

# Sean Dessureault

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Consulting	1998 – Present	MISOM Consulting Services	Tucson, Arizona
	Mining Information Systems and Operations Management Solutions		
	<ul style="list-style-type: none"><li>▪ Own and operate a mining-oriented IT and business process management company</li><li>▪ MISOM C. S. has \$2,000,000 liability insurance, formed officially in 2004</li><li>▪ Conceptual design and managed IT solutions, implementation at both mine and corporate level.</li><li>▪ Areas of expertise &amp; experience: simulation (discrete event), data warehousing, IT project management, data modeling, Activity Based Costing, Data integration, optimization, materials network simulation and optimization, inertial navigations systems, short courses in technology justification and implementation.</li><li>▪ Past customers: Phelps Dodge - Placer Dome – Teck - INCO -Dias Engineering</li></ul>		
Academic	Jan02→Present	University of Arizona	Tucson, AZ
	Assistant Professor with the Mining and Geological Engineering Department		
	<ul style="list-style-type: none"><li>▪ Undertake industrial research in mining technology with a focus on information technology, management techniques, operations research, implementation of technology, and sustainable development.</li><li>▪ Develop senior-level undergraduate &amp; graduate courses in Rock Excavation and Mining Technology.</li><li>▪ Service, publications, and professional consulting (external to the University)</li></ul>		
Industrial	Dec. 99→Dec.01	INCO-West Mines Complex.	Sudbury, Ont..
	Design and implementation of Tactical Management Systems		
	<ul style="list-style-type: none"><li>▪ Part of management team and main facilitator for an industrially-focused research project.</li><li>▪ Implemented Ph.D. theories into a division of composed of three large underground Nickel mines</li><li>▪ Aid in the implementation of Information Systems and Management Procedures, engaged in various mine engineering projects and functions, Tested and implemented tactical management system.</li></ul>		
	June→Aug 98	Highland Valley Copper	Logan Lake, B.C.
	Consultant at the Highland Valley Copper mine		
	<ul style="list-style-type: none"><li>▪ Aided in auditing GPS drill technology while undertaking research masters</li><li>▪ Informally trained personnel in linear programming and new capital budgeting techniques</li></ul>		
	Sept→Dec 1996	INCO-Mines Research	Copper Cliff, Ont.
	Research Associate		
	<ul style="list-style-type: none"><li>▪ Initialized and partly managed research project in gyroscopic underground navigation and positioning</li><li>▪ Aided in the development of new advanced technology as part of the Mining Automation Program (MAP) project</li></ul>		
	Jan→May 1996	Conwest Resources Ltd.	Baffin Island, NWT
	Underground Laborer - Nanisivik Mine		
	<ul style="list-style-type: none"><li>▪ Operated Wagner MT439 &amp; DJB D330 haul trucks and crush/conveyor circuit</li><li>▪ Worked as diamond drill, Jumbo, and Simba drill helper</li><li>▪ Nipped, scaled, cleaned face, utilities, assisted in loading explosives and rock bolting</li></ul>		
	May→Sept 1995	Placer Dome Canada	Val d'Or, Que.
	Engineering Staff at Les Mines d'Or Kiena Ltd.		
	<ul style="list-style-type: none"><li>▪ Worked in ground control, ventilation, pumping, surveyed, layouts, and worked on mine plan</li><li>▪ Created economic analyses and budgets</li></ul>		

Education	May 97→Dec. 01	University of British Columbia	Vancouver, BC
		<ul style="list-style-type: none"> <li>▪ Ph.D., Mining &amp; Mineral Process Engineering Dept.</li> <li>▪ Title: Tactical Mine Management</li> <li>▪ M.A.Sc., Mining &amp; Mineral Process Engineering Dept. (97-99)</li> <li>▪ Title: Capital Investment Appraisal for Advanced Mining Technology</li> </ul>	
	Sept 93→ May 97	McGill University	Montreal, Que.
		<ul style="list-style-type: none"> <li>▪ B.Eng., Mining Co-op Program</li> <li>▪ Concentration: Automation and robotics in mining systems</li> </ul>	

Languages    Fluent in English and French.

Prof. Ass.    Society of Mining Engineers, Canadian Inst. of Min. Met. and Petrol.

- Synergistic Activities
- Chairman for the 32nd Applications of Computers in the Minerals Industry (<http://enr.arizona.edu/apcom/>) to be held 2005
  - Director of "Innovations" of the Society of Innovative Mining Technology of the Canadian Institute of Mining, Metallurgy and Petroleum
  - Established chapter of Engineers Without Borders at University of Arizona.
  - Vice-Chair of the Society of Mining Engineers (SME) SME Internet Committee
  - Technical Chair of the SME Operations Research (2003)
  - SME Tucson section board member

- Awards
- Canadian Information Productivity Award, SAP Best Graduate Research Project 2001.
  - Natural Sciences and Engineering Research Council (NSERC) of Canada, full Industrial Postgraduate Scholarship (IPS) grant (2 yrs.)
  - University of British Columbia (UBC) graduate student award (1 yr)
  - UBC Department of Mining and Mineral Process Engineering scholarship (2 yrs)
  - CMIEF full scholarship (3 yrs.)
  - McGill University Mining and Metallurgical Engineering full scholarship (3 yrs.)

#### Publications / Professional Seminars

##### Refereed Journal Publications

- Dessureault, S. Justification Techniques for Information Technology Infrastructure in Mining. Mining Technology (Transactions of the Institutions of Mining and Metallurgy: Section A.) December 2004, Vol 113, pp A257-A263.
- Dessureault, S. Justification Techniques for Computer Integrated Mining. South African Institute of Mining and Metallurgy, Johannesburg, 2004, Vol. 104, No. 2, p104-123
- Dessureault, Sean, Porter, Jim, and Woodhall, Michael. Data Integration for Information Technology Infrastructure in Mining. Can. Inst. of Min. Met. and Pet. Bulletin. Vol 97 No. 1076, January 2004, p.49-56.
- Dessureault, S. Data Infrastructure for a Tactical Mine Management System. Mining Technology: Transactions of the Inst. Mining and Met., Vol.112 No. 2, August 2003, pp.A73 - A85
- Dessureault, S., Scoble, M. *Capital Investment Appraisal for the Integration of New Technology into Mining Systems.*, Transactions of the Inst. Mining and Met., London, Vol. 109, Jan – Apr 2000, p.A30-A40.
- Dessureault, S., Scoble, M., *A Study of the Synergy of New Technology, Business Tools, and Information to Optimize Mine Production.* Int. Jnl. of Surface Min., Reclamation and Environment, 21p, Summer 2001

##### Non-first author publications – Peer Reviewed Journal

- Kazakidis, V.N., and Dessureault, S., "Incorporating Ground Delays in Underground Mine Production System Simulation", Accepted for publication in SME Transactions of the Amer. Inst. Min. Metall. Pet. Eng., Vol. 316, 2004
- Scoble, M., Dessureault, S. and Rubio, *Strategic Planning for Internet Applications in Mining.* Can. Inst. of Min. Met. and Pet. Bulletin. Vol 93 No. 1042, July 2000, p.100-104
- Dunbar, S., Dessureault, Sean, and Scoble, Malcolm. (1998) *Analysis of Flexible Mining Systems.* Int. Jnl. Mnrl. Res. Eng., Imp. College Press, London. p.165-179

## Conferences:

- Dessureault, S. Tactical Open Pit Decisions Justified with Real Option Models. SME Annual Meeting, Salt Lake City, Feb. 23 – March 2<sup>nd</sup>, 2005.
- Dessureault, S. Developing Decision Support Systems at Large-scale Underground Mines. SME Annual Meeting, Denver, Colorado, Feb 23-25, 2004. 8p.
- Dessureault, S. and Zetti Gavelan. The Impact of Sustainability on Political Risk. SME Arizona conference. December 7-8, 2003. Presentation only
- Dessureault, S. Mine Mill Integration through Data Warehousing. Proc. of the 4<sup>th</sup> Int. Conf. on Computer Applications in the Minerals Industries (CAMI 2003), September 8-10, 2003, Calgary Alberta. Edited by Singhal / Fytas / Chiwetelu, CD-ROM
- Dessureault, S. Developing a Data Warehouse for Decision Support Systems for Large-Scale Underground Mines. Proc. of the High-Performance Mine Production Symposium, Aachen, Germany. April 11 and 12 2003. pp. 379-390.
- Dessureault, S. Justification Techniques for Computer Integrated Mining. Proc. of the 31<sup>st</sup> Int. Symp. of Computer Applications in the Minerals Industries (APCOM'03), Cape Town, South Africa. May 14-19 2003. pp. 67-72
- Dessureault, S, Lipsett, M. and Scoble, M. Achieving the Benefits of Information Technology in Surface and Underground Mining Processes. 104<sup>th</sup> Ann. Gen. Meet., Can. Inst. Min. Metall., May, Vancouver, BC. 2002, CD-ROM. 8p.
- Dessureault, S., Scoble, M. Activity Based Costing and Information Engineering: Formulation of an Annual Mine Budget. Proc. of the 30th Int. Symp. of Computer Applications in the Minerals Industries (APCOM'02), Phoenix Arizona. February 24-27, 2002. pp.601-613
- Dessureault, S. and Scoble, M. Strategy to Achieve the Next Evolution of Process Control in Mining. Intelligent Production Management in Mining Systems. Proc. of the 3<sup>rd</sup> Int. Conf. on *Intelligent Processing and Manufacturing of Materials*, Vancouver, BC,
- Dessureault, S., Scoble, M., Rubio, E. *Simulating Block Cave Secondary Breakage – An Application of Information and Operations Management Tools in Mass Mining System*. Proc. of Massmin 2000. (AusIMM: Carlton Victoria Australia) Brisbane, Aust. Oct. 29 – Nov. 22 2000, p 893-896
- Dessureault, S., Scoble, M., and Mathews, Ken. Factors *Controlling the Success of Mining Technology Development and Implementation*. Proc. 102<sup>nd</sup> Ann. Gen. Meet., Can. Inst. Min. Metall., March 5-10, Toronto, Ont. 2000, CD-ROM.
- Dessureault, S., Scoble, M., and Dunbar, S. *Intelligent Production Management in Mining Systems*. . Proc. of the 2nd Int. Conf. on Intelligent Processing and Manufacturing of Materials, Honolulu, Hawaii, p. 145-149.
- Dessureault, S., Scoble, M., and Dunbar, S. *Analytical management tools for continuous improvement in mining operations*. Proc. of the 29th Int. Symp. of Computer Applications in the Minerals Industries (APCOM'99), Golden Colorado. October 20-22nd. P.719-726, CD-ROM
- Dessureault, S., Scoble, M., Dunbar, S., and Richards M., *Case Study of Capital Investment Appraisal Methods for Mining Automation*. . Proc. 5th ISMMA and 1st Telemin Conference, Sudbury, Ont., June , 1999. 15 p, CD-ROM
- Dessureault, S., Scoble, M. and S. Dunbar. *Management Tools to Appraise Advanced Technologies in Mining*. Proceedings 101st Ann. Gen. Meeting, Can. Inst. Min. Metall., May 2-5, Calgary, Alberta, 1999, CD-ROM.

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## Executive Seminar and invited speaker

- Drilling & Blasting, World Mining Equipment, New York, invited Speaker, April 17 – 19, 2005. Title: Integrating Data.
- World Mining Equipment Survival seminar series, Jnl. World Mining Equipment, New York, invited speaker. September 10-11, 2001, Toronto, Ont., topic: Activity Based Costing within Mine Management Systems,
- World Mining Equipment 2000 seminar series, Jnl. World Mining Equipment, New York, invited speaker. November 10-12, 1999, Toronto, Ont., topic: *Activity Based Costing: A mine tailored Approach*,
- Visiting Lecturer at: Cooperative Research Center for Mining Technology and Equipment (topic: *Process Innovation in Mining Systems – at INCO's Crean Hill mine*); W.H. Bryan Mining Geology Research Center (topic: *Operations Research in Mining*); Mining, Minerals and Materials Engineering Department (topic: *Capital Investment Appraisal for Advanced Systems*).

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## Non-first author publications - Symposium

- Metin, Yildirim, Dessureault, S. Truck assignment performance evaluation by using data mining techniques. Proc. of the 32<sup>nd</sup> Int. Symp. of Computer Applications in the Minerals Industries (APCOM 2005), Tucson Arizona. March 30<sup>th</sup> – April 1<sup>st</sup>, 2005. p. 95-100
- Metin, Yildirim, Dessureault, S. Data Mining In Pit Production Management Systems. SME Annual Meeting, Salt Lake City, Feb. 23 – March 2<sup>nd</sup>, 2005.
- Gavelan, Z., Dessureault, S. Probabilistic Approach to Project-Specific Political Risk Analysis for Mineral Projects. SME Annual Meeting, Denver, Colorado, Feb 23-25, 2004.
- Gavelan, Zetti, Dessureault, Sean and Rieber, Michael. Correlating Economic and Social Data for a Globalized Mineral Investment. Proc. 105<sup>th</sup> Ann. Gen. Meet., Can. Inst. Min. Metall., May 4-7. 2003, Montreal Canada, CD-ROM. 8p.
- Rubio, E., Dessureault, S., and Scoble, M., *A Technical and Economic Database of Chilean Mining*. Proceedings 102<sup>nd</sup> Ann. Gen. Meeting, Can. Inst. Min. Metall., March 5-10, Toronto, Ont. 2000, CD-ROM.
- Scoble, M., Dessureault, S. and Rubio, *Strategic Planning for Internet Applications in Mining*. Can. Inst. of Min. Met. and Pet. Bulletin. Vol 93 No. 1042, July 2000, p.100-104
- Dunbar, S., Dessureault, S., and Scoble, M., *Analysis of Flexible Mining Systems*, Proceedings 100<sup>th</sup> Ann. Gen. Meeting, Can. Inst. of Min., May, Montreal 1998 CD-ROM
- Dunbar, S., Dessureault, Sean, and Scoble, Malcolm. (1998) *Analysis of Flexible Mining Systems*. Int. Jnl. Mnrl. Res. Eng., Imp. College Press, London. p.165-179
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