



Personal Information


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Address: Institute of Cognitive Science
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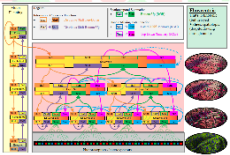

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ResearcherId: K-7312-2012
Scopus Author ID: 6507396839

Canadian Citizen 

Education

2013  Ph.D. in Cognitive Science, Carleton University 
Thesis: “A Unified Cognitive Model of Visual Filling-In Based on an Emergic Network Architecture” [doi: 10.13140/RG.2.1.2681.6482]
Supervisor: Robert L. West

1985 BSc. in Computer Engineering, University of Alberta 

Awards and Honours

2004-2009 Carleton Scholarship, \$5000/yr, Institutional, Academic

1981 Alexander Rutherford Scholarship, \$1500, Provincial, Academic

Research Interests

Sensory-motor coupling; Multisensory integration; Visual perception under motion; Unified Cognitive Modelling & Architectures; Emergence; Process Epistemology, Metaphysics & Philosophy

Research Accomplishments

- Unified cognitive model of visual processing under motion
- Detailed cognitive model of human retina
- Emergic Network architecture for modelling under massive recurrence
- Emergic Cognitive System for situating models
- Wiki to sociologize unification

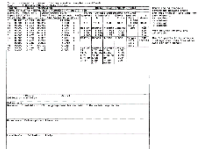


Publications

Books



Leibovitz, D. P. (forthcoming) *A tale of two epistemologies: How feedback leads to scientism and how it can be harnessed to rescue science.* [working title].

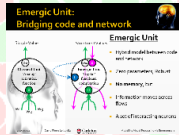


Smith, D. G. W., & Leibovitz, D. P. (1987) *MinIdent - A Data Base for Minerals and a FORTRAN 77 Program for Their Identification - A Reference Manual.* Department of Geology, University of Alberta, Edmonton, Alberta, Canada. [doi: 10.13140/RG.2.1.1815.9841]



Smith, D. G. W., & Leibovitz, D. P. (1986) *MinIdent User's Manual. A FORTRAN 77 program for mineral identification.* Computing Services, University of Alberta, Edmonton, Alberta, Canada. [doi: 10.13140/RG.2.1.2733.4882]

Refereed Journal Articles



Leibovitz, D. P. (2012) *Modelling visual processing via emergence* [Abstracts of the 2012 CSBBCS annual meeting]. *Canadian Journal of Experimental Psychology*, 66(4): 308–308. [doi: 10.1037/a0029409]



Smith, D. G. W., & Leibovitz, D. P. (1986) *MinIdent: A data base for minerals and a computer program for their identification.* *Canadian Mineralogist*. 24(4): 695-708.

Refereed Conference Proceedings

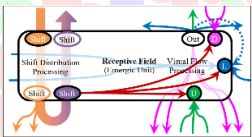
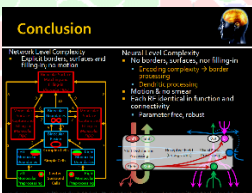


Figure 2: Functional interactions in an actual Emergic RF

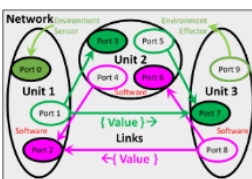
Leibovitz, D. P. & West, R. L. (2013) Dendritic+ Processing in an Emergic Network Model of Narrow Slit Viewing. In R. L. West & T. C. Stewart (Eds.), *Proceedings of the 12th International Conference on Cognitive Modeling (ICCM 2013)*, pp. 1–6. [doi: 10.13140/RG.2.1.3242.4165]



Leibovitz, D. P. & West, R. L. (2013) Emergence of Border & Surface Completion (both Spatial and Temporal) in a Flowcentric Model of Narrow Slit Viewing. In R. L. West & T. C. Stewart (Eds.), *Proceedings of the 12th International Conference on Cognitive Modeling (ICCM 2013)*, pp. 1–6. [doi: 10.13140/RG.2.1.1513.9044]



West, R. L., & Leibovitz, D. P. (2012) Understanding each other: Defining a conceptual space for cognitive modeling. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society (CogSci 2012)*, pp. 2535–2539. [doi: 10.13140/RG.2.1.2760.1128]



Leibovitz, D. P., & West, R. L. (2012) Cognitive Re-Use via Emergic Networks. In N. Rußwinkel, U. Drewitz, & H. van Rijn (Eds.), *Proceedings of the 11th International Conference on Cognitive Modeling (ICCM 2012)*, pp. 72–73. [doi: 10.13140/RG.2.1.3562.9282]



Publications (continued)

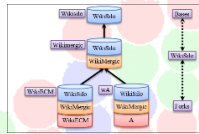
Other Important Forms of Scholarly Productivity



Leibovitz, D.P. (2018) *Emergic Modeling*. Lecture first given to the “PSYC 4700B/5700: Cognitive Modeling” class, Carleton University, pp 1-40, Ottawa, Ontario, Canada. [doi:10.13140/RG.2.2.30001.28002]



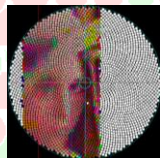
Leibovitz, D. P. (2013) WikiSilo.org - Free tools and content to support a unifying discipline within academia. Wiki software and content accessed November 17, 2013 from <http://wikisilo.org/>.



Leibovitz, D. P., West, R. L. & Belanger, M. (2014) *WikiSilo: A Self-organizing, Crowd Sourcing System for Interdisciplinary Science [Supporting Paper]*. Working Paper, pp. 1-6. [doi: 10.13140/RG.2.1.3359.1529]



Leibovitz, D. P. (2013) *Wikimergic: unifying the science of brain and mind according to the Emergic Approach*. WikiSilo accessed July 15, 2013 from <http://en.wikimergic.org>. Accessed September 7, 2015 from http://web.archive.org/web/20130703150953/http://wikimergic.upwize.com/wiki/Main_Page.

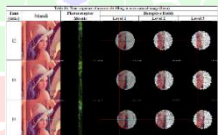


Leibovitz, D. P. (2013) Invited reviews for ICCM.

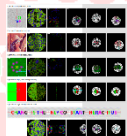
Leibovitz, D. P. (2013) *Flowcentric Model of Narrow Slit Viewing in an Irregular Retina with Blind Spots, Eye Motion, Blinks and no Smear: Base Model Changes, Test Details and Test Results*. Working Paper, pp. 1-7. [doi: 10.13140/RG.2.1.2224.5606]



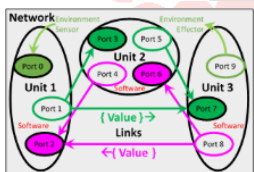
Leibovitz, D. P. (2013) *Abnormal Science for Abnormal Perception: A Case for Theoretical Cognitive Science via a Case Study of Narrow Slit Viewing*. Working Paper, pp. 1-7. [doi: 10.13140/RG.2.1.3731.8889]



Leibovitz, D. P. (2013) *A Unified Cognitive Model of Visual Filling-In Based on an Emergic Network Architecture – Supplement*. pp. xv-467, Carleton University. [doi: 10.13140/RG.2.1.4506.4161]

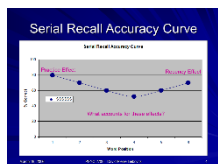


Leibovitz, D. P. (2012) *A Unified Cognitive Model of Visual Filling-In Based on an Emergic Network Architecture – Animated Test Results*, pp. 1-9. Retrieved September 7, 2015 from http://emergic.upwize.com/?page_id=26.



Leibovitz, D. P. (2011) *Emergic Network*. Published as open sourced code. Retrieved September 7, 2015 from http://emergic.upwize.com/?page_id=6.

Leibovitz, D. P. (2009) *Metaphysics*. Lecture given to the "FYSM 1400: Cognition: A Scientific Exploration of the Mind" class. Carleton University, pp. 1-2, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2391.8563]



Leibovitz, D. P. (2007) *Word Length Effect (In Serial Recall)*. Lecture given to the "PSYC 2700D: Introduction to Cognitive Psychology" class. Carleton University, pp. 1-39, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.4325.1688]



Publications – Other Important Forms of Scholarly Productivity (continued)



Leibovitz, D. P. (2007) *Language*. Lecture given to the "PSYC 2700D: Introduction to Cognitive Psychology" class. Carleton University, pp. 1-29, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.3079.9847]

Leibovitz, D. P. (2006) *Training Strategies in an SRNN*. Working Paper, pp. 1-5. Carleton University. [doi: 10.13140/RG.2.1.2035.2483]



Leibovitz, D. P. (2005) *Reformulating*. Workshop presented to the "FYSM 1605: Language, Identity and Education" class. Carleton University, pp. 1-17, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.3125.0402]

Academic Papers



Leibovitz, D. P. (2005) *Academic Papers*. Workshop presented to the "FYSM 1104: Human Rights: Issues and Investigations" class. Carleton University, pp. 1-24, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1503.0242]

Peer Review



Leibovitz, D. P. (2005) *Peer Review*. Workshop presented to the "FYSM 1307: Psychology and Criminal Justice" class. Carleton University, pp. 1-10, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.4386.6082]

Leibovitz, D. P. (2005) *Framing & Synthesizing*. Workshop presented to the "FYSM 1307: Psychology and Criminal Justice" class. Carleton University, pp. 1-7, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1109.8080]

Differences Between High-School and University Level Writing

High School Level	University Level
• 5 paragraph Essay	• Numerous Genres and Lengths
• Comprehension over analysis	• Analysis & Synthesis – comparison/assumed
• Opinionated – Less Support	• Supported Arguments (referencing)
• General Thesis	• Sophisticated Thesis
• More generalizations	• Specifics

Woods, E. & Leibovitz, D. P. (2005) *ESL: Common Problems*. Workshop presented to the "ESLA 1500: Intermediate English as a Second Language for Academic Purposes" class. Carleton University, pp. 1-3, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2617.1361]

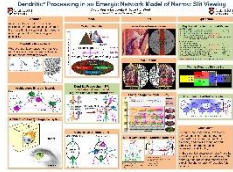


Publications (continued)

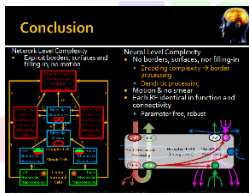
Conference Presentations



Leibovitz, D. P., West, R. L. & Belanger, M. (2014) *WikiSilo: A Self-organizing, Crowd Sourcing System for Interdisciplinary Science*. Poster presented at the 36th Annual Conference of the Cognitive Science Society (CogSci 2014), Quebec City, Canada. [doi: 10.13140/2.1.3139.9048]

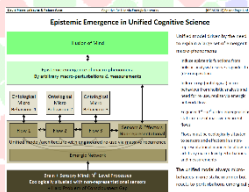


Leibovitz, D. P. & West, R. L. (2013) *Dendritic+ Processing in an Emergic Network Model of Narrow Slit Viewing*. Poster presented at the 12th International Conference on Cognitive Modeling (ICCM 2013). Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2849.2002]



Leibovitz, D. P. & West, R. L. (2013) *Emergence of Border & Surface Completion (both Spatial and Temporal) in a Flowcentric Model of Narrow Slit Viewing*. Invited talk presented to the 12th International Conference on Cognitive Modeling (ICCM 2013). pp. 1-26, Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2169.2647]

West, R. L., & **Leibovitz, D. P.** (2012). *Understanding each other: Defining a conceptual space for cognitive modeling*. Poster presented at the 34th annual meeting of the Cognitive Science Society (CogSci 2012). Sapporo, Japan.



Leibovitz, D. P., & West, R. L. (2012). *Cognitive Re-Use via Emergic Networks*. Poster presented at the 11th International Conference on Cognitive Modeling (ICCM 2012), pp. 1-12. Berlin, Germany. [doi: 10.13140/RG.2.1.4218.2884]

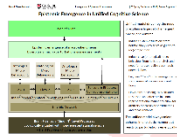


Publications (continued)

Invited Presentations



Leibovitz, D. P. (2013) *A Unified Cognitive Model of Visual Filling-In Based on an Emergic Network Architecture [Thesis Defense Presentation]*, pp. 1-28. Carleton University. [doi: 10.13140/RG.2.1.2603.5687]



Leibovitz, D. P. (2012) *Emergence of epistemic phenomena*. Poster presented at the Cognitive Science Spring Conference of Carleton University, pp. 1-12, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.4649.3920]



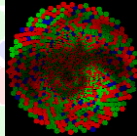
Leibovitz, D. P. (2011) *Emergence in the Mind's Eye*. Talk presented for the ICS Colloquium series at Carleton University, pp. 1-46, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1842.6088]



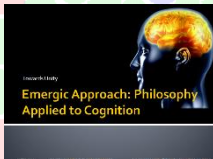
Leibovitz, D. P. (2011) *Local Measure Reliability vs. Global Concept Validity. Has Cognitive Science Moved Beyond Behaviourism? (Insignificant Progress in Validating Cognitive Constructs $p < .05$)*. Poster presented at the Institute of Cognitive Science Spring Conference (ICSSC) of Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2792.8801]



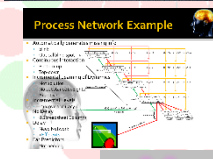
Leibovitz, D. P. (2011) *Vision, Spiders & Time*. Talk presented at Carleton University, pp. 1-34, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.4201.9047]



Leibovitz, D. P. (2011) *Philosophy Behind the Cognitive Modelling of Virtual Eyeballs*. Talk presented at Carleton University, pp. 1-50, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.4103.6003]



Leibovitz, D. P. (2010) *Emergic Approach: Philosophy Applied to Cognition*. Talk presented to Complex Adaptive Systems Group at Carleton University, pp. 1-36, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1613.2329]



Leibovitz, D. P. (2010) *Changeons & Predictions*. Talk presented to the Complex Adaptive Systems Group at Carleton University, pp. 1-7, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.3972.5281]



Leibovitz, D. P. (2010) *Lilac Chaser Illusion and Virtual Eyeballs*. Talk presented at Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2268.5923]



Leibovitz, D. P. (2009) *Emergic Memories: A Model of Emergent Properties*. Poster presented at the Cognitive Science Spring Conference of Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.3005.8722]



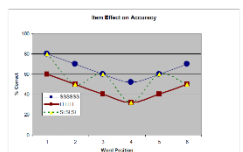
Publications – Invited Presentations (continued)



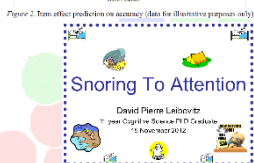
Leibovitz, D. P. (2009) *Cognition Requires Philosophy: Towards Unity*. Talk presented at Carleton University, pp. 1-73, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2989.4889]



Leibovitz, D. P. (2008) *Plants, Cognition, Time (& Philosophy)*. Student Talk presented at Carleton University, pp. 1-28, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2470.3209]



Leibovitz, D. P., Nath, U., Sedghi, R., Verger, D. (2006) *Distinctive Serial Recall Effects*. Poster presented at the Cognitive Science Spring Conference of Carleton University, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.2012.5926]



Leibovitz, D. P. (2005) *Snoring To Attention*. Poster presented at the Cognitive Science Spring Conference of Carleton University, pp. 1-16, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1357.2324]

Articles in Non-Refereed Journals and Miscellaneous Scholarly Publications



Leibovitz, D. P. (2003-6) *Ottawa-Gatineau Region High-Tech Companies, Agencies, Job Boards, Etc.*, pp. 1-105. Retrieved September 4, 2015 from <http://www.otthtjobs.upwize.com/companies.html>. [doi: 10.13140/RG.2.1.4714.9282]



Leibovitz, D. P. (2005) *Motivation*. Handout produced for the Writing Tutorial Service of Carleton University, pp. 1-4, Ottawa, Ontario, Canada. [doi: 10.13140/RG.2.1.1618.3521]



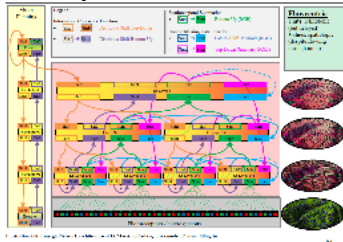
Leibovitz, D. P. et.al. (1988-2002) Numerous internal Functional Specifications, Systems Descriptions, Test Plans, etc. Nortel Networks, Ottawa, Ontario, Canada.

Smith, D. G. W., & Leibovitz, D. P. (1986) *MinIdent - A Mineral Data Base for Earth Scientists*. U of A Computing Services Bulletin. 20(5): 11. [doi: 10.13140/RG.2.1.2404.7848]



Research Experiences & Lines of Inquiry

2003 – present



Emergic Cognitive Model

Carleton University, Ottawa, Ontario



Continuously progressing and unifying a single situated and embodied cognitive model for the entirety of cognition, starting with a cognitive agent having a visual system that moves and interacts with a dynamic environment. Emergic modeling incorporates the remainder of cognition according to the principles of the Emergic Approach.

2003 – present



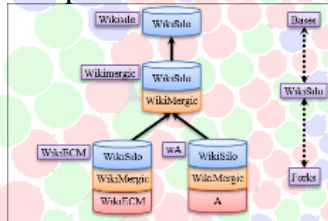
Emergic Approach to Unified Cognitive Modeling

Carleton University, Ottawa, Ontario



Developed a unified epistemology, ontology & metaphysics for the analysis, decomposition, synthesis and modeling of complex systems. Validated the *empirical philosophizing* by developing a unified cognitive model. Writing a book on the two epistemologies.

2013 – present



WikiSilo

Carleton University, Ottawa, Ontario



WikiSilo theory is a minimalist epistemology that supports a unifying discipline within academia. It is supported by the WikiSilo tool (from wikisilo.org), and Wikimergic is its first client.

2013 – present



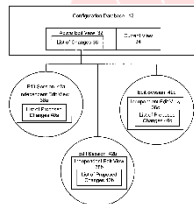
Wikimergic

Carleton University, Ottawa, Ontario



Wikimergic is derived from the Emergic Approach to unified cognitive modeling. As a product, it forms a wiki and tool that can be used for unifying analysis and synthesis. More importantly, it can demonstrate a coherence of complex distributed conceptions. As a research line of inquiry, one asks how to make the most effective tool for the sociologizing of unification.

1988 – 2002



Hierarchical Control of Complex Adaptive Communicative Systems

Nortel, Ottawa, Ontario.



Architected human-computer interaction software based on a hierarchical knowledge representation for a complex adaptive real-time communication system.

1987 – 1988

Domain Expert System for Generating Legal Documentation

Legalware, Toronto, Ontario.

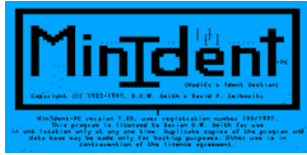


Designed expert legal documentation production software based on template representations



Research Experiences & Lines of Inquiry (continued)

1981 – 1987



Domain Expert System in Mineral Identification

University of Alberta & Micronex. Edmonton Alberta.



Architected a mineral database & identification software using fuzzy logic & statistical techniques.

Teaching Interests

Cognitive Science, Computational Modeling, Process Philosophy & Metaphysics, History & Philosophy of Science, Philosophy of Mind

Teaching Experiences

2009 – present

Invited Lecturer (Carleton)

Lectured specific sections of various courses related to cognitive science.



2007 – 2009

Teaching Assistant for various courses (Carleton)

Lectured specific sections of various courses – cognition, linguistics, philosophy, psychology (word length effect) & metaphysics.



2008

Tutored a Paul Menton Centre student with disabilities (Carleton)



2004 – 2005

Teaching Assistant for the Writing Tutorial Service (Carleton)

Tutored students one-on-one and customized and led workshops for entire classes on improving all aspects of writing.



1988 – 2002

Customer and Designer Training of Systems and Processes (Nortel)

Created training material and taught numerous courses on system software and associated processes for use by external customers and internal designers. Mentored and supervised the training of numerous individuals..



Other Professional Experiences

1988 – 2002



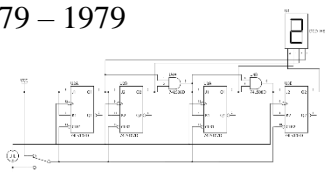
Designer, Manager & Architect of Embedded Real-Time Software

Nortel, Ottawa, Ontario.



Architected human-computer interaction software based on a hierarchical knowledge representation for a complex adaptive real-time communication system.

1979 – 1979









Hardware Circuit Designer, EPROM Programmer

Ultratech Systems Ltd. Edmonton Alberta.



Professional Affiliations

2012		Canadian Society for Brain, Behaviour and Cognitive Science (CSBBCS)
2005 – present		Cognitive Science Society
2004 – present		IEEE Computational Intelligence Society
1996 – present		IEEE Computer Society
1996 – present		Institute of Electrical and Electronics Engineers (IEEE)
1985 – 1998		Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)

WWW (Full)

-  - dpleibovitz.upwize.com
-  - www.linkedin.com/in/dpleibovitz
-  - carleton-ca.academia.edu/dpleibovitz
-  - scholar.google.com/citations?user=Zb6lFosAAAAJ
-  - www.researchgate.net/profile/David_Leibovitz
-  - portfolio.interfolio.com/dpleibovitz

References

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Craig Leth-Steensen (Associate Professor)
Course instruction
craig_leth_steensen@carleton.ca

Mark MacLeod (Instructor)
Supervised a methodological rotation
mark_macleod@carleton.ca