

RENÉ ESTEBAN GÓMEZ PUIGPINOS

CIVIL MINING ENGINEER / MASTERS IN MINING / PHD. IN MINING ENGINEERING.

I. PERSONAL INFORMATION

Nationality:	Chilean	Address:	Anibal Pinto 869.
Civil status:	Single	Commune:	Concepción
Birthday:	02 / 02 / 1988	Mobile phone:	+56 9 92782275
Age:	35	License:	Class B
C.I:	16747240-0	Mail:	regomez@udec.cl

II. WORK

Associate professor in University of Concepción, Concepción, Chile (Faculty of Engineering)

Faculty member in doctorate of engineering and master in metallurgic engineering, Universidad de Concepción, Chile.

Associate research in the Advanced Mining Technology Center, Santiago, Chile.

Technical Assistant in rock mechanics, IIT, Universidad de Concepción, Chile.

Principal research of national project Fondecyt Iniciación 2024: Guidelines based on wider-spaced block caving layout study using numerical modeling. ID: 11240668

Co-Research of national project Fondecyt Regular 2023: Fine material generation and segregation modeling in block caving mines. ID: 1230749

Research in national project Fondef IDeA I+D 2023: Reutilización de relave en fortificación subterránea. ID: ID23I10183.

Bachelor student that I have graduate to date: 50 (Mining engineers)

III. EDUCATION

2017– 2022: University of Chile Santiago, Chile
Facultad de Ciencias Físicas y Matemáticas
Ph.D. in mining engineering
Thesis: Gravity flow and fragmentation in block caving

2013 – 2015: University of Chile Santiago, Chile
Facultad de Ciencias Físicas y Matemáticas
Master in Mining
Master's thesis: Experimental assessment of hang up and secondary fragmentation for Block Caving

2008 – 2013: University of Chile Santiago, Chile
Facultad de Ciencias Físicas y Matemáticas
Civil Mining Engineer

Languages: Spanish Native. English Advanced (Toefl 81)

IV. RESEARCH

Publications:

[ISI-Journals]

1. **Díaz R, Gómez R*, Vidal, R, Hekmat A, Oyarzo D.** 2023. Combining geomechanical and hydrogeological modeling for drainage analysis in Block Caving mine development. International Journal of Rock Mechanics and Mining Science. (WOS; Q1; FI = 7.1)
2. **Raúl Castro, Omar Salas, Kenji Basaure, Matías Pereira, René Gómez*.** 2023. A wet muck entry model: A case study for long-term planning at El Teniente mine. International Journal of Mining, Reclamation and Environment. 1-17 (WOS; Q2; FI = 2.9)
<https://doi.org/10.1080/17480930.2023.2265646>
3. **Raúl Castro, Alvaro Pérez, René Gómez*.** 2023. Evaluating Wet Muck Risk in Block Caving Mines: A New Model. International Journal of Rock Mechanics and Mining Science. 170(11) 105485 (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2023.105485>
4. **René Gómez*, Matías Loyola, Sergio Palma, Carlos Valdés.** 2023. Experimental study of the inrush of fines events in caving mining. International Journal of Rock Mechanics and Mining Science. 169 (105436). (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2023.105436>
5. **Gabriel Freire, Guillermo Ramirez, René Gómez*, Krzysztof Skrzypkowski, Krzysztof Zagórski.** 2023 Electro-Mechanical Modeling and Evaluation of Electric Load Haul Dump Based on Field Measurements. Energies. 16(11), 4399 (WOS; Q3; FI = 3.2)
<https://doi.org/10.3390/en16114399>
6. **Francisco Saavedra, Nelson Morales, Gonzalo Nelis, René Gómez.** 2023. A fast method to find smooth economic envelopes for block and panel caving mines. Resource Policy. 83, 103703. (WOS; Q1; FI = 8.2)
<https://doi.org/10.1016/j.resourpol.2023.103703>
7. **Raúl Castro, Pablo Cid, René Gómez*, Dion Weatherley.** 2023. The influence of drawbell geometry on hang-ups during ore extraction. Mining, Metallurgy & Exploration. 40, 787-792. (WOS; Q3; FI = 1.4).
<https://doi.org/10.1007/s42461-023-00756-8>
8. **Diego Brito, René Gómez, Gonzalo Carvajal, Lorenzo Reyes-Chamorro, Guillermo Ramírez*.** 2023. Identification of Impact Frequency for Down-the-Hole Drills Using Motor Current Signature Analysis. Applied Sciences. 13(8). 4650. (WOS; Q2; FI = 2.8)
<https://doi.org/10.3390/app13084650>

9. **Pino J, Gómez R*, Marambio E, Miranda R, Delonca A, Suzuki K. 2023.** Three-dimensional effect of stresses on inclined open stope's mine design. International Journal of Rock Mechanics and Rock Engineering. 56(6), 4647–4657 (WOS; Q1; FI = 7.0).
<https://doi.org/10.1007/s00603-023-03298-z>
10. **Raúl Castro, Fernando Betancourt, René Gómez*, Omar Salas, Javiera Zarabia. 2023.** Experimental study of mudrush mechanisms under different moisture contents in block caving. International Journal of Mining, Reclamation and Environment, 37(4), 243-257. (WOS; Q2; FI = 2.9)
<http://dx.doi.org/10.1080/17480930.2023.2166761>
11. **Krzysztof Skrzypkowski, René Gómez*, Krzysztof Zagórski, Anna Zagórska, Roberto Gómez-Espina. 2023.** Review of Underground Mining Methods in World-Class Base Metal Deposits: Experiences from Poland and Chile. Energies. 16(1), 148 (WOS; Q3; FI = 3.2)
<https://doi.org/10.3390/en16010148>
12. **Gabriel Bout, Diego Brito, René Gómez, Gonzalo Carvajal, Guillermo Ramírez*. 2022.** Physics-based Observers for Measurement-While-Drilling System in Down-the-Hole Drills. Mathematics. 10(24), 4814. (WOS; Q1; FI = 2.6)
<https://doi.org/10.3390/math10244814>
13. **René Gómez*, Krzysztof Skrzypkowski*, Manuel Moncada, Raúl Castro, Rodrigo Lazo. 2022.** Segregation modeling in stockpile using discrete element method. Applied Sciences; Earth Sciences and Geography. (WOS; Q2; FI = 2.8)
<https://doi.org/10.3390/app122312449>
14. **Gómez R*, Sanhueza V, Fustos R, Nelis G. 2022.** A new approach for hang-ups prediction in block caving mines based on drawbell geometry and vertical stress. Mining, Metallurgy & Exploration. 39, 2393–2400. (WOS; Q3; FI = 1.4)
<https://doi.org/10.1007/s42461-022-00685-y>
15. **Gómez R, Castro R. 2022.** Stress modelling using cellular automata for block caving application. International Journal of Rock Mechanics and Mining Sciences. (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2022.105124>
16. **Gómez R, Castro R. 2022.** Experimental quantification of granular material fragmentation due to travel distance. Mining, Metallurgy & Exploration. (WOS; Q3; FI = 1.4)
<https://doi.org/10.1007/s42461-022-00545-9>
17. **Castro R, Arancibia L, Gómez R. 2022.** Quantifying fines migration in block caving through 3D experiments. International Journal of Rock Mechanics and Mining Sciences. (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2022.105033>
18. **Le-Faux R, Castro R, Cortez D, Gómez R, Silva D. 2021.** A Hybrid Extraction Level Layout Design for Block Caving. Mining Technology. 131(1).51-65 (ESCI; FI = 0.4)
<https://doi.org/10.1080/25726668.2021.1992980>
19. **Gómez R, Castro R, Betancourt F, Moncada M. 2021.** Comparison of normalized and non-normalized Block Caving Comminution Models. The Southern African Institute of Mining and Metallurgy. 121(11). 581-588. (WOS; Q4; FI = 0.8)

<http://dx.doi.org/10.17159/2411-9717/1150/2021>

20. **Castro R, Gómez R, Arancibia L. 2021.** Fine material migration modelled by cellular automata. *Granular Matter.* (WOS; Q2; FI = 3.1)
<https://doi.org/10.1007/s10035-021-01173-8>
21. **Castro R, López S, Gómez R, Ortiz S, Carreño N. 2020.** Experimental study of the influence of drawbell geometry on hang-ups in cave mine applications. *International Journal of Rock Mechanics and Rock Engineering.* (WOS; Q1; FI = 7.0)
<https://doi.org/10.1007/s00603-020-02247-4>
22. **Castro R, Gómez R, Pierce M, Canales J. 2020.** Experimental quantification of vertical stresses during gravity flow in block caving. *International Journal of Rock Mechanics and Mining Sciences.* (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2020.104237>
23. **Gómez R, Labbé E. 2019.** An option for the passage to massive underground mining: the current Chilean methodology of Block Caving. *Boletín Geológico y Minero,* 130 (1):177-194. (ESCI; FI = 0.2)
<https://doi.org/10.21701/bolgeomin.130.1.011>
24. **Gómez R, Castro R, Casali A, Palma S and Hekmat A, 2017.** A Comminution Model for Secondary Fragmentation assessment for Block Caving. *International Journal of Rock Mechanics and Rock Engineering.* (WOS; Q1; FI = 7.0)
<https://doi.org/10.1007/s00603-017-1267-2>
25. **Castro, R., Gómez, R., & Hekmat, A. (2016).** Experimental quantification of hang-up for block caving applications. *International Journal of Rock Mechanics and Mining Sciences,* (85), 1-9. (WOS; Q1; FI = 7.1)
<https://doi.org/10.1016/j.ijrmms.2016.02.005>

[Congress]

René Gómez, Raúl Castro, Asieh Hekmat. 2023. Modelamiento de flujo gravitacional y fragmentación en minería de Block Caving. IV Seminario Internacional de Minería y Planeamiento Minero. 7 al 8 de Septiembre, 2023, Medellín, Colombia.

Saavedra Francisco, Morales Nelson, Nelly Gonzalo, Gómez René. 2023. Using precedence constraints to model the geometry of optimal mining envelopes. Geomin-mineplanning 2023. Santiago, Chile.

Castro RL, Gómez RE, Pérez A. 2022. Physical modelling as a tool to improve our understanding of mechanisms of cave flow. Caving 2022.

Rodriguez E, Mesa D, Gómez R. 2022. Geometallurgical and geomechanical characterization of a porphyry-skarn deposit. Procemin 2022.

Gómez RE, Saéz K, Pino N, Labbe E, Marambio E. 2020. Analysis of extraction level layouts for block caving. Eighth International Conference on Mass Mining – Massmin2020. pp 773-786.
https://doi.org/10.36487/ACG_repo/2063_53

Hekmat, A., Munoz, S., Gómez, R. 2019. Prediction of Rock Fragmentation Based on a Modified Kuz-Ram Model. In Proceedings of the 27th International Symposium on Mine Planning and Equipment Selection-MPES 2018 (pp. 69-79). Springer, Cham.
<https://doi.org/10.1007/978-3-319-99220-4>

Castro R, Gómez R, Casali A and Hekmat A, 2016. Experimental and comminution model framework for secondary fragmentation prediction in block caving. Massmin 2016, 7th International Conference & Exhibition on Mass Mining, pp. 175-182.

Gómez R, Castro R, Olivares D. 2014. Use of experiments to quantify the flow-ability of caved rock for block caving. Caving 2014, 3rd international symposium on block and sublevel caving. 5-6 June 2014, Santiago, Chile. pp 299-306.

Projects

Open:

Principal research. Fondecyt Iniciación 2024. Guidelines based on wider-spaced block caving layout study using numerical modeling. ID: 11240668

Research. Fondef IDeA I+D 2023. *Reutilización de relave en fortificación subterránea.* Folio: ID23I10183.

Co-research. Fondecyt Regular 2023. (2023-2026) *Fine material generation and segregation modeling in block caving mines.* ID: 1230749.

Associate research. AMTC 2023 – 2025. (CONICYT/PIA Project AFB180004). Line: Tecnologías y fundamentos del Block Caving. Laboratorio de Block Caving, Universidad de Chile.

Principal research. VRID Investigación 2022, Universidad de Concepción (VRID 2022000563 INV). “Modelamiento físico de flujo gravitacional aplicado a minería de Block Caving”.

Finished:

Principal research. VRID Iniciación 2020, Universidad de Concepción (VRID NO220.095.090-INI). “Estudio de fragmentación de material particulado durante la extracción para aplicación en minería de Block Caving”.

Doctoral scholarship. CONICYT PFCHA/DOCTORADO BECAS CHILE/2019 – 72180000

Master scholarship. Advanced Mining Technology Center, Universidad de Chile. (07/2013-01/2015). FB0809.