JACK A. PULEO, PH.D.
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Civil and Environmental Engineering
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EDUCATION

Ph.D., Coastal Engineering, University of Florida, June 2004.
Dissertation: *Hydrodynamics and Sediment Transport in the Inner Surf and Swash Zones*
Advisor: Dr. Donald N. Slinn
M.S.; Oceanography, Oregon State University, July 1998.
Thesis: *Swash Zone Sediment Suspension and Transport*
Advisors: Dr. Robert A. Holman and Dr. John S. Allen
B.S., *Cum Laude*, Oceanography, B.A. Mathematics, Humboldt State University, May 1996.

EXPERIENCE

Assistant Professor, *University of Delaware, July 2004-Present.*
Research, teaching and advising activities in Civil and Environmental Engineering.

Oceanographer, *Littoral Dynamics Team, Naval Research Laboratory. September 1998-July 2004.*
Basic and applied oceanographic research for naval needs.

HONORS AND AWARDS

- National Science Foundation CAREER Award (2009).
- University Excellence in Teaching Award (2007).
- College of Engineering Slocomb Excellence in Teaching Award (2007).
- ASCE ExCEEd New Faculty Excellence in Teaching Award (2007).
- Nominated for University Excellence in Teaching Award (2005, 2006, 2008).
- ASCE Excellence in Civil Engineering Education Teaching Fellowship (2005).
- Department of the Navy Alan Berman Research Publication Award (2004).
- Department of the Navy Alan Berman Research Publication Award (2003).
- Department of the Navy On-The-Spot award (1999).

PROFESSIONAL MEMBERSHIPS

- American Geophysical Union.
- American Society of Civil Engineers.
- American Society of Engineering Education.
- ARGUS Video Imaging Group.
- Chi Epsilon.
- Coasts, Oceans, Ports and Rivers Institute.

PROFESSIONAL SERVICE

- Chair and organizer for 1st International Workshop on Swash Processes, Lisbon, Portugal.
- Chair and organizer of workshop on Integrated Study of Swash Zone Processes held at the University of Delaware.
- Organizer of follow-up workshop on Integrated Study of Swash Zone Processes held in Honolulu, HI.
- Session chair for 2008 AGU Ocean Sciences Meeting.
- Abstract reviewer for IEEE conference in Aberdeen.
- Field Reviewer for the Naval Research Laboratory (NRL) Postdoctoral Fellowship Application, administered by the American Society for Engineering Education (ASEE).
- Proposal reviewer for the National Science Foundation, Ohio Sea Grant, Texas Sea Grant and Wisconsin Water Resources Institute.
- Guest Editor for special issue on swash zone processes in *Continental Shelf Research.*
- Reviewer for *Coastal Engineering*.
- Reviewer for *Continental Shelf Research*.
- Reviewer for *Estuarine, Coastal and Shelf Science.*
- Reviewer for the *IEEE Journal of Oceanic Engineering.*
- Reviewer for the *Journal of Coastal Research.*
- Reviewer for the *Journal of Fluid Mechanics.*
- Reviewer for the *Journal of Geophysical Research.*
- Reviewer for the *Journal of Waterways, Ports, Coasts and Ocean Engineering.*
- Reviewer for *Marine Geology*.
- Reviewer for *Ocean Engineering.*

DEPARTMENT AND UNIVERISTY SERVICE

- Advisor for Civil and Environmental honors students (2008-Present).
- Civil and Environmental Engineering Undergraduate Education Committee (2007-Present).
- Civil and Environmental Engineering Safety Committee (2007-Present).
- Blue and Gold Days (2007).
- Faculty Senate (2005-Present).

- Chi Epsilon Faculty Advisor (2004-Present).
- Freshman orientation (2005
- Department Web Page Committee (2004).
- Department recruitment video (2004).

OTHER SERVICE

- Interviewed for coastal processes section for DNREC informational video (2008).
- Assisted with ENGINEERING CONCEPTS TO ENHANCE
- MATH/SCIENCE/TECH ED CURRICULA: A Workshop for Secondary School Teachers (2006).
- Developed summer science modules for middle school students (through Engineering outreach; 2006, 2008).
- Assisted NOAA film crew for rip current video (2006).
- Rip current demonstration and interview for CBS morning show (2005).
- Coast Day demonstrations (2005-Present).
- Gave demonstration to local elementary and junior high school students understand beach processes (2005, 2006, 2008).

REFEREED PUBLICATIONS (* indicates published with student)

27. ***Puleo, J.A.** and J. Voorhees. In review. Estimating Vehicle Length and Speed Using a Calibrated Video Camera and Pixel Time Series Analysis, IEEE Transactions on Intelligent Transportation Systems.

26. Zhao, Q., J.T. Kirby and **J.A. Puleo**. In review. Bagnold formula revisited: Can energetics models be used in unsteady flows, *Geophysical Research Letters*.

25. **Puleo, J.A.** In Press. Tidal variability of swash zone sediment suspension and transport, *Journal of Coastal Research*.

24. *He, L. and **J.A. Puleo**. In press. PIV measurements of surface flows in laboratory wave basins, *Journal of Flow Visualization and Image Processing*.

23. *Pearre, N.S. and **J.A. Puleo**. In press. Quantifying seasonal shoreline variability at Rehoboth Beach, Delaware using automated imaging techniques. *Journal of Coastal Research*.

22. *Pietro, L., M.A. O'Neal and **J.A. Puleo**, 2008. Developing terrestrial-LIDAR-based digital elevation models to assess beach nourishment performance at Rehoboth Beach, DE, USA, *Journal of Coastal Research*, 24, 1555-1564.

21. ***Puleo, J.A.,** L. He, N. Pearre, L. Schmied, M. O'Neal, L. Pietro and M. Fowler, 2008. A single-user sub-aerial beach profiler, *Journal of Coastal Research*, 24, 1080-1086.

20. ***Puleo, J.A.,** A. Farhadzadeh, and N. Kobayashi. 2007. Numerical simulation of swash zone fluid accelerations, *Journal of Geophysical Research*, 112, C07007, doi: 10.1029/2006JC004084.

19. **Puleo, J.A.**, R.V. Johnson, T. Butt, T.N. Kooney, and K.T. Holland. 2006. The effect of bubbles on optical backscatter sensors, *Marine Geology* , 230, 87-97.

18. **Puleo, J.A.**, O. Mouraenko and D.M. Hanes. 2006. Closure: Wave bottom boundary layer model comparison: Specified eddy viscosity and turbulence closure models. *Journal of Waterway, Port, Coastal and Ocean Engineering*, 132, 141-142.

17. Calantoni, J.C., **J.A. Puleo** and K.T. Holland. 2006. Simulation of sediment motions using a discrete particle model in the inner surf and swash zones, *Continental Shelf Research*, 26, 610-621.

16. Masselink, G. and **J.A. Puleo**. 2006. Sediment transport and morphological change in the swash zone, *Continental Shelf Research*, 26, 661-680.

15. **Puleo, J.A.** and T. Butt. 2006. The 1st international workshop on swash zone processes, *Continental Shelf Research*, 26, 556-560.

14. Calantoni, J.C. and **J.A. Puleo**. 2006. Role of pressure gradients in bed load transport under waves, *Journal of Geophysical Research*, Vol 111, doi:10.1029/2005JC002875.

13. Butt, T., P. Russell, **J.A. Puleo**, and G. Masselink. 2005. The application of Bagnold-type sediment transport models in the swash zone, *Journal of Coastal Research*, 21, 887-895.

12. **Puleo, J.A.** and T. Butt. 2005. Instantaneous energetics sediment transport model calibrations, *Coastal Engineering*, 52, 647-653.

11. Plant, N.G., **J.A. Puleo** and K.T. Holland. 2004. Predictions skill and inversion of a nearshore profile evolution model, *Journal of Geophysical Research*, 109, C01006, 10.1029/2003JC001995.

10. **Puleo, J.A.**, O. Mouraenko and D.M. Hanes. 2004. Wave bottom boundary layer model comparison: Specified eddy viscosity and turbulence closure models, *Journal of Waterway, Port, Coastal and Ocean Engineering*, 130, 322-325.

9. Butt, T., P. Russell, **J.A. Puleo**, J. Miles and G. Masselink. 2004. The influence of bore turbulence on sediment transport in the swash and inner surf zones, *Continental Shelf Research*, 24, 757-771

8. **Puleo, J.A.**, T.N. Kooney and R.V. Johnson. 2004. Laboratory generation of air bubble curtains of various sizes and distributions, *Review of Scientific Instruments*, 75, 4558-4563.

7. **Puleo, J.A.**, K.T. Holland, N.G. Plant, D.N. Slinn and D.M. Hanes. 2003. Fluid acceleration effects on suspended sediment transport in the swash zone, *Journal of Geophysical Research*, 108, 3350, 10.1029/2003JC001943.

6. **Puleo, J.A.**, G. Farquharson, S. Frasier, K.T. Holland. 2003. Comparison of optical and radar measurements of surf zone velocities, *Journal of Geophysical Research*, 108, 3100, doi:10.1029./2002JC001483.

5. Plant, N.G., K.T. Holland and **J.A. Puleo**. 2002. Analysis of scale resolution and errors in nearshore bathymetric data analysis, *Marine Geology*, 191, 71-86.

4. **Puleo, J.A.** and K.T. Holland. 2001. Estimating swash zone friction coefficients on a sandy beach, *Coastal Engineering*, 43(1), 25-40.

3. Holland K.T. and **J.A. Puleo**. 2001. Variable swash motions associated with foreshore profile change, *Journal of Geophysical Research*, 106(C3), 4613-4623.

2. Holland, K.T., **J.A. Puleo** and T.N. Kooney. 2001. Quantification of swash flows using video-based particle image velocimetry, *Coastal Engineering*, 44, 65-77.

1. **Puleo, J.A.**, R.A. Beach, R.A. Holman, and J.S. Allen. 2000. Swash zone sediment suspension and transport and the importance of bore-generated turbulence, *Journal of Geophysical Research*, 105, 17021-17044.

NON-REFEREED PUBLICATIONS (* indicates published with student)

12. *Hayden, J.T., **J.A. Puleo** and J.H. MacMahan. 2008. Scour monitoring at Indian river inlet, Delaware, USA. *Proceedings of the 31st Coastal Engineering Conference*. Hamburg, Germany.

11. *Farhadzadeh, A. **J.A. Puleo,** and N. Kobayashi. 2006. Fluid acceleration in the swash zone. *Proceedings of the 30th Coastal Engineering Conference*. San Diego, CA, USA.

10. *Schmied, L., N. Kobayashi, **J.A. Puleo** and Q. Zhao. 2006. Cross-shore suspended sand transport on beaches. *Proceedings of the 30th Coastal Engineering Conference*. San Diego, CA, USA.

9. *He. L. and **J.A. Puleo**. 2006. Video-based particle image velocimetry of laboratory rip current. *Proceedings of the 30th Coastal Engineering Conference*. San Diego, CA, USA.

8. **Puleo, J.A.** 2004. Hydrodynamics and sediment transport in the inner surf and swash zones, Ph.D. Dissertation, University of Florida.

7. **Puleo, J.A.** and D.N. Slinn. 2004. Numerical investigation of swash zone shear stresses, *Proceedings of the 29th Coastal Engineering Conference*, ASCE, Lisbon, Portugal.

6. **Puleo, J.A**. and K.T. Holland. 2003. Swash zone flows and sediment suspension in relation to acceleration, Clearwater Beach, Florida, Coastal Sediments '03.

5. Holland, K.T., **J.A. Puleo**, N.G. Plant, and J.M. Kaihatu. 2002. Littoral environmental nowcasting system (LENS), Oceans 2002 MTS/IEEE, Biloxi, Mississippi.

4. ***Puleo, J.A.** K.T. Holland, and D.N. Slinn, E. Smith and B.M. Webb. 2002. Numerical Modeling of swash zone hydrodynamics, *Proceedings of the 28th International Conference on Coastal Engineering*, ASCE, Cardiff, Wales.

3. **Puleo, J.A.**, K.T. Holland, T.N. Kooney and A.H. Sallenger, Jr. Field observations of swash zone flow patterns and three-dimensional morphodynamics. 2000. *Proceedings of the 27th International Conference on Coastal Engineering*, ASCE, Sydney, Australia.

2. Holland, K.T., **J.A. Puleo**, T.N. Kooney, R.A. Holman and J.S. Stanley. 2000. Video-based sensing of surf zone environmental processes, Oceanic Imaging Conference.

1. **Puleo, J.A.** 1998. Swash zone sediment suspension and transport, M.S. Thesis, Oregon State University.

PRESENTATIONS AND INVITED LECTURES (* indicates with student)

47. *Hayden, J.T., **J.A. Puleo**, J.H. MacMahan. 2008. Advanced scour monitoring at Indian River Inlet, Delaware. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract 0S23A-1243.

46. *Faries, J. and **J.A. Puleo**. 2008. Nearbed sediment transport in the swash zone laboratory beaches. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract 0S12B-04.

45. *Lindemer, C.A., N.G. Plant, **J.A. Puleo** and D. Thompson. 2008. Modeling wave overtopping on the Chandeleur Islands during Hurricane Katrina using XBeach. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract 0S34A-05.

44. **J.A. Puleo**, M.A. O'Neal, T.E. McKenna, T. White, 2008. A remote-control airship for coastal and environmental research. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract 0S12D-1220.

43. *Faries, J. Hicks, B. and **J.A. Puleo**. 2008. Preliminary study of swash zone bedload concentration using a resistivity profiler. *Eos. Trans.* AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract 2096.

42. *Hayden, J.T., **J.A. Puleo** and J.H. MacMahan. 2008. Tidal current variability over deep scour holes at Indian River Inlet, Delaware. *Eos. Trans.* AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract 2086.

41. *Pietro, L. M.A. O'Neal and **J.A. Puleo**. 2008. Developing terrestrial-LIDAR-based digital elevation models for monitoring beach nourishment performance. *Eos. Trans.* AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract 2504.

40. *Pearre, N.S., **J.A. Puleo**. 2008. Automated large-scale shoreline variability analysis from video. *Eos. Trans.* AGU, 84(52), Ocean Sci. Meet. Suppl., Abstract 2060.

39. *Lindemer, C.A. and **J. A. Puleo**. 2008. Coastal Imaging at Cape May, NJ. University of Delaware Research Foundation Symposium, University of Delaware.

38. ***Puleo, J.A.** and C.A. Lindemer, 2008 (*invited*). Morphodynamics at Cape Henlopen, DE. United States Geologcal Survey, St. Petersburg, FL.

37. *Pietro, L. M.A. O'Neal, **J.A. Puleo** and D. R. Legates. 2007. Large-Scale, High-Fidelity Surface Models of Rehoboth Beach, DE. Association of American Geographers Meeting, San Francisco, Ca.

36. **Puleo, J.A.** 2007 (*invited*). Beach Response to Sea Level Rise. Workshop on Sea Level Rise Impacts in Delaware. Dover, DE. Sponsored by the Delaware Department of Natural Resources and Environmental Control and NOAA.

35. **Puleo, J.A.**, J. MacMahan, J. McConnell. 2006 (*invited*). Monitoring scour hole and tidal currents in Indian River Inlet, Delaware. Presented to Delaware Department of Transportation (DelDOT).

34. *Pearre, N.S. and **J.A. Puleo**. 2006. Automated Large-Scale Shoreline Variability Analysis from Video. *Eos Trans*. AGU, 87 (52), Fall Meet. Suppl., Abstract OS41C-0625.

33. McKenna, T.E. and **J.A. Puleo.** 2006 (*invited*). Influence of the subsurface thermal environment and ground-water discharge on horseshoe crab spawning and early development: Ground-Based remote sensing and field observations. Presented to the Division of Fish and Wildlife, Delaware Department of Natural Resources and Environmental Control.

32. **Puleo, J.A.** and T. Butt. 2006. Outcomes from the 1st International Workshop on Swash Zone Processes, *Eos. Trans.* AGU, 84 (52), Ocean Sci. Meet. Suppl.,

31. **Puleo, J.A.** and T. Butt. 2006. Status of the Integrated Study of Swash Zone Processes, Presented to the field experiment team in Honolulu, HI.

30. **Puleo, J.A.** 2005 (*invited*). Center for Applied Coastal Research Efforts on Rip Current Studies, Presented at NOAA Coastal Communities Rip Current Workshop, Lewes, DE.

29. **Puleo, J.A.** 2005. Video Imaging for Nearshore Processes Analysis: NOT another Surf Cam, Presented to the Division of Soil and Water Conservation, Shoreline and Waterway Management Section, Department of Natural Resources and Environmental Control, State of Delaware.

28. **Puleo, J.A.** and R. Johnson. 2004. The effect of bubbles on optical backscatter sensors, *Eos Trans*. AGU, 85 (47), Fall Meet. Suppl., Abstract OS21B-1219.

27. Calantoni, J.C. and **J.A. Puleo**. 2004. Using a Navier-Stokes solver to drive a discrete particle model for sediment transport in the swash zone, *Eos Trans*. AGU, 85 (47), Fall Meet. Suppl., Abstract OS24A-03.

26. Calantoni, J.C. and **J.A. Puleo**. 2004. Discrete particle model of sediment transport in the swash zone, *The 1st International Workshop on Swash Zone Processes*.

25. Masselink, G. and **J.A. Puleo**. 2004. Sediment transport and morphological change in the swash zone, *The 1st International Workshop on Swash Zone Processes*.

24. Russell, P. T. Butt, J. Miles, **J.A. Puleo** and D. A. Huntley. 2004. The role of swash in nearshore dynamics, *The 1st International Workshop on Swash Zone Processes*.

23. **Puleo, J.A.** and T. Butt. 2004. The 1st International Workshop on Swash Zone Processes: Why we are Here, *The 1st International Workshop on Swash Zone Processes*.

22. Plant, N.G. K.T. Holland, **J.A. Puleo** and E.L. Gallagher. 2004. Lessons learned from an inversion of bar migration observations, *Eos. Trans.* AGU, 84 (52), Ocean Sci. Meet. Suppl., Abstract OS32F-02.

21. Calantoni, J., **J.A. Puleo** and K.T. Holland. 2004. The effect of pressure gradients in bed load transport under waves, *Eos. Trans.* AGU, 84 (52), Ocean Sci. Meet. Suppl., Abstract OS31G-03.

20. **Puleo, J.A.**, R.V. Johnson and K.T. Holland. 2004. Laboratory investigation of the effect of bubbles on optical backscatter sensors, *Eos. Trans*. AGU, 84 (52), Ocean Sci. Meet. Suppl., Abstract OS52B-10.

19. ***Puleo, J.A.**, D.N. Slinn, K.T. Holland and B.W. Webb. 2004. A volume of fluid model for surf and swash zones, Eos. Trans. AGU, 83 (47), Fall Meet. Suppl., Abstract OS71A-0250.

18. **Puleo, J.A.** and K.T. Holland. 2001. VISSER: Database Applicable Code for Argus Users, Presented at the Argus Workshop in Corvallis, Oregon.

17. Puleo, J.A 2002 (*invited*). Extracting hydrodynamic and morphodynamic information from video imagery, Beach and Inlet Observation and Prediction System (BIOPS) workshop at the University of Florida.

16. **Puleo, J.A.** 2001. VISSER: Video Imaging System for Surf Zone Environmental Reconnaissance, Presented at the Argus Workshop in Corvallis, Oregon.

15. Slinn, D.N., K.T. Holland, **J.A. Puleo**, and D. Hanes. 2001. Modeling small-scale nearshore processes. Trans. Amer. Geophys. Union, 82(46).

14. **Puleo, J.A.** and K.T. Holland. 2001. VISSER: Video Imaging System for Surf Zone Environmental Reconnaissance in support of Kernel Blitz ’01, Presented during media day at Camp Pendleton.

13. **Puleo, J.A.**, K.T. Holland, G. Farquharson, S.J. Frasier and B. Raubenheimer. 2001. A comparison of remote sensing and in situ measurements of nearshore flows, Trans. Amer. Geophys. Union, 82(46)

12. **Puleo, J.A.** and K.T. Holland. 2000 (*invited*). The use of fixed and aerial video platforms for littoral environmental reconnaissance, Presented at MCCDC meeting in Washington DC.

11. **Puleo, J.A.** 2000 (*invited*). Overview of the Foreshore Sediment Transport Program at the Naval Research Laboratory, Florida Atlantic University.

10. **Puleo, J.A.**, K.T. Holland and T.N. Kooney. 2000. A video-based particle image velocimetry technique for nearshore flows, Trans. Amer. Geophys. Union, 81(46).

9. **Puleo, J.A.** 2000 (*invited*). Use of Video Imagery to Monitor Littoral Process, Louisiana State University.

8. **Puleo, J.A.** and K.T. Holland. 1999. Use of Video Imagery to Monitor and Predict Littoral Morphodynamics, Presented to representatives from National Geographic visiting the Naval Research Laboratory.

7. **Puleo, J.A.** and K.T. Holland. 1999. Creating rectified color mosaics from Argus Imagery, Presented at the Argus Workshop in Corvallis, Oregon.

6. **Puleo, J.A.** and K.T. Holland. 1999. Estimating the kinematic effects of friction and percolation in the swash zone, Trans. Amer. Geophys. Union, 80(46).

5. Holland K.T. and **J.A. Puleo.** 1999. Foreshore profile adjustment in response to swash processes, Trans. Amer. Geophys. Union, 80(46).

4. de Angelis, M.A., B. Davis, G. Downey, M. Fowler, S. Grimes, M. Logan, **J. Puleo** and M. Schneider. 1999. Distribution and potential ecological significance of epibenthic woody debris on a northern California continental shelf, American Society for Limnology and Oceanography 1999 Aquatic Sciences Meeting.

3. **Puleo, J.A.**, J.S. Allen, R.A. Holman and R.A. Beach. 1998. Importance of bore-generated turbulence to swash zone sediment transport, Trans. Amer. Geophys. Union, 79(45).

2. **Puleo, J.A.**, R.A. Beach and R.A. Holman. 1997. Swash zone sediment transport on a steep beach, Trans. Amer. Geophys. Union, 78(46).

1. **Puleo, J.A.**, R.A. Beach and R.A. Holman. 1996. Swash zone sediment suspension on a steep beach, Trans. Amer. Geophys. Union, 77(46).

RESEARCH AND TECHNICAL REPORTS (* indicates with student)

10. *Pearre, N.S. and **J.A. Puleo**. 2007. Sandcam at Rehoboth: Quantifying shoreline change using video. Center for Applied Coastal Research, University of Delaware, CACR-07-02.

9. *O'Neal, M.A., **J.A. Puleo** and L.S. Pietro. 2007. Pilot Study on the Use of Terrestrial LIDAR for Rapid, High-Resolution Beach Monitoring. Delaware Department of Environmental Protection, Technical Report, 86 pp.

8. *Schmied, L., N. Kobayashi, A. Payo, and **J.A. Puleo**. 2006. Cross Shore Sediment Transport and Beach Profile Change. Center for Applied Coastal Research, University of Delaware, CACR-06-03.

7. *He, L. and **J.A. Puleo**. 2006. Video-Based Particle Image Velocimetry of Laboratory Rip Currents. Center for Applied Coastal Research, University of Delaware, CACR-06-05.

6. ***Puleo, J.A.** and N.S. Pearre. 2006. Surf and Nearshore Dynamics Camera (SANDCam). Center for Applied Coastal Research, University of Delaware, CACR-06-06.

5. Butt, T. Coco, G. **Puleo, J.A.**, Raubenheimer, B. Turner, I. and van Thiel de Vries, J. 2005. Planning for an Integrated Field Study of Swash Zone Processes (SWASH3D). Workshop report submitted to the Office of Naval Research Global.

4. **Puleo, J.A.** 2005. The effect of Bubbles on Optical Backscatter Sensors, ONR Annual Report, Coastal Geosciences Division.

3. **Puleo, J.A.** and O. Mouraenko. 2003. Wave bottom boundary layer models on smooth and rough beds, NRL Report: NRL/FR/7440—03-10,053.

2. **Puleo, J.A.**, K.T. Holland and T.N. Kooney. 2001. A video-based particle image velocimetry (PIV) technique for nearshore flows, NRL Review pp:162-164 .

1. Holland, K.T. and **J. A. Puleo.** 1999. High resolution observations of foreshore morphodynamics, NRL Review, 148-149.

RESEARCH CONTRACTS AND GRANTS

Title: Swash Zone Sediment Transport
Sponsor: National Science Foundation CAREER Award
Duration: March 1, 2009 – February 28, 2013
PI: Jack A. Puleo

Title: Quantifying Short-Term Morphologic Evolution and Alongshore Sediment Transport Rates at Cape Henlopen, DE Using Remote Sensing and Rapid-Response GPS-Equipped Vehicles
Sponsor: Delaware SeaGrant
Duration: February 1, 2009 – January 31, 2012
PI: Jack A. Puleo

Title: Quantifying Reductions in Greenhouse Gas Emissions with Airship-Based Measurements
Sponsor: University of Delaware Research Foundation
Duration: December 1, 2008 – November 30, 2009
PI: Paul Imhoff, Michael A. O'Neal, Jack A. Puleo, Chris L. Meehan and Steve Dentel
Title: Evaluation of Wind and Wave Processes Critical in Sustaining Beach Backshore Environments
Sponsor: New Jersey Sea Grant Program

Duration: October 1, 2008 – September 30, 2010
PI: Karl Nordstrom, Nancy Jackson and Jack A. Puleo

Title: Selective Detection and Characterization of Nanoparticles from Motor Vehicles
Sponsor: Health Effects Institute
Duration: July 1, 2008 – August 31, 2011
PI: Murray Johnston, Jim Smith and Jack A. Puleo

Title: Bathymetry collection in support of SANDCam
Sponsor: UDRF Research Experience for Undergraduates
Duration: June 1, 2008 – August 31, 2008
PI: Jack A. Puleo

Title: Near Real-Time Monitoring of the Indian River Inlet Scour Hole Edge Evolution seaward of the bridge piers: Phase I.
Sponsor: Delaware Department of Transportation.
Duration: October 1, 2007 – September 30, 2010
PI: Jack A. Puleo, Jennifer McConnell, Jamie MacMahan, Michael Chajes

Title: Temporal Remote Sensing of Salt Marsh Inundation at Webbs Marsh in the Murderkill River Estuary, Delaware
Sponsor: Kent County, Delaware
Duration: September 15, 2007 – January 30, 2009
PI: Tom E. McKenna, Jack A. Puleo, Michael A. O'Neal

Title: Low Altitude Environmental Analysis Dirigible (LEAD)
Sponsor: Private Donor
Duration: September 1, 2007 – August 31, 2008
PI: Michael A. O'Neal and Jack A. Puleo

Title: SANDCam at Rehoboth Beach
Sponsor: Delaware Department of Natural Resources and Environmental Control
Duration: July 1, 2007 – June 30, 2009
PI: Jack A. Puleo

Title: Feasibility in Using a Calibrated Video System for Traffic Speed and Vehicle Identification
Sponsor: Delaware Department of Transportation, UD Center for Transportation
Duration: July 1, 2007 – June 30, 2008
PI: Jack A. Puleo, Harry S. Shenton

Title: Quantifying Storm and Seasonal Morphologic Variability of Delaware Bay Capes
Sponsor: University of Delaware Research Foundation
Duration: June 1, 2007 – May 31, 2008
PI: Jack A. Puleo

Title: Characterizing Morphology and Geotechnical Properties of a Macrotidal Muddy Coast using Multi-Spectral Ground-Based Remote Sensing
(Gyeonggi Bay Tidal Flat, South Korea)– PHASE I – Planning Meetings
Sponsor: Office of Naval Research
Duration: February 15, 2007 – December 31, 2007
PI: Jack A. Puleo, Chris Meehan, Tom McKenna

Title: Scour Monitoring of the Indian River Inlet Bridge: Pilot Study
Sponsor: Delaware Department of Transportation
Duration: September 1, 2006 – August 31, 2007
PI: Jennifer Righman, Jack Puleo, Jamie MacMahan, Michael Chajes

Title: Pilot Study on the Use of Terrestrial LIDAR for Rapid, High-Resolution Beach Monitoring
Sponsor: Delaware Department of Natural Resources and Environmental Control
Duration: November 1, 2005 – October 31, 2006
PI: Michael, O'Neal, Jack A. Puleo and Art Trembanis

Title: Hands-on model of Beach Processes
Sponsor: Sea Grant; University of Delaware
Duration: Septmeber 1, 2005 – August 31, 2006
PI: Jack A. Puleo

Title: Nearshore Video Imaging Analysis System At Rehoboth Beach
Sponsor: Delaware Department of Natural Resources and Environmental Control
Duration: July 1, 2005 – June 30, 2007
PI: Jack A. Puleo

Title: ONRG Science and Technology Engagement Program (STEP): Support request for international collaboration on plan development for an integrated swash zone field study
Sponsor: Office of Naval Research Global
Duration: May, 2005
PI: Jack A. Puleo

Title: The Effect of Bubbles on Optical Backscatter sensors
Sponsor: Office of Naval Research
Duration: October 1, 2004 – September 30, 2005
PI: Jack A. Puleo

Title: The Effect of Bubbles on Optical Backscatter sensors
Sponsor: Office of Naval Research
Duration: October 1, 2003 – September 30, 2004
PI: Jack A. Puleo

RESEARCH ADVISING

Doctoral Students
Jennifer, L. Irish (committee member)
Wen Long (committee member)

Masters Students
Betsy Hicks, Joe Faries, Jesse Hayden, Liang He, Christina Lindemer, Nat Pearre, Lauren Schmied

Undergraduate Students
Betsy Hicks, Christina Lindemer, Jake Voorhees, Tim Burke

Visiting Students
Ali Farhadzadeh

COURSES TAUGHT

2009 Spring:	CIEG 167	Freshman Design
	CIEG 675	Matlab for Engineering Analysis
	CIEG 865	Coastal Seminar
2008 Fall:	CIEG 305	Fluid Mechanics
2008 Spring:	CIEG 680	Littoral Processes
	CIEG 865	Coastal Seminar
2007 Fall:	CIEG 305	Fluid Mechanics
	CIEG 675	Matlab for Engineering Analysis
2006 Spring:	CIEG 680	Littoral Processes
2005 Fall:	CIEG 305	Fluid Mechanics
	Graduate Seminar Series	Introduction to Matlab
2005 Spring:	CIEG 865	Coastal Seminar
2004 Fall:	CIEG 305	Fluid Mechanics