

Stanford



Ronaldo Borja

Professor of Civil and Environmental Engineering

CONTACT INFORMATION

- **Administrator**

Kim Vonner - Administrative Associate

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Bio

BIO

Borja works in computational mechanics, geomechanics, and geosciences. His research includes developing strain localization and failure models for soils and rocks, modeling coupled solid deformation/fluid flow phenomena in porous materials, and finite element modeling of faulting, cracking, and fracturing in quasi-brittle materials.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering

PROFESSIONAL EDUCATION

- PhD, Stanford University (1984)

LINKS

- <http://www.stanford.edu/~borja>: <http://www.stanford.edu/~borja>

Teaching

COURSES

2017-18

- Computational Poromechanics: CEE 294 (Spr)
- Geotechnical Engineering: CEE 101C (Aut)
- Mechanics and Finite Elements: CEE 281 (Win)

2016-17

- Geotechnical Engineering: CEE 101C (Aut)
- Mechanics and Finite Elements: CEE 281 (Win)
- Plasticity Modeling and Computation: CEE 295 (Spr)

2015-16

- Computational Poromechanics: CEE 294 (Spr)
- Geotechnical Engineering: CEE 101C (Aut)
- Mechanics and Finite Elements: CEE 281 (Win)

2014-15

- Mechanics and Finite Elements: CEE 281 (Win)
- Plasticity Modeling and Computation: CEE 295 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Berkin Dortdivanlioglu, Lei Jin, Indraneel Gireendra Kasmalkar, Isamar Rosa Plata

Publications

PUBLICATIONS

- **Conservation laws for coupled hydromechanical processes in unsaturated porous media: Theory and implementation.** *Mechanics of Unsaturated Geomaterials*
I., A., Borja, J.
ISTE Ltd. and John Wiley and Sons.2010: 186–208
- **Localized and diffuse bifurcations in porous rocks undergoing shear localization and cataclastic flow.** *Computational Plasticity (Computational Methods in Applied Sciences)*
I.
Springer.2007
- **Foreword** *Computer Methods in Applied Mechanics and Engineering*
Borja, R., I.
2004; 193 (27-29): iii.
- **Consolidación elastoplástica con deformaciones finitas: Implementación con elementos finitos y ejemplos numéricos** *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*
Borja, R., I., Tamagnini, C., Alarcón, E.
1999; 15 (2): 269-296
- **Modelo de plasticidad multiaxial para arcillas sometidas a carga dinámica** *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*
Montáns, F., J., Borja, R., I.
1999; 15 (2): 169-192
- **Finite strain elastoplastic consolidation, Part 2: Finite element implementation and numerical examples** *Computer Methods in Applied Mechanics and Engineering*
Borja, R., I., Tamagnini, C., Alarcón, E.
1998; 159: 103-122
- **Un marco matemático para la consolidación elastoplástica con deformaciones finitas** *Revista Internacional de Métodos Numéricos para Cálculo y Diseño en Ingeniería*
Borja, R., I., Alarcón, E.
1995; 3 (11): 345-381