

CURRICULUM VITAE - JUAN JOSE FEDELE

Juan Jose Fedele, PhD

Research Associate

St. Anthony Falls Laboratory, University of Minnesota
3rd Ave SE and the Mississippi River,

Minneapolis, MN 55414

Office Phone: (612)624-4629

Fax: (612)624-4398

Home phone number: (612)331-5744

e-mail: fedel001@umn.edu

EDUCATION:

- PhD 2003 Civil and Environmental Engineering, with the specialty in Hydraulics and Sediment Transport. University of Illinois at Urbana-Champaign. Thesis: Bedforms and Gravity Underflows in Marine Environments.
- MS 1999 Civil and Environmental Engineering, Hydraulics and Sediment Transport. University of Illinois at Urbana-Champaign. Thesis: Bed Roughness in Alluvial Streams.
- BS 1985 Water-Resources Engineer. Facultad de Ingeniería y Ciencias Hídricas, Universidad Nacional del Litoral, Santa Fe, Argentina.

RESEARCH EXPERIENCE:

- Current-2003 Research Associate (postdoctoral), St. Anthony Falls Laboratory, University of Minnesota. Supervisor: Prof. Chris Paola. Research topic: theoretical modeling on the large-scale, long-term evolution of fluvial basins, with particular interests on the interaction between channels and floodplains, downstream sediment sorting, and on the stratigraphic signatures of tectonics and sea level changes.
- 2002-1996 Research Assistant (graduate student), Ven T Chow Hydrosystems Laboratory, University of Illinois at Urbana-Champaign. Supervisor: Prof. Marcelo H. Garcia. Research topic: (1) MS: theoretical and semi-empirical analysis of composite roughness in alluvial streams with dunes; (2) PhD: theoretical, numerical and experimental study of large-scale bedforms created by turbidity currents in submarine environments.
- 1991-1995 Undergraduate Student Researcher, UNL – CientíBeca (fellowship) Facultad de Ingeniería y Ciencias Hídricas, Universidad Nacional del Litoral, Santa Fe, Argentina. Supervisor: Prof. Mario L. Amsler. Research topic: semi-empirical analysis on the effects of large and small-superimposed dunes in the total resistance and bedload transport in large sand-bed rivers.

TEACHING EXPERIENCE:

- Fall 2005-Fall 2004 Instructor, Oceanography for non-science majors (GEO-1006), Department of Geology and Geophysics, University of Minnesota, Twin Cities Campus.
- 1994-1995 Instructor, Introductory Physics, Intro Mathematics, and Text Comprehension for freshmen, Facultad de Hidrologia y Ciencias Hidricas, Universidad Nacional del Litoral, Argentina.

PUBLICATIONS – JOURNAL/BOOKS

- Fedele J.J.** and Garcia M.H. “Alluvial Roughness in Streams with Dunes: A Boundary-Layer Approach”, in: *River, Coastal and Estuarine Morphodynamics*. Giovanni Seminara and Paolo Blondeaux Editors, Springer, 2001.
- Coleman S.E., **Fedele J.J.** and Garcia M.H. “Closed-conduit bedform initiation and development”. *J. Hydraulic Eng.*, V 129, N° 12, 956-965, 2003.
- Pratson L., Swenson J., Kettner A., **Fedele J.J.**, Postma G., Niedoroda A., Friedrichs C., Syvitski J.P.M., Paola C., Steckler M., Hutton E., Reed C., Van Dijk M. and Das H. “Modeling Continental Shelf Formation in the Adriatic Sea and Elsewhere”. *Oceanography*, V 17, N° 4, 2004.
- Sukhodolov A.N, **Fedele J.J.**, and Rhoads B. “Structure of flow over bedforms: An experiment on linking field and laboratory methods”. In press, *Earth Surface Processes and Landforms* (Editorial ref. code: 2652, Article Identifier at Wiley (AID): ESP1330), 2005.
- Fedele J.J.** and Garcia M.H. “Long-wavelength submarine bedforms created by gravity underflows. Part I: Conservative density currents”. Submitted to *J. Geophysical Research* (in review).
- Fedele J.J.** and Garcia M. “Long-wavelength submarine bedforms created by gravity underflows. Part II: Dilute turbidity currents”. Submitted to *J. Geophysical Research-Earth Surface* (in review).
- Fedele J.J.** and Paola C. “A self-similarity solution for the problem of channel-driven downstream fining”. Submitted to *J. Geophysical Research-Earth Surface* (in review).

CONFERENCE/MEETINGS

- Fedele J.J.** “Dune Velocities in Sand-bed Rivers”. J.F. Kennedy Paper Student Competition, XXVI IAHR Congress, London, 1995.
- Fedele J.J.** and Garcia M.H. “Revision de una metodologia para el calculo de las componentes de la tension de corte total en corrientes aluviales con dunas” (in Spanish) (Revision of a methodology for the computation of the total shear-stress components in alluvial streams with dunes). Proceedings XVIII Congress, IAHR Latin American Division, October 1998, Oaxaca, Mexico.
- Fedele J.J.** and Garcia M.H. “Flow Resistance in Alluvial Streams with Dunes: a Boundary-Layer Approach”. Proceedings ASCE Hydraulics Division Conference, July 1999, Seattle, Washington.
- Fedele J.J.** and Garcia M.H. “Formation of Submarine Gullies by Turbidity Currents”. EOS Transactions, AGU 1999 Fall Meeting, Invited paper presentation in: Fans, Flows and Glaciers: A Special Session in Honor of Roger LeB. Hooke I, December 1999, San Francisco, California.

- Fedele J.J.** and Garcia M.H. “Generation of Gullies on Continental Slopes by Turbidity Flows”. EOS Transactions, 2000 AGU Ocean Science Meeting, poster presentation, February 2000, San Antonio, Texas.
- Fedele J.J.** and Garcia M.H. “Alluvial Resistance and Sediment Transport for Flows over Dunes”. Proceedings ASCE Hydraulics Division Conference, August 2000, Minneapolis, Minnesota.
- Fedele J.J.** and Garcia M.H. “Shear-Stress Partition and Alluvial Roughness for Flow over Dunes”. EM2000 Proceedings, ASCE Eng. Mech Division Conference, May 2000, Austin, Texas.
- Fedele J.J.** and Garcia M.H. “Front and Interface Instabilities for Density and Turbidity Currents”. EOS Transactions, AGU 2000 Fall Meeting, poster presentation, December 2000, San Francisco, California.
- Fedele J.J.** and Garcia M.H. “Sediment Waves and Gullies Created by Turbidity Currents”. AGU Chapman Conference on: Formation of Sedimentary Strata on Continental Margins, June 2001, Ponce, Puerto Rico.
- Fedele J.J.** and Garcia M.H. “Bedforms and Density Underflows in the Marine Environment”. Proceedings 2nd IAHR Symposium on River, Coastal and Estuarine Morphodynamics, September 2001, Obihiro, Japan.
- Fedele J.J.** and Garcia M.H. “Large-scale sediment waves created by density underflows”. Proceedings 3rd IAHR Symposium on River, Coastal and Estuarine Morphodynamics, September 2003, Barcelona, Spain.
- Sukhodolov A., **Fedele J.J.**, and Rhoads B. “Turbulent River Flow Over Moveable and Molded Bedforms: A Comparative Field Study”. Second International Conference on River Hydraulics, RIVER FLOW 2004, June 2004, Naples, Italy.

AWARDS

- Third prize, J.F. Kennedy Student Paper Competition, XXVI IAHR Congress, London, UK, 1995.
- Glenn E. and Helen L. Stout Award, Civil and Environmental Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, 2002.

PROFFESIONAL AFFILIATIONS

- American Geophysical Union
American Association for the Advancement of Science
The Planetary Society