Biographical Sketch
Richard A. Regueiro

Department of Civil, Environmental and Architectural Engineering. University of Colorado Boulder.
Boulder, CO 80309-0428, *Email*: richard.regueiro@colorado.edu

a. Professional Preparation

University of Pennsylvania, Philadelphia, PA	*Civil Engineering Systems*	B.S.E.	1991
Massachusetts Institute of Technology, Cambridge, MA	*Aeronautics and Astronautics*	S.M.	1993
Stanford University, Stanford, CA	*Civil and Environmental Engineering*	Ph.D.	1998

b. Professional Appointments

2019-Current: Professor, Dept. of Civil, Environmental, and Architectural Eng., University of Colorado Boulder, Boulder, CO.

2018-Current: Mechanical Engineer (intermittent): U.S. Army Research, Development and Engineering Command (ARL), Aberdeen Proving Ground, Maryland (to facilitate collaboration with ARL)

2012-2019: Associate Professor, Dept. of Civil, Environmental, and Architectural Eng., University of Colorado Boulder, Boulder, CO.

2014 (Autumn): Fulbright US Scholar; Academic Visitor, Engineering Science Department; University of Oxford, United Kingdom; Visiting Fellow, Brasenose College, Oxford, United Kingdom

2014 (Winter-Spring): UPS Foundation Visiting Associate Professor: Department of Civil and Environmental Engineering, Stanford University, Stanford, CA

2005-2012: Assistant Professor, Dept. of Civil, Environmental, and Architectural Eng., University of Colorado Boulder, Boulder, CO.

2004-2005: Principal Member of Technical Staff, Science-Based Materials Modeling Department, Sandia National Laboratories, Livermore, CA.

1998-2004: Senior Member of Technical Staff, Science-Based Materials Modeling Department, Sandia National Laboratories, Livermore, CA.

2002, 2003 (Winter): Lecturer, Structural Engineering & Geomechanics Division, Stanford University, Stanford, CA

1993-1998: Graduate Research and Teaching Assistant: Structural Engineering & Geomechanics Division, Stanford University, Stanford, CA

1992-1993: Draper Fellow: Charles Stark Draper Laboratory, Cambridge, MA

1991 (Autumn): Graduate Teaching Assistant, Materials and Structures Division, Aero/Astro, MIT

c. Products

Products or Publications Most Closely Related to Project [5]

[1] Jin, T., Mourad, H., Bronkhorst, C.A., Livescu, V., Zhang, X., Linder, C., Regueiro, R.A. (2019) Three-dimensional explicit finite element formulation for shear localization with global tracking of embedded weak discontinuities, *Computer Methods in Applied Mechanics and Engineering*, 353:416-447.

[2] Bennett, K.C., Regueiro, R.A., Luscher, D.J. (2019) Anisotropic finite hyper-elastoplasticity of geomaterials with Drucker-Prager/Cap type constitutive model formulation, *International Journal of Plasticity* 123:224-250.

[3] Yan, B., Regueiro, R.A. (2019) Definition and symmetry of averaged stress tensor in granular media and its 3D DEM inspection under static and dynamic conditions, *International Journal of Solids and Structures.* 161:243-266.

[4] Yan, B., Regueiro, R.A. (2019) Three-dimensional discrete element method parallel computation of Cauchy stress distribution over granular materials, *Int. J. Numer. Anal. Methods Geomech.* 43(5):974-1004.

[5] Yan, B., Regueiro, R.A. (2018) Comparison between pure MPI and hybrid MPI-OpenMP parallelism for 3D Discrete Element Method (DEM) of ellipsoidal and poly-ellipsoidal particles, *Computational Particle Mechanics* 5(4):553-577.

Other Significant Products or Publications [5]

[1] Yan, B., Regueiro, R.A. (2018) Comparison between O(n2) and O(n) neighbor search algorithm and its influence on superlinear speedup in parallel DEM for complex-shaped particles, *Engineering Computations* 35(6):2327-2348

[2] Zhang, B., Regueiro, R.A., Druckrey, A.M., Alshibli, K. (2018) Construction of poly-ellipsoidal grain shapes from SMT imaging on sand, and the development of a new DEM contact detection algorithm, *Eng. Comput.* 35(2):733-771

[3] Yan, B., Regueiro, R.A. (2018) Superlinear speedup phenomenon in parallel 3D Discrete Element Method (DEM) simulations of complex-shaped particles, *Parallel Computing* 75:61-87

[4] Amirrahmat, S., Alshibli, K., Jarrar, M., Zhang, B., Regueiro, R.A. (2018) Equivalent continuum strain calculations based on 3D particle kinematic measurements of sand, *International Journal for Numerical and Analytical Methods in Geomechanics* 42(8):999-1015

[5] Bennett, K., Regueiro, R.A., Borja, R.I. (2016) Finite strain elastoplasticity considering the Eshelby stress for materials undergoing plastic volume change, *Int. J. Plast.*, 77:214-245.

d. Synergistic Activities

- ***Associate Editor/ Editorial Board Member:*** *ASCE Journal of Engineering Mechanics* (01/12-present)*, Acta Geotechnica* (10/12-present)*, International Journal for Numerical and Analytical Methods in Geomechanics* (09/13-present).
- ***Tahoe Development Server Administrator and Owner***, tahoe.sourceforge.net (password-protected source code browser and repository). Password-protected development cvs/svn repository allowing easy code development access for researchers.
- ***Committee membership***: ASCE Engineering Mechanics Division Committee on Modeling Inelasticity and Multiscale Behavior (member 10/02-, chair 10/11-9/13), Poromechanics (member 8/10-), Computational Mechanics (member 8/12-); Biomechanics (member 6/17-); ASCE Geo-Institute (G-I) Committee on Soil Properties & Modelling: Member (12/09-).