Rafael Jimenez-Rodriguez

Associate Professor of Geotechnics
Technical University of Madrid
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Education

12/2004 *Ph.D. in Civil and Environmental Engineering*
University of California, Berkeley, USA
Thesis Committee: N. Sitar (chair), R.E. Goodman, and P.L. Bartlett

05/2002 *M.S. in Civil and Environmental Engineering*
University of California, Berkeley, USA

09/2001 *Diploma de estudios avanzados*
(Diploma of research sufficiency)
Department of Civil Engineering
University of Granada, Spain

07/1999 *Ingeniero de Caminos, Canales y Puertos*
(B.S., M.S. in Civil Engineering)
University of Granada, Spain

Previous positions

05/2007–08/2008 *Lecturer*
Department of Civil and Environmental Engineering
Imperial College London, U.K.

09/2005–04/2007 *Assistant Professor*
E.T.S de Ingenieros de Caminos, Canales y Puertos
Technical University of Madrid, Spain

04/2005–08/2005 *Postdoctoral scholar employee*
Earthquake Engineering Research Center
Department of Civil and Environmental Engineering
University of California, Berkeley, USA

05/2002–12/2004 *Graduate student researcher*
Department of Civil and Environmental Engineering
University of California, Berkeley, USA

11/2000–10/2004 *Graduate student researcher*
Department of Civil Engineering
University of Granada, Spain

Teaching Experience at Graduate Level

Technical University of Madrid:

2005–current	Reliability in Geotechnical Engineering
2005–2007	Advanced Rock Mechanics
2008–2010	Foundations and Slope Engineering

Imperial College London:

2007–2008	Engineering Geology and Rock Mechanics

Other graduate programs:

2006–current	Master in tunnelling design and construction (AETOS)
2007–2009	Master in geology applied to civil engineering (University of Granada)
2008–2009	Master in geotechnical engineering (CEDEX)
2009–2010	Master in military engineering (Spanish Ministry of Defense)

Invited Lectureships:

2008–2009	Basic competences in engineering Geology (25h; Imperial College London)
2009	Design and construction of underground excavations (30h; Technical University of Loja, Ecuador)

Teaching Experience at Undergraduate Level

Technical University of Madrid:

2005–2007	Geotechnics and Foundation Engineering
2005–2007	Rock Mechanics
2008–current	Geotechnics and Foundation Engineering
2008–current	Underground Excavations

University of Granada:

2000–2004	Rock Mechanics
2002–2004	Soil Mechanics
2000–2001	Engineering Geology

Publications

Journal articles:

[1] Senent, S., Mollon, G. and Jimenez, R. (2013). Stability of tunnel face in rock masses with the Hoek-Brown failure criterion, *International Journal of Rock Mechanics and Mining Sciences*. [Accepted; in press].

[2] Tejada, I. G. and Jimenez, R. (2013). Statistical mechanics as guidance for particle-based computational methods, *Engineering Computations*. [Accepted; in press].

[3] Jimenez, R. and Jurado-Piña, R. (2012). A simple genetic algorithm for calibration of stochastic rock discontinuity networks, *Rock Mechanics and Rock Engineering* **45**(4): 461–473.

[4] Recio-Gordo, D. and Jimenez, R. (2012). A probabilistic extension to the empirical ALPS and ARMPS systems for coal pillar design, *International Journal of Rock Mechanics and Mining Sciences* **52**: 181–187.

[5] Jimenez, R. and Recio, D. (2011). A linear classifier for probabilistic prediction of squeezing conditions in Himalayan tunnels, *Engineering Geology* **121**(3-4): 101–109.

[6] Zare-Naghadehi, M., Jimenez, R., KhaloKakaie, R. and Jalali, S.-M. E. (2011). A probabilistic systems methodology to analyze the importance of factors affecting the stability of rock slopes, *Engineering Geology* **118**(3-4): 82–92.

[7] Jurado-Piña, R., Pardillo-Mayora, J. M. and Jimenez, R. (2010). Methodology to analyze sun glare related safety problems at highway tunnel exits, *Journal of Transportation Engineering (ASCE)* **136**(6): 545–553.

[8] Tejada, I. G. and Jimenez, R. (2010). Equations of state in soil compression based on statistical mechanics (discussion), *Soils and Foundations* **50**(2): 335–336.

[9] Jimenez, R. and Sitar, N. (2009). The importance of distribution types on finite element analyses of foundation settlement, *Computers and Geotechnics* **36**(3): 474–483.

[10] Jimenez-Rodriguez, R., Serrano, A. and Olalla, C. (2009). Design charts for consolidation under non-linearly time-varying loads, *Ground improvement (ICE)* **162**(GI2): 103–108.

[11] Jimenez, R. (2008). Fuzzy spectral clustering for identification of rock discontinuity sets, *Rock Mechanics and Rock Engineering*

41(6): 929–939. ISSN: 0723–2632. DOI:10.1007/s00603-007-0155-6.

[12] Jimenez, R., Serrano, A. and Olalla, C. (2008). Linearization of the Hoek and Brown rock failure criterion for tunnelling in elasto-plastic rock masses, *International Journal of Rock Mechanics and Mining Sciences* **45**(7): 1153–1163. ISSN: 1365–1609. DOI:10.1016/j.ijrmms.2007.12.003.

[13] Jimenez-Rodriguez, R. and Sitar, N. (2008). Influence of stochastic discontinuity network parameters on the formation of removable blocks in rock slopes, *Rock Mechanics and Rock Engineering* **41**(4): 563–585.

[14] Jimenez-Rodriguez, R. and Sitar, N. (2007). Rock wedge stability analysis using system reliability methods, *Rock Mechanics and Rock Engineering* **40**(4): 419–427.

[15] Jimenez-Rodriguez, R. and Sitar, N. (2006a). Inference of discontinuity trace length distributions using statistical graphical models, *International Journal of Rock Mechanics and Mining Sciences* **43**(6): 877–893.

[16] Jimenez-Rodriguez, R. and Sitar, N. (2006b). A spectral method for clustering of rock discontinuity sets, *International Journal of Rock Mechanics and Mining Sciences* **43**(7): 1052–1061. ISSN: 1365–1609; 10.1016/j.ijrmms.2006.02.003.

[17] Jimenez-Rodriguez, R., Sitar, N. and Chacón, J. (2006). System reliability approach to rock slope stability, *International Journal of Rock Mechanics and Mining Sciences* **43**(6): 847–859. ISSN: 1365–1609; DOI: 10.1016/j.ijrmms.2005.11.011.

[18] Jimenez-Rodriguez, R. (2005). Probabilistic identification of keyblocks in rock excavations, *Geotechnical News* **23**(2): 47. ISSN: 0823650X.

Conference papers:

[1] Alonso, J. A. and Jimenez, R. (2012). Reliability-based design of stone columns for ground improvement considering settlement and bulging as failure modes, *in* N. Denies and N. Huybrechts (eds), *Proceedings of the International Symposium on Recent Research, Advances & Execution Aspects of Ground Improvement Works — TC 211 IS-GI*, Vol. III, ISSMGE Technical Committee TC 211 Ground Improvement, Belgian Building Research Institute, Brussels, pp. 319–328.

[2] Alonso Pollan, J. A., Armijo Palacio, G. and Jimenez Rodriguez, R. (2012). Análisis de fiabilidad del diseño de columnas de grava

para mejora del terreno. Estabilidad de las columnas, *Cimentaciones y Excavaciones Profundas. 9 simposio nacional de Ingeniería Civil*, Sociedad Española de Mecánica del Suelo e Ingeniería Geotécnica, Madrid, pp. 139–153.

[3] Gonzalez del Alamo, J. and Jimenez, R. (2012). Prediction of convergences in rock tunnels excavated by conventional methods, *in* Q. Qian and Y. Zhou (eds), *Harmonising Rock Engineering and the Environment. Proceedings of the 12th ISRM International Congress on Rock Mechanics*, Taylor & Francis Group, London, pp. 636–637 [Extended Abstract]; 1685–1688 [Full Paper in CD–ROM]. Beijing, China, 18-21 October 2011.

[4] Jimenez, R. and Martin-Rosales, W. (2012). The use of field visits in graduate geotechnical teachning, *in* B. McCabe, M. Pantazidou and D. Phillips (eds), *Proceedings of the International Conference Shaking the Foundations of Geo-Engineering Education*, CRC Press/Balkema, AK. Leiden, The Netherlands, pp. 157–162.

[5] Jimenez, R. and Recio, D. (2012). Probabilistic prediction of squeezing in tunneling under high-stress conditions, *in* Q. Qian and Y. Zhou (eds), *Harmonising Rock Engineering and the Environment. Proceedings of the 12th ISRM International Congress on Rock Mechanics*, Taylor & Francis Group, London, pp. 639–640 [Extended Abstract]; 1693–1696 [Full Paper in CD–ROM]. Beijing, China, 18-21 October 2011.

[6] Jimenez, R. and Senent, S. (2012). Teachning the importance of engineering geology using case histories, *in* B. McCabe, M. Pantazidou and D. Phillips (eds), *Proceedings of the International Conference Shaking the Foundations of Geo-Engineering Education*, CRC Press/Balkema, AK. Leiden, The Netherlands, pp. 99–104.

[7] Jimenez, R., Roman, F. and Garcia-Gutierrez, J.-M. (2012). A comparison of soil improvement achieved using different vibro methods, *in* N. Denies and N. Huybrechts (eds), *Proceedings of the International Symposium on Recent Research, Advances & Execution Aspects of Ground Improvement Works — TC 211 IS-GI*, Vol. II, ISSMGE Technical Committee TC 211 Ground Improvement, Belgian Building Research Institute, Brussels, pp. 53–61.

[8] Ma, X. and Jimenez-Rodriguez, R. (2012). Strength symmetry with respect to the stress state imposed by mogi's theory against long-prevailing observations, *in* Q. Qian and Y. Zhou (eds), *Harmonising Rock Engineering and the Environment. Proceedings of the 12th ISRM International Congress on Rock Mechanics*, Taylor & Francis Group, London, pp. 255–256 [Extended Abstract]; 467–471 [Full Paper in CD–ROM]. Beijing, China, 18-21 October 2011.

[9] Roman, F., Jimenez, R., Garcia-Suarez, J.-C. and Coz, A. (2012). Preloading of a hydraulic fill for foundation of LNG tanks, *in* N. Denies and N. Huybrechts (eds), *Proceedings of the International Symposium on Recent Research, Advances & Execution Aspects of Ground Improvement Works — TC 211 IS-GI*, Vol. II, ISSMGE Technical Committee TC 211 Ground Improvement, Belgian Building Research Institute, Brussels, pp. 187–199.

[10] Senent-Dominguez, S., Jimenez-Rodriguez, R. and Martin-Rosales, W. (2012). La visita a campo como metodología para el proceso de enseñanza-aprendizaje, *Proceedings of VII International Congress on University Teachnig and Innovation (CIDUI 2012): LA UNIVERSITAT, UNA INSTITUCIÓ DE LA SOCIETAT / VII: LA UNIVERSIDAD, UNA INSTITUCIÓN DE LA SOCIEDAD // VII: THE UNIVERSITY, AN INSTITUTION OF SOCIETY*, Universitat de Barcelona, Universitat Autònoma de Barcelona, Universitat Politècnica de Catalunya, Universitat Pompeu Fabra, Universitat de Lleida, Universitat de Girona, Universitat Rovira i Virgili, Universitat Oberta de Catalunya, and ACUP (Associació Catalana d'Universitats Públiques)., Barcelona.

[11] Senent, S., Mollon, G. and Jimenez, R. (2012). Stability of a tunnel face in rocks using the Hoek-Brown failure criterion, *in* N. Phienwej and T. Boonyatee (eds), *Proceedings of World Tunnel Congress 2012. Tunneling and Underground Space for a Global Society*, Vol. 1, Thailand Underground and Tunnelling Group (TUTG); Engineering Institute of Thailand (EIT); International Tunnelling and Underground Space Association (ITA-AITES), Engineering Institute of Thailand (EIT), Bangkok, Thailand.

[12] Alonso, J. A. and Jimenez, R. (2011). Reliability analysis of stone columns for ground improvement, *in* C. Juang, K. Phoon, A. Puppala, R. Green and G. Fenton (eds), *Georisk 2011: Geotechnical Risk Assessment & Management (GSP 224)*, American Society of Civil Engineers, Reston (VA), pp. 493–500.

[13] Alonso-Pollan, J. A. and Jimenez-Rodriguez, R. (2011). Análisis de fiabilidad del diseño mediante columnas de grava, *in* A. Tadeu, I. N. Figueiredo, L. F. Menezes, P. A. Mendes, A. Rodriguez-Ferran, I. Arias and J. M. Blanco (eds), *Métodos Numéricos en Engenharia 2011—Numerical methods in Engineering 2011*, Gráfica Ediliber, Lda., Lisboa, p. 198. Dpto Legal 329390/11.

[14] Cabrera-Carpio, M. M. and Jimenez-Rodriguez, R. (2011). Solution to Theme C: Estimation of the probability of failure of a gravity dam for the sliding failure mode, *in* I. Escuder-Bueno, E. Matheu, L. Altarejos-Garcia and J. Castillo-Rodriguez (eds), *Proceedings of 3rd International Forum on risk analysis,*

dam safety, dam security and critical infrastructure management (3IWRDD-FORUM)/ICOLD Benchmark Workshop on Numerical Analysis of Dams (Benchmark), [Full paper in CD-ROM], Valencia (Spain), pp. 1–20.

[15] Recio-Gordo, D. and Jimenez-Rodriguez, R. (2011). Un clasificador lineal para la estimación de la probabilidad de fluencia en túneles en roca, *in* A. Tadeu, I. N. Figueiredo, L. F. Menezes, P. A. Mendes, A. Rodriguez-Ferran, I. Arias and J. M. Blanco (eds), *Métodos Numéricos en Engenharia 2011—Numerical methods in Engineering 2011*, Gráfica Ediliber, Lda., Lisboa, p. 208. Dpto Legal 329390/11.

[16] Tejada, I. G. and Jimenez, R. (2011). Statistical mechanics as guidance for particle-based computational methods, *in* E. O. nate and D. R. J. Owen (eds), *Proceedings of the II International Conference on Particle-Based Methods and Applications*, ECCOMAS, Barcelona, pp. 1–12. Extended Abstract and Full Paper in CD-ROM]. Barcelona, Spain, 26–28 October 2011.

[17] Zare, M., Khalokakaie, R., Jimenez, R. and Jalali, S.-M. E. (2011). Procedures for improvement of rock engineering systems (RES) approach to assess the rock slopes instability potential, *in* R. Marschallinger and F. Zobl (eds), *Mathematical Geosciences at the Crossroads of Theory and Practice*, International Association for Mathematical Geosciences, Salzburg. doi:10.5242/iamg.2011.0277.

[18] Jimenez, R. (2009). Estimación de parámetros en modelos estocásticos de discontinuidades mediante el empleo de algoritmos genéticos, *in* A. Huerta, E. Oñate, A. Rodríguez-Ferran, I. N. Figuereido, L. F. Menezes and A. Tadeu (eds), *Proceedings of CMNE-2009 Congress on Numerical Methods in Engineering*, Sociedad Española de Métodos Numéricos en Ingeniería, Barcelona, p. 182. Extended abstract in Proceedings; full paper in CD-Rom.

[19] Jimenez, R. and Serrano, A. (2009). Calibración de modelos reológicos de convergencia en túneles, *in* A. Huerta, E. Oñate, A. Rodríguez-Ferran, I. N. Figuereido, L. F. Menezes and A. Tadeu (eds), *Proceedings of CMNE-2009 Congress on Numerical Methods in Engineering*, Sociedad Española de Métodos Numéricos en Ingeniería, Barcelona, p. 178. Extended abstract in Proceedings; full paper in CD-Rom.

[20] Fahd, A. and Jimenez, R. (2008). A genetic algorithm for identification of slip surfaces with minimum reliability, *Proceedings of the 12th International Conference on Computer Methods and Advances in Geomechanics (IACMAG-2008)*, pp. 1612–1618.

[21] Jimenez, R., Serrano, A. and Olalla, C. (2007). Linealización del criterio de rotura de Hoek y Brown para su empleo en el cálculo de túneles, *Proceedings of CMNE-2007 Congress on Numerical Methods in Engineering and XXVIII CILAMCE Iberian Latin American Congress on Computational Methods in Engineering*, APMTAC. Extended abstract in Proceedings; full paper in CD-Rom.

[22] Jimenez-Rodriguez, R. (2007). Identification of rock discontinuity sets using fuzzy spectral clustering of discontinuity orientations, *in* J. Kanda, T. Takada and H. Furuta (eds), *Applications of Statistics and Probability in Civil Engineering: Proceedings of the 10th International Conference*, Proceedings and Monographs in Engineering, Water and Earth Sciences, Taylor and Francis, London, pp. 243–244.

[23] Jimenez-Rodriguez, R. and Klose, C. D. (2007). Recent developments for automatic identification of rock discontinuity sets, *in* L. Ribeiro e Sousa, C. Olalla and N. F. Grossmann (eds), *Proceedings of the Eleventh Congress of the International Society for Rock Mechanics*, Vol. 1, Taylor & Francis Group, London, pp. 407–410. ISBN: 978-0-415-45084-3.

[24] Jimenez-Rodriguez, R. and Sitar, N. (2007). Probabilistic inference of discontinuity trace lengths for rock slope stability, *in* K. Turner (ed.), *Proceedings of First North American Landslide Conference*, American Society of Civil Engineers (ASCE), pp. 1433–1439.

[25] Jimenez-Rodriguez, R., Serrano, A. and Olalla, C. (2007). Influence of construction time on the time of consolidation of soft soils treated with wick drains, *in* V. Cuellar, E. Dapena, E. Alonso, J. M. Echave, A. Gens, J. L. de Justo, C. Oteo, J. M. Rodriguez-Ortiz, C. Sagaseta, P. Sola and A. Soriano (eds), *Geotechnical Engineering in Urban Environments: Proceedings of XIV European Conference on Soil Mechanics and Geotechnical Engineering*, Vol. 4, Millpress Science Publishers, Rotterdam, pp. 2121–2125.

[26] Jimenez-Rodriguez, R. and Lacoma, L. (2006). Uncertainty characterization and settlement analyses: the importance of distribution types, *in* C. Mota Soares, J. Martins, H. Rodrigues, J. Ambrosio, C. Pina, C. Mota Soares, E. Pereira and J. Folgado (eds), *III European Conference on Computational Mechanics: Solids, Structures and Coupled Problems in Engineering*, Springer, Dordrecht, The Netherlands, p. 285. Extended abstract in Proceedings; full paper in CD-Rom.

[27] Rodriguez-Lopez, F., Jimenez-Rodriguez, R. and Hruskovic, P. (2006). Geotechnical risk management as a basis for quality assurance, *in* C. A. Brebbia and V. Popov (eds), *Risk Analysis V: Simulation and Hazard Mitigation*, Vol. 91 of *WIT Transac-*

tions on Ecology and the Environment, WIT Press, Southampton, pp. 79–86. ISBN: 1-84564-172-8; ISSN: 1746-448X; DOI: 10.2495/RISK060081.

[28] Jimenez-Rodriguez, R. and Sitar, N. (2005a). Probabilistic identification of removable wedges in rock slopes: Influence of stochastic model parameters, *in* P. Konecny (ed.), *Proceedings of* EUROCK *2005—Impact of Human Activity on the Geological Environment*, A.A. Balkema, Leiden, Netherlands, pp. 219–226.

[29] Jimenez-Rodriguez, R. and Sitar, N. (2005b). Probabilistic rock wedge stability analysis using system reliability methods, *in* E. Eberhardt, O. Hungr, R. Fell and R. Couture (eds), *CD Proceedings 2005 International Conference on Landslide Risk Management*, Vancouver, BC. Paper J080.

[30] Jimenez-Rodriguez, R., Sitar, N. and Bartlett, P. L. (2005a). Maximum likelihood estimation of trace length distribution parameters using the EM algorithm, *in* G. Barla and M. Barla (eds), *Prediction, Analysis and Design in Geomechanical Applications: Proceedings of the Eleventh International Conference on Computer Methods and Advances in Geomechanics (IACMAG-2005)*, Vol. 1, Pàtron Editore, Bologna, pp. 619–626.

[31] Jimenez-Rodriguez, R., Sitar, N. and Chacón, J. (2005b). Caracterización de discontinuidades en macizos rocosos mediante modelos gráficos probabilísticos [Characterization of discontinuities in rock masses by means of probabilistic graphical models], *in* J. Pérez Aparicio, A. Rodríguez Ferrán, J. Martins, R. Gallego and J. César de Sá (eds), *Métodos Numéricos en Ingeniería 2005 [Numerical Methods in Engineering 2005]*, SEMNI, Sociedad Española de Métodos Numéricos en Ingeniería, Barcelona, p. 222. Extended abstract in Proceedings; full paper in CD-Rom.

[32] Jimenez-Rodriguez, R. and Sitar, N. (2004). Identification of rock conditions for tunnel support using a statistical classification approach, *in* M. MacLaughlin and R. McNearny (eds), *Proceedings of the 39th Symposium on Engineering Geology and Geotechnical Engineering*, Vol. 1, Montana Tech, Butte, pp. 257–268.

[33] Jimenez-Rodriguez, R. and Chacón Montero, J. (2003). Análisis geotécnicos basados en el Eurocódigo 7 [Geotechnical analyses based on Eurocode 7], *in* Spanish Highway Association (ed.), *III Congreso Andaluz de Carreteras "Carreteras para una sociedad en desarrollo" [III Andalusian Highway Congress "Highways for a developing society"]*, Vol. I, Madrid, pp. 925–936. In Spanish.

[34] Jimenez-Rodriguez, R. and Sitar, N. (2003). Probabilistic identification of unstable blocks in rock excavations, *in* A. der Kiureguian, S. Madanat and J. M. Pestana (eds), *Application of Statistics*

and Probability in Civil Engineering, Vol. 2, Millpress, Rotterdam, pp. 1301–1308. ISBN: 90-5966-004-8 (complete), ISBN: 90-5966-006-4 (vol 2).

[35] Jimenez-Rodriguez, R. and Chacón Montero, J. (2001). Aplicación de teorías de fiabilidad al diseño de taludes en roca [Application of reliability theory to rock slope design], *in* CEDEX (ed.), *V Simposio Nacional sobre taludes y laderas inestables [V National Symposium on unstable slopes]*, Vol. II, Hurtman, Madrid, pp. 527–538. In Spanish.

Books and book chapters:

[1] Jimenez, R. (2011). *Jornada Anual de la Sociedad Española de Mecanica de Rocas*, SEMR, Madrid, chapter Metodología probabilística para el estudio de la formación de bloques inestables en macizos rocosos: Desarrollo y ejemplo de aplicación.

[2] Rodriguez-Lopez, F., Jimenez-Rodriguez, R. and Hruskovic, P. (2006). Geotechnical risk management as a basis for quality assurance, *in* C. A. Brebbia and V. Popov (eds), *Risk Analysis V: Simulation and Hazard Mitigation*, Vol. 91 of *WIT Transactions on Ecology and the Environment*, WIT Press, Southampton, pp. 79–86. ISBN: 1-84564-172-8; ISSN: 1746-448X; DOI: 10.2495/RISK060081.

[3] Jimenez-Rodriguez, R. and Chacón Montero, J. (2003). Uncertainty characterization and reliability methods: an application in slope stability, *in* M. Rosenbaum and A. K. Turner (eds), *New Paradigms in Subsurface Prediction Characterization of the Shallow Subsurface: Implications for Urban Infrastructure and Environmental Assessment*, Vol. 99 of *Lecture Notes in Earth Sciences*, Springer-Verlag, Düsseldorf, chapter 31, pp. 341–355. ISBN: 3-540-43776-2.

[4] Jimenez-Rodriguez, R. and Pérez Romero, J. (2002). *Problemas Resueltos de la Mecánica del Suelo (I) [Solved Problems of Soil Mechanics (I)]*, Repro-Digital, Granada. 185pp. ISBN: 84-699-7115-8, in Spanish.

[5] Jimenez-Rodriguez, R. (2001). *Los Métodos de Fiabilidad en la Ingeniería de Rocas: Aplicación a la Estabilidad de Taludes [Reliability methods in Rock Engineering: Slope Stability Applications]*, Monographic Series, Department of Civil Engineering, University of Granada. 71pp. ISBN: 84-699-6834-3, in Spanish.

Technical reports:

[1] Jimenez, R. (2011). Metodología probabilística para el estudio de la formación de bloques inestables en macizos rocosos: Desarrollo y ejemplo de aplicación, *Technical report*, ETSI Caminos, Canales y Puertos. Universidad Politécnica de Madrid. Trabajo premiado por la SEMR con el IV premio bi-anual al mejor trabajo de investigación en Mecánica de Rocas.

[2] Olalla Marañón, C., Serrano González, A., Estaire Gepp, J. and Jiménez Rodríguez, R. (2006). Análisis del espesor de la capa de sustitución de terrenos blandos como apoyo de losas de soporte de cargas [analysis of the thickness of the substitution layer in soft ground for support of load-carrying slabs], *Technical report*, Departamento de Ingeniería y Morfología del Terreno, Polytechnical University of Madrid. In Spanish.

[3] Serrano González, A., Olalla Marañón, C., Jiménez Rodríguez, R. and Estaire Gepp, J. (2006). Análisis del tiempo de consolidación de terrenos tratados con drenes verticales en función de la velocidad de construcción del relleno [analysis of the time for consolidation of soils treated with wick drains as a function of the construction time of the fill], *Technical report*, Departamento de Ingeniería y Morfología del Terreno, Polytechnical University of Madrid. In Spanish.

[4] Jimenez-Rodriguez, R. and Sitar, N. (2005a). Influence of stochastic discontinuity network parameters on the formation of removable blocks in rock slopes, *GeoEngineering Report UCB/GE-2005/02*, Department of Civil and Environmental Engineering, University of California, Berkeley.

[5] Jimenez-Rodriguez, R. and Sitar, N. (2005b). Maximum likelihood inference of discontinuity trace lengths based on observations at rock outcrops, *GeoEngineering Report UCB/GE-2005/01*, Department of Civil and Environmental Engineering, University of California, Berkeley.

[6] Jimenez-Rodriguez, R. (2004). *Probabilistic identification of key-blocks in rock excavations*, PhD thesis, University of California, Berkeley.

[7] Jimenez-Rodriguez, R. and Meana González, J. (2003). Introducción a la representación y análisis de discontinuidades mediante el programa DIPS [Introduction to analysis and representation of discontinuities using program DIPS], *Rock mechanics teaching material*, Department of Civil Engineering, University of Granada. In Spanish.

[8] Jimenez-Rodriguez, R. (2001). Aplicación de métodos de fiabilidad a la estabilidad de taludes en roca [Reliability methods for rock stability analyses], *Tutelated research thesis*, Department of

Civil and Environmental Engineering, Universidad de Granada. In Spanish.

Other Research Merits

Reviewer of scientific publications

2012	*Soil Dynamics and Earthquake Engineering*. Editor: Dimitri Beskos.
2012	*Landslides*. Editor: José Chacón.
2012	*ASCE Journal of Computing in Civil Engineering*. Editor: Liang Cui
2012	*Neural Computing & Applications*. Editor: John MacIntyre
2011–2012	*Rock Mechanics Rock Engineering*. Editor: Giovanni Barla
2011	Congreso de Métodos Numéricos en Ingeniería, 2011. Reviewer and organizer of geotechnics session.
2010–2012	*Computers and Geotechnics*. Editor: Scott Sloan
2010	*International Journal of GeoEngineering Case Histories*. Editor: Dimitrios Zekkos
2010–2012	*Journal of Geotechnical and Geoenvironmental engineering (ASCE)*. Editor: Abdul-Hamid Soubra
2010	*Geotechnical Engineering (ICE)*. Editor: Sohini Banerjee
2006–2012	*International Journal of Rock Mechanics and Mining Sciences*. Editor: R.W. Zimmerman
2009	*Journal of Engineering and Technology Research*. Editor: Dr M.K. Oolun. ISSN:2006-9790.
2009	*Earth Science Informatics*. Editor: Hassan A. Babaie. ISSN: 1865-0473 (print version). ISSN: 1865-0481 (electronic version). Journal no. 12145. Springer
2007	Offshore Site Investigation and Geotechnics Conference. Society for Underwater Technology. Reviewer.
2007	Congreso de Métodos Numéricos en Ingeniería, 2007. Reviewer and organizer of geotechnics session.
2006	*Mathematical Problems in Engineering*. Editor: J.R. Barber
2005	Congreso de la Sociedad Española de Métodos Numéricos en Ingeniería, 2005. Reviewer and organizer of geotechnics session.
2003	Ninth International Conference of Applications of Statistics and Probability in Civil Engineering (Icasp-9).

Fellowships and Awards:

2011	*Bi-annual Price for Best Research Work in Rock Mechanics.* Spanish Society of Rock Mechanics.
2007	*Royal Academy of Engineering*, U.K.: Travel grant for "11th Congress of the International Society of Rock Mechanics". Lisbon, Portugal.
2004	*Graduate Division* University of California, Berkeley, USA: Travel grant for "39*th* Symposium on Engineering Geology and Geotechnical Engineering". Butte. Montana
2003	*Jane Lewis Fellowship* for research in engineering geology. University of California, Berkeley, USA
2003	*Civil Engineering Risk and Reliability Association (CERRA):* "CERRA Fellowship" to attend ICASP-9 Conference.
2003	*Service for International Students and Scholars (SISS)*: "Grant-in Aid fellowship" for international students.
2001	*European Science Foundation:* Travel grant for young researchers to attend the "New paradigms for the Prediction of Subsurface Conditions" Conference.
2001	*Jane Lewis Fellowship* for research in engineering geology. University of California, Berkeley, USA

Membership to Research Groups:

2006–current	Research group in Rock Mechanics and Rock Engineering. Technical University of Madrid.

Other Professional Activities

Academic:

07/2012	*Session Chair.* International Conference Shanking the Foundations of Geo-Engineering Education. Galway, Ireland.
06/2011–current	Spanish Representative. TC 304 Committee (Risk). International Society for Soil Mechanics and Geotechnical Engineering.
2009–current	Elected Member of the Spanish National Committee. International Society of Rock Mechanics.
06/2009	Co-organizer (with J. V. Lemos) and chairman. Session on *Geotechnics.* Conference on numerical methods in Engineering (CMNE 2009)

07/2007	*Session Chair*. 11th Congress of the International Society of Rock Mechanics. Lisbon, Portugal.
06/2007	Co-organizer (with J. C. Marques) and chairman. Session on *Geotechnics*. Conference on numerical methods in Engineering (CMNE 2007)
04/2007	Co-organizer (with C. Olalla) of the SEMR Lecture Series. Madrid
07/2005	Co-organizer (with J. V. Lemos) and chairman. Session on *Geotechnics*. Conference on numerical methods in Engineering (SEMNI 2005). Granada, Spain.

Membership to professional bodies:

12/2012–current	Japanese Geotechnical Society.
11/2010–current	American Society of Civil Engineers.
11/2007–current	Geological Society of London.
06/2007–current	British Geotechnical Society.
06/2005–current	Society for Numerical Methods in Engineering
01/2006–current	International Society for Soil Mechanics and Geotechnical Engineering.
01/2006–current	International Society for Rock Mechanics.
09/2005–current	Spanish Civil Engineering Association.

Professional Experience (consultant and contractor in singular projects):

09/2005–current	*Geotechnical consultant* in Spain and abroad. Worked in projects associated to risk analysis and hazard assessment, such as review of highway design for World Bank (Ankang-ShaanChuan Highway, China); tunnel design (several projects) and forensic engineering of tunnel (El Carmel, Barcelona); design of highway embankments on soft ground with radial drains and considering secondary consolidation (N25 Waterford Bypass, Ireland); design of hydraulic fill for LNG plant (Port of "El Musel", Spain); geotechnical consultant for foundation of 2km structure (64 pile groups) in High Speed Train project (AVE Vera-Los Gallardos); and seismic hazard assessment of LNG plant (Manzanillo, Mexico).
06/2006–11/2006	*Construction engineer* at large diameter TBM ($\phi = 15.2\,m$, world record at the time). Tasks included supervision of construction operations and supervision of geotechnical data monitoring (ground pressures, advance rates, ground displacements, etc.) Additional field experience at construction of tunnels with NATM method

(Cordoba-Malaga High-Speed train project, and highway tunnels in Autovia del Mediterraneo).

References

Available upon request

Madrid, January 8, 2013