January, 2023

CURRICULUM VITAE

Name: Dagan Bakun Mazor
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1. Academic education

2007-2011 Ph.D., Dept. of Geological and Environmental Sciences, Ben Gurion University of the Negev, Israel. Dissertation title: Dynamic behavior of rock masses. Advisers: Prof. Yossef H. Hatzor (BGU), Prof. Steven D. Glaser (U.C. Berkeley)

2005-2007 M.Sc., Dept. of Geological and Environmental Sciences, Ben Gurion University of the Negev, Israel. Research area: Rock Mechanics. Adviser: Prof. Yossef H. Hatzor.

2002-2005 B.Sc. (Cum Laude), Dept. of Geological and Environmental Sciences, Ben Gurion University of the Negev, Israel. Major field of studies: Engineering Geology.

2. Academic employment

2023 Head of Civil Engineering Department at the Campus of Beer-Sheva. SCE - Shamoon College of Engineering, Israel.

2022 Senior Lecturer, Dept. of Civil Engineering, SCE - Shamoon College of Engineering, Israel.

2014-2021 Head of Civil Engineering Department at the Campus of Beer-Sheva. SCE - Shamoon College of Engineering, Israel.

2012 Lecturer, Dept. of Civil Engineering, SCE - Shamoon College of Engineering, Israel.

2011 Teaching Assistant. Dept. of Civil Engineering, SCE - Shamoon College of Engineering, Israel.

2005 Teaching Assistant. Dept. of Geological and Environmental Sciences Ben Gurion University of the Negev.

3. Civil engineering experience

2005-2007 Consultation to the Israel Cement Enterprises: Karstic cavern stability in Ramleh open pit mine.

4. Academic research and development activities

4.1. Previous research and development activities

2013-2018 Invesigating rock slope stability problems induced by thermal loading. Conducting experiments inside a controlled climate laboratory and using numerical analysis in DEM codes (1 peer reviewed paper + 4 papers in refereed conference volumes).

2009-2012 Operating field monitoring station for rock blocks displacement; Assessment of seismic hazards for rock slope stability (1 peer reviewed paper).

Monitoring survey, and numerical modeling of key-block response to climatic effects (1 peer reviewed paper + 2 papers in refereed conference volumes).

2007-2009 Development of analytial solutions for slope stability problmes in three dimensions (2 peer reviewed papers + 1 paper in refereed conference volumes).

2005-2007 Investigation of stability problem of undergroung openings, using statistical analysis, and numerical modeling of fractures in mechanicaly layered rock masses (2 peer reviewed papers + 2 papers in refereed conference volumes).

4.2. Present research and development activities

Since 2018 Investigating empirical relations between hyperspectral signature and mechanical properties of rock material (1 paper in refereed conference volume).

5. Grants, awards, and scholarships

5.1. Grants

2023-2025 Dagan Bakun-Mazor, Isaac Y. August (SCE), and Eyal Ben-dor (TAU), Project title: Evaluation of mechanical properties of rocks in quarries using hyperspectral imaging. Grant from the Israel Ministry of Energy. Total Budget: 537,000 NIS

2021-2022 Dagan Bakun-Mazor and Eyal Ben-dor (TAU), Project title: Geo-engineering characterization of quarrying materials using hyper-spectral remote sensing. Grant from the Israel Ministry of Energy. Total Budget: 210,000 NIS.

2019-2022 Dagan Bakun-Mazor, Project title: Characterization of the mechanical properties of rocks by means of remote sensing. Internal Grant from SCE. Total Budget: 120,000 NIS.

2013-2017 Dagan Bakun-Mazor (SCE - Shamoon College of Engineering), Yossef H. Hatzor (BGU – Ben Gurion University of the Negev).
Project title: Thermally-induced irreversible displacements in discontinuous rock slopes.
Grant from Israel Science Foundation, research proposal No. 1442/13.
Total Budget: 760,000 NIS.

2012-2015 Dagan Bakun-Mazor, Project title: Thermally-induced blocks displacement in rock slope stability. Internal Grant from SCE . Total Budget: 90,000 NIS.

5.2. Awards

2020 Colledge Award for Initiatives and Innovation in Teaching, SCE - Shamoon College of Engineering.

2012 Colledge Award for Excellence in Teaching, SCE - Shamoon College of Engineering.

2011 Eli Shimshilashvily Memorial Award for excellent teaching assistant, Dept. of Geological and Environmental Sciences, Ben Gurion University of the Negev

2008 Assaf Gur Memorial Award for outstanding PhD thesis, Dept. of Geological and Environmental Sciences, Ben Gurion University of the Negev.

5.3. Scholarship

2007-2011 Negev fellowship for excellence PhD students, Kreitman School of Advanced Graduate Studies, Ben Gurion Univesity.

6. List of publications

6.1. Book Chapters

6.1.1. Bakun-Mazor, D. Rock Slope Stability under Temperature Fluctuations. Avantgarde Reliability Implications in Civil Engineering [Working Title], edited by Maguid Hassan, IntechOpen, 2022. 10.5772/intechopen.108464.

6.2. Peer reviewed papers

6.2.1. Naveh, G., Bakun-Mazor, D., Shelef. A., Tavor, D. Engineering students' perception of PBL contribution to soft skill development – differences between majority and under-represented minority groups. Interactive Learning Environments. Submitted.

6.2.2. Naveh, G., Bakun-Mazor, D., Tavor, D., Shelef, A. Problem-based learning in a theoretical course in Civil Engineering: Students' perspectives. *Advances in Engineering Education*. 2022, 10(3), 46-67 (Q1).

6.2.3. Bakun-Mazor, D., Keissar, Y., Feldheim, A., Detournay, c., Hatzor, Y.H. Thermally-induced wedging-ratcheting failure mechanism in rock slopes. *Rock Mechanics and Rock* Engineering, 2020, 53(6), 2521-2538 (IF 7.28, Q1).

6.2.4. Bakun-Mazor, D., Hatzor, Y.H., S.D. Glaser, and Santamarina J.C. Thermally vs. seismically induced displacements in Masada rock slopes. *the International Journal of Rock Mechanics and Mining Science*s, 2013, 61; p. 196-211 (IF 7.45, Q1).

6.2.5. Bakun-Mazor, D., Hatzor, Y.H. and Glaser, S.D. Dynamic Sliding of Tetrahedral Wedge: the Role of Interface Friction. the *International Journal for Numerical and Analytical Methods in Geomechanics*, 2012, 36; p. 327-343 (IF 4.12, Q1).

6.2.6. Hatzor, Y.H. and Bakun-Mazor, D. Modelling dynamic deformation in natural rock slopes and underground openings with DDA: review of recent results. Geomechanics and Geoengineering: An International Journal. 2011, 6; p. 283–292 (IF 1.48, Q2).

6.2.7. Hatzor, Y.H., Wainshtein, I. and Bakun-Mazor, D. Stability of shallow karstic caverns in blocky rock masses. *International Journal of Rock Mechanics and Mining Sciences*, 2010, 47; p. 1289-1303 (IF 7.45, Q1).

6.2.8. Bakun-Mazor, D. Hatzor, Y. H., and Dershowitz, W. S. Modeling mechanical layering effects on stability of underground openings in jointed sedimentary rocks. *International Journal of Rock Mechanics and Mining Sciences*. 2009; 46; p.262-271 (IF 7.45, Q1).

6.3. Articles in refereed conference volumes

6.3.1. Bakun-Mazor, D., Ben-Ari, Y., and Trabelsi, N. Using a Schmidt hammer to estimate geotechnical properties of carbonate rocks in Israel. AUSROCK 2022, Melbourne, Australia, November, 2022. p. 505-509.

6.3.2. Bakun-Mazor, D., Ben-Ari, Y., and Ben-Dor, E. Data mining in rock mining: predicting mechanical properties of carbonate rocks using hyperspectral remote sensing. AUSROCK 2022, Melbourne, Australia, November, 2022. p. 500-504.

6.3.3. Bakun-Mazor, D., Ben-Ari, Y., Notesko, G., Marco, S. and Ben-Dor, E. Measuring Carbonate Rock Strength using Spectroscopy across the Optical and Thermal Region. EUROCK 2021,Turin, Italy, September, 2021. 8pp. (https://iopscience.iop.org/article/10.1088/1755-1315/833/1/012025)

6.3.4. Bakun-Mazor, D., Davidian, M. and Mark, S. User Story Technique in Scientific Software Product Project: Measuring Rock Block Displacement. The 15th International Conference of Computational Methods in Sciences and Engineering, Rhodes, Greece, May, 2019. 5pp. (https://aip.scitation.org/doi/abs/10.1063/1.5138086).

6.3.5. Bakun-Mazor, D., The Experience of Teaching a Seismic Hazards Course for Civil Engineering Students Using the Project-Oriented Method, The Project Oriented Teaching Conference SCE, 31 May 2018, p. 9-11 (https://en.sce.ac.il/filestock/file/1526978711522-0.pdf).

6.3.6. Bakun-Mazor, D. and Hatzor Y.H. Measuring thermally-induced rock block displacement inside a controlled climate laboratory. The 13th International ISRM Congress 2015,

Montreal, Quebec, Canada, May 2015, 11p. ISRM-13CONGRESS-2015-234 (https://onepetro.org/isrmcongress/proceedings-abstract/CONGRESS13/All-CONGRESS13/ISRM-13CONGRESS-2015-234/165820).

6.3.7. Hatzor Y.H., and Bakun-Mazor, D. Thermally vs. seismically induced block displacements in jointed rock slopes. The International Conference Vajont 1963-2013, Padua, Italy, October 2013, p. 41-49. DOI: 10.4408/IJEGE.2013-06.B-03

6.3.8. Bakun-Mazor, D. and Hatzor, Y.H. Thermally vs. seismically induced block displacements in rock slopes. 11th International Conference on Analysis of Discontinuous Deformation, Fukuoka, Japan, 2013, p. 177-183.

6.3.9. Bakun-Mazor, D., Hatzor, Y.H., Glaser, S.D. and Santamarina, J.C. Climatic effects on key-block motion: evidence from the rock slopes of Masada world heritage site. 45th US Rock Mechanics / Geomechanics Symposium, San Francisco, 2011. ARMA 11-487, 7p.

6.3.10. Hatzor, Y.H., Wainshtein, I. and Bakun-Mazor, D. Stability of shallow caverns in blocky rock masses. 45th US Rock Mechanics / Geomechanics Symposium, San Francisco, 2011. ARMA 11-465, 9p.

6.3.11. Bakun-Mazor, D., Hatzor, Y.H. and Glaser, S.D. 3D DDA vs. analytical solutions for dynamic sliding of a tetrahedral wedge. 9th International Conference on Analysis of Discontinuous Deformation, Singapore, 2009. p.193-200.

6.3.12. Bakun-Mazor, D., Hatzor, Y. H., and Dershowitz, W. S. Numerical simulation of mechanical layering in sedimentary rock masses: a new hybrid geoDFN-DDA approach. 42nd U.S. Rock Mechanics and 2nd U.S.-Canada Rock Mechanics Symposium, San Francisco, 2008. ARMA 08-073, 9p.