedich and Bonnie A. Bain. 2008. Parental Care and Sibling Rivalry in Glossiphoniid Leeches: A Perspective on the Evolution of Animal Behavior. International Leech Conference, Washington D.C., Nov. 14<sup>th</sup> 2008.

Fredric R. Govedich. 2004. Parental care in leeches. Australia New Zealand Association for the Advancement of Science talk, April 2004.

Fredric R. Govedich, Bonnie A. Bain and M. Burd. 2002. The Evolution of Parental Care in Glossiphoniid Leeches: a Phylogenetic Perspective on the Evolution of Animal Behaviour. Australasian Society for the Study of Animal Behaviour, 29<sup>th</sup> annual conference, pg. 12.

***Selected Professional presentations with undergraduates***

Fredric R. Govedich, and Bonnie A. Bain. 2016. Leeches of North America. Society for Freshwater Science, 2016 Annual Meeting, Sacramento, CA. May 21-26, 2016.

Fredric R. Govedich, Bonnie A. Bain and Nayla Rhein. 2016. Examination of temporary rock pools in southern Utah. Society for Freshwater Science, 2016 Annual Meeting, Sacramento, CA. May 21-26, 2016.

- Matz Indergard Paul Spruell Fred Govedich, Paul Spruell. 2015. Dispersal of Fairy Shrimp Eggs Through Wind and Runoff. NCUR, held at Eastern Washington University, Cheney WA. April 16, 2015.
- Travis Wood, Fredric R. Govedich and Paul Spruell. 2013. Strength in Numbers: Behavioral Response of Speckled Dace and Virgin Spinedace to Invasive Crayfish. UCUR 2013, University of Utah. February 22, 2013.
- Heather Shumway, Fredric R. Govedich and Bonnie A. Bain. 2013. Feeding Strategies and Prey Preferences in Predacious Leeches. UCUR 2013, University of Utah.
- Heather Shumway, Fredric R. Govedich and Bonnie A. Bain. 2013. Feeding Strategies and Prey Preferences in Predacious Leeches. Festival of Excellence, Southern Utah University
- Heather Shumway, Bonnie A. Bain and Fredric R. Govedich. 2013. Pycnogonids of Izmir Bay, Turkey. Festival of Excellence, Southern Utah University
- Heather Shumway, Fredric R. Govedich, Bonnie A. Bain. 2012. Feeding strategies and prey preferences in predacious leeches. Poster presented at Southern Utah University College of Science and Engineering fourth annual Undergraduate Research Symposium, November 12, 2012.

#### ***Selected Refereed Publications and/or Books***

- William E. Moser, Fredric R. Govedich, Alejandro Ocegüera-Figueroa, Dinnis J. Richardson and Anna J. Phillips. 2016. Subclass Hirudinida. In: Thorp and Covich's Freshwater Invertebrates Volume 2: Keys to Nearctic Fauna. Thorp, J.H. and D.C. Rogers eds. Academic Press. 244-259.
- Govedich, Fredric R., William E. Moser. 2014. Clitellata: Hirudinida and Acanthobdellida In: Thorp and Covich's Freshwater Invertebrates Volume 1: Ecology and General Biology. Thorp, J.H. and D.C. Rogers eds. Academic Press. 565-588.
- Terri J. Hildebrand, Fredric R. Govedich, and Bonnie A. Bain, 2014. Hands-On Laboratory Simulation of Evolution: An Investigation of Mutation, Natural Selection, and Speciation. *The American Biology Teacher* 76(2):132-136.
- Moser, William E., Dennis J. Richardson, Charlotte I. Hammond, Fredric R. Govedich and Eric A. Lazo-Wasem. 2012. Resurrection and Redescription of *Placobdella rugosa* (Verrill, 1874) (Hirudinida: Glossiphoniidae). *Bulletin of the Peabody Museum of Natural History* 53(2):375-381.
- Govedich, Fredric R., William E. Moser, Stuart Gelder, Bonnie A. Bain, Roy Brinkhurst and Ronald W. Davies. 2010 Freshwater Annelida. In: *Ecology and Classification of North American Freshwater Invertebrates*. 3<sup>rd</sup> Edition. Thorp, J.H. and A.P. Covich eds. Academic Press.
- Davies, Ronald W., Fredric R. Govedich and William E. Moser. 2009. Leech parasites of birds. In: *Parasitic diseases of wild birds*, C. Atkinson (ed). Iowa State Press.
- Moser, William E., Fredric R. Govedich and Donald J. Klemm. 2009. Annelida, Hirudinea (Leeches). In: *The Encyclopedia of Inland Waters*. Elsevier.

#### ***Selected Refereed Publications written with undergraduate involvement:***

- Burd, Martin, Fredric R. Govedich and Laura Bateson. 2006. Sibling competition in a brood-tending leech. *Proceedings of the Royal Society B: Biological Sciences*, 273(1600):2461-2466
- David Paez, Fredric R. Govedich, Bonnie A. Bain, Mark Kellett and Martin Burd. 2004. Costs of parental care on hunting behaviour of *Helobdella papillornata* (Euhirudinea: Glossiphoniidae). *Hydrobiologia*, 519:185-188.

Tan, Gene N., Fredric R. Govedich and Martin Burd. 2004. Social group size, potential sperm competition, and reproductive investment in a hermaphroditic leech, *Helobdella papillornata* (Euhirudinea: Glossiphoniidae). *Journal of Evolutionary Biology* 17:574-580.

### **Professional involvement**

Professionally I serve as both an editor and peer reviewer for scientific journals, and participate on graduate committees. I have served as a SUU faculty Senator and on the biology and college curriculum committees, assessment committee, the University Press committee and as a Undergraduate Research and Scholarship reviewer, liaison, mentor, judge and advisory board member. As part of my community service I serve as a judge coordinator and judge for the Southern Utah Science and Engineering Fair and as a member of the advisory board.

### **Professional Biography**

Fredric R. Govedich received a PhD in Biology in 2001 from Monash University, Melbourne, Australia. He is interested in various aspects of aquatic ecology, animal behavior, and invertebrate evolution, including the evolution of parental care strategies in leeches, leech population genetics, leech systematics, and the reconstruction of the evolutionary relationships (phylogeny) of invertebrate groups, predator-prey interactions, feeding behavior, and migration within and between systems (migration, dispersal, etc.). Currently he is working on several aspects of population biology, evolutionary biology and animal behavior, including the evolution of reproductive strategies, parental care, sex allocation, and paternity in freshwater glossiphoniid leeches. In addition he is on the management team for iUTAH an interdisciplinary research and training program aimed at strengthening science for Utah's water future.