

Curriculum Vitae

NAME: Paul A. Roman

LANGUAGE CAPABILITIES: English/French (Functional)

UNIVERSITY EDUCATION

<u>Date</u>	<u>Degree</u>	<u>Institution</u>	<u>Field</u>
May 1985	B.Eng.	Royal Military College	Engineering Management
May 1992	M. Eng.	Royal Military College	Engineering Management
May 1999	Ph.D.	Queen's University	Mining Engineering

Academic Appointments

<u>Dates</u>	<u>Academic Rank/Appointment</u>
July 2011 – Present	Associate Professor/Continuing Adjunct, Queen's University Smith School of Business
July 2011 – June 2017	Director Cornell-Queen's Executive MBA Program
2002 – July 2011	UT-3/ Associate Professor Business Administration, RMC
2000 – 2002	Adjunct Assistant Professor/Business Administration, RMC
1995 – 2000	Assistant Professor/Engineering and Management, RMC
1989-1992	Lecturer/Assistant Professor/Engineering and Management, RMC

Other

<u>Dates</u>	<u>Job Title</u>	<u>Institution</u>	<u>Location</u>
2001 – Present	President	JDPAR Inc.	Kingston, On
1981 – 2001	CF Officer	Signals Branch	Various

SUMMARY OF TEACHING DUTIES

Principal Areas of Teaching Specialization

Management Science and Operations Management with emphasis on Modelling and Simulation

RMC Courses (2001 – 2011)

MDEM/LFTSP/ATWO 515, Modelling and Simulation
MDEM/LFTSP/ATWO 517, Engineering and Logistics Management
MDEM/LFTSP/ATWO 513, Systems Engineering
MDEM/LFTSP/ATWO 519, Project Management
MBA 555, Operations Management
BAE 260, Principles of Management
AAF 260, Principes de Gestion
BAE 360, Operations Management
MDEM/LFTSP/ATWO 511, Decision Analysis, Probability & Statistics
DM 553, Decision Analysis
DM 563, Modelling and Simulation in Defence
BAE 266, Management Decision Making in Defence

GEE 283A, Engineering Economics
AAF 342B, Méthods Quantitative
EME 421, Human Factors Engineering
EME 423, Reliability Engineering
EME 425, Engineering Economics
EME 422, Operations Research

Current and Previous Queen's Courses Taught

Queen's Executive Education Execution Program (current)
MBUS 941, Operations Management (current)
MBUS 962, Analysis Based Decision Making (current)
MBQC 961, Business Decision Modelling (current)
COMM 163, Applied Business Decision Models I (current)
MBAS 841, Operations Management
MBQC 962, Supply Chain Management
COMM 200, Introduction to Business
COMM 244, Project Management
APSC 194, Engineering in the Workplace
CIVIL 463, Engineering Economics
COMM 164, Applied Business Decision Models II

MASTERS THESIS SUPERVISION

Supervisions:

2007 – Capt Michael Lakatos and Captain John Benson, LFTSP. Simulation Platforms for Army Training.
2006 – Capt Sonny Hatton, RMC, MDEM. Linking Live and Constructive Simulations in the CF.
2005 – Capt Chris Sines, RMC, MDEM. Transparent Displays and the Soldier Visual Display System
2003 – Maj James Denford, MBA, A Theory and Research Basis for Command Support Experimentation in the Land Force

HONOURS AND AWARDS

2015 Best Teacher Award, Queen's School of Business full time MBA Program
2010 SpringSim Outstanding Service Award
2010 Commander Land Forces Doctrine & Training System Commendation
2008 SpringSim Special Award for Sustained Superior Performance as Military Modelling and Simulation Symposium Chair
2008 Inter-Service/Industry Training, Simulation and Education Conference Best Paper Award
2008 Best Teacher Award, Queen's University School of Business National Executive MBA Program
2008 Best Teacher Award, Queen's University School of Business Ottawa Executive MBA Program
2006 Queen's University Engineering Society Golden Apple Teaching Award
2005 SimTecT Conference Best Paper Award

PUBLICATIONS AND SYMPOSIA

Roman, P.A. and Brown, D.G. (2008) Games – Just How Serious Are They? *MSAIC Journal*, Volume 4, Number 1 March 2009. “invited paper”

Roman, P.A. and Brown, D.G. (2007) Constructive Simulation versus Serious Games: A Canadian Case Study, *MSIAC Journal*, Volume 3, Number 1, March 2008. “invited paper”

Roman, P.A. and Brown, D.G. (2007) Note to File – Constructive Simulation versus Serious Games for the Army, *The Canadian Army Journal*, Volume 10, Number 3, Fall 2007.

Roman, P.A. and Chapman, B.J. (2002) Using Simulation to Estimate the Performance of the Situational Awareness System, *Army Doctrine and Training Bulletin*, Volume 5, Number 3, Fall 2002.

Roman, P.A., and Cyr, J.L. (2002) Enabling the Army Strategy with Synthetic Environment Technology, *Army Doctrine and Training Bulletin*, Volume 5, Number 3, Fall 2002.

Roman, P.A., and Daneshmend, L.K. (2001) Integration and Enhancement of Mine Operations and Maintenance - A Structured Analysis Approach , *CIM Bulletin*, Volume 94, Number 1046.

Roman, P.A. and Daneshmend, L.K. (2000) Economies of Scale in Mining – Assessing Upper Bounds with Simulation, *The Engineering Economist*, Volume 45, Number 4.

Roman, P.A. and Surdu, J. (2009) Simulations Support to Operations: Bringing Simulation to the Fight. *Intereservice/Industry Training, Simulation and Education Conference (IITSEC)*, December 2009, Orlando FL.

Roman, P.A. (2009), 21st Century Decision Making - The Art of Modelling and Simulation, **Keynote Address**, ModSIM World 2009, October, 2009, Virginia Beach, VA.

Roman, P.A. (2009), Serious Games, Virtual Worlds and MMOGs, building the puzzle without a Picture, MOVES Institute Research Summit, Naval Postgraduate School, July 2009, Monterey, CA. INVITED.

Roman, P.A. (2009), The Decision Making Paradigm. ModSim World Canada, June 2009, Montreal, PQ.

Roman, P.A. (2009), Immersive Simulation Training. Naval Research Advisory Committee, Immersive Simulation for Marine Corps Small Unit Training Study Panel, May 2009, Washington D.C. INVITED

Roman, P.A. and Brown, D.G. (2008) Games – Just How Serious Are They? *Intereservice/Industry Training, Simulation and Education Conference (IITSEC)*, December 2008, Orlando FL.

- Roman, P.A.(2008), How are Modelling and Simulation Meeting the Defence Challenges out to 2015? NATO Modelling and Simulation Group Conference MSG-060, *Academic Keynote Address*, September 2008, Vancouver, B.C. INVITED
- Roman, P.A. and Bassarab, R.R.(2008), The Simulation Interoperability Framework – Mapping Interoperability Requirements to Coalition Outcomes. NATO Modelling and Simulation Group Conference, MSG-060, September 2008, Vancouver, B.C.
- Roman, P.A. and Bassarab, R.R. (2007). The Training Needs Framework – Mapping Simulation Tools to Desired Outcomes. *Intereservice/Industry Training, Simulation and Education Conference (IITSEC)*, December 2007, Orlando Fl.
- Roman, P.A. and Brown, D.G. (2007) Constructive Simulation versus Serious Games: A Canadian Case Study, *Military Modeling & Simulation Symposium, SpringSim 2007*, March 2007, Norfolk, VA.
- Roman, P.A. (2006). Garbage in, Hollywood Out! , *Intereservice/Industry Training, Simulation and Education Conference (IITSEC)*, December 2007, Orlando Fl. INVITED
- Roman, P.A. (2005). Garbage in, Hollywood Out! , *SimtecT Simulation Conference and Exhibition*, May 2005, Sydney, Australia.
- Roman, P.A., (2003) Canadian Army Simulation Initiatives, Defence Simulation and Training Conference, September 2003, London, England.
- Roman, P.A. (2003) Enabling Army Strategic Objectives using Synthetic Environment Technology. *INFORMATICS*, May 2003, Charlottetown, P.E.I.
- Roman, P.A., and Daneshmend, L.K. (1999) Cost Impact of Larger Capacity Haulage Fleets, *Proceedings, 5th International Symposium on Mine Mechanization and Automation*, Sudbury, On.
- Roman P.A., and Daneshmend, L.K. (1999) A Structured Analysis of Heavy Truck Maintenance at Syncrude Canada Ltd, *Proceedings, 101st Annual General Meeting of the Canadian Institute of Mining, Metallurgy and Petroleum*, Calgary, Alberta.
- Roman, P.A., and Daneshmend, L.K. (1997) Integrating Mine Maintenance and Planning, Challenges and Rewards. *Proceedings, 1997 CIM District 5 Mining Conference*, Fort McMurray, Ab.
- Roman, P.A. (1996) Ethical Failure: Principle Solution. *Proceedings, 1st Annual Conference on Defence Ethics*, Ottawa, Ontario
- Decchechi, T., Pelot, R. and Roman, P.A. (1992) A Subjective Evaluation of Different Classroom Techniques in Use in an Engineering Management Program, *Proceedings, 8th Canadian Conference on Engineering Education*, Laval, Quebec.

Roman, P.A., and Simms, B.W. (1990) Radio Network Modelling using Criticality and Conditional Probability Theory, *Proceedings, Annual Reliability and Maintainability Symposium*, Los Angeles, Ca.

Professional Reports

Future Immersive Training Environment Joint Capability Technology Demonstration Operational Demonstration 2 Independent Assessment Report, Joint Technology Assessment Activity , Naval Surface Warfare Center Crane, November 2010.

Future Immersive Training Environment Joint Capability Technology Demonstration Operational Demonstration 1 Independent Assessment Report, Joint Technology Assessment Activity, Naval Surface Warfare Center Crane, June 2010.

Future Immersive Training Environment Joint Capability Technology Demonstration Operational Demonstration 1 Demonstration Execution Document, Joint Technology Assessment Activity, Naval Surface Warfare Center Crane, August 2009 (limited distribution).

Roman, P.A., Bethel, G., Huston, C., Morgan, C., Rasch, R. (2009). Simulation Interoperability. *ABCA Report 083*, May 2009, ABCA Program Office, Washington, D.C.

Roman, P.A., Bethel, G., Huston, C., Morgan, C., Rasch, R. (2008). Simulation Interoperability Progress Report to the ABCA Armies Program. *ABCA Report 063*, June 2008, ABCA Program Office, Washington, D.C.

Roman, P.A., Roy, R. and Cameron F.W.P. (2001) Army Experiment 5 – Validation of Tactics Techniques and Procedures for the LAV III, *AEC Report 2001-1*, Army Simulation Centre, Kingston, Ontario.

CONSULTING ACTIVITIES

June 2001 – 2011, JDPAR Incorporated:

Performed numerous functions in support of defence modeling and simulation:

Future Immersive Training Environment Joint Capability Technology Demonstration (2009 – 2011) Provided experimental design and analytical support to this US JFCOM lead project that is recommending future immersive technology to support training for the US Army and US Marine Corps.

Land Force Modelling and Simulation Master Plan – led the creation of this plan that lays out specific objectives and priorities associated with achieving the Army Synthetic Environment Strategy.

Land Force Verification, Validation and Accreditation Policy – assisted in the creation of this policy that describes processes and procedures to help ensure that models and simulations used in support of Army projects are fit for purpose.

ABCA Simulation Interoperability Project Team Leader (2001 – 2011) - Involved with the American, British, Canadian, Australian Armies program since 2001 participating in several activities aimed at enabling interoperability through simulation. I also lead the project team on Simulation Interoperability aimed at converting the ABCA Program from a paper-based, information sharing organization into a simulation based learning organization.

Member of DND Synthetic Environment Working Group (2004 – 2011) - Performed as the principal Army representative to the DND Synthetic Environment Working Group since its creation. Through this WG I had significant input into DND modelling and simulation policy and plans. In several cases, documents I drafted for the Army have become templates for DND level equivalent documents.

OneSAF Program Involvement (2001-2011) – Involved with the US One Semi-Automated Forces program helping to ensure Canadian Army requirements for constructive simulation are met by this software. I was also instrumental in creating the conditions necessary for a DND wide license for this software through a Foreign Military Sales Contract with the US.

Chair Simulation Support to Operations Symposium (Sept 2006). In cooperation with the Canadian Association of Defence and Security Industries (CADSI), I Chaired the first ever symposium dedicated to determining how simulation tools can best directly support the war fighter in operations.

LFCO 28-01 Land Force Simulation Policy (March 2005) - In collaboration with the members of DLSE, I was the primary drafter of this document that described how the objectives associated with the Army SE Strategy are to be achieved.

Canadian Forces Transformation Campaign Planning Team (2005). Based upon my experience assisting in the creation of the Army Campaign Plan, I was engaged by the Director General Strategic Plans (DGSP) to assist in the creation of the Canadian Forces Transformation Campaign Plan. From June 2005 until June 2006, I was a member of the Operational Planning Group for this plan. This plan informed the Chief of Defence Staff's strategic framework and roadmap for CF transformation over the long-term.

Army Capability Development Process (2003-2004) – I completed a structured analysis of the Army Capability development process that was instrumental in redefining the process to move from equipment focus to a capability-based focus.

The Army Synthetic Environment Strategy (March 2003) – In collaboration with the Chief of Land Staff and members of DLSE, I was the primary drafter of this document that describes the vision and principles to be applied in the application of modelling and simulation technology as the primary enabling technology necessary to help the Army meet its strategic objectives.

Canadian Land Forces Campaign Planning Facilitator. In 2003 and 2004 I was requested by Director General of the Land Staff (DGLS) to be a facilitator at the Army's Campaign Planning

Sessions. These one-week long annual sessions were aimed at converting the Army Strategy into executable business plans at the directorate level.

SERVICE TO PROFESSION

a. Memberships held in scholarly or professional societies

Associate Editor Journal of Defense Modeling and Simulation (2008 – Present)
Association of Professional Engineers of Ontario (1990 – Present)
International Society for Modeling & Simulation (2007 – 2011)
Canadian Society for the Advancement of Modelling and Simulation
(2008 – 2011)
Operational Research Society (1990 – 2000)
International Society for Exploring Teaching Alternatives (1999 – 2001)
Annual Reliability and Maintainability Symposium Management
Committee (1991-1992)

b. Chairs of conferences and symposia

General Chair, Military Modelling and Simulation Symposium (Orlando, Fl, 2010)
General Chair, Military Modelling and Simulation Symposium (San Diego, Ca, 2009)
General Chair, Military Modelling and Simulation Symposium (Ottawa, On, 2008)
Program Chair, Military Modelling and Simulation Symposium (Norfolk, Va, 2007)
General Chair, Simulation Support to Operations in the Contemporary Operating
Environment (Ottawa, 2006)
Chair, Defence Simulation and Training Conference (London, England 2006) INVITED
Chair, Defence Simulation and Training Conference (London, England 2004) INVITED
Chair, Defence Simulation and Training Conference (Singapore, 2003) INVITED