

Horacio Andrés Lagar-Cavilla

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EDUCATION

- Ph.D. in Computer Science** January 2005 – Present
University of Toronto Toronto, ON
Advisor: Prof. Eyal de Lara Current GPA: 4.0/4.0
- M.Sc. in Computer Science** September 2003 – December 2004
University of Toronto Toronto, ON
Thesis title: *Robustness of Simplified Simulation Models for Indoor MANET Evaluation*.
Advisor: Prof. Eyal de Lara GPA: 4.0/4.0
- B.A.Sc. Computer Systems Engineering** February 1998 – February 2003
Universidad Nacional del Sur university Bahía Blanca, Argentina
GPA: 10/10 (ten points out of ten).

RESEARCH EXPERIENCE

- Currently collaborating with the **Biocomputing** Laboratory at the University of Toronto in support for cluster-scale applications in VM farms.
- The **Snowbird** VM-based application migration project constitutes roughly half of my doctoral dissertation. With Snowbird, applications that alternate between computational and interactive phases are seamlessly migrated, combining the best of remote and local execution.
- Collaborated in **Patagonix**, a hypervisor security substrate that is able to identify executing code even if the OS kernel is compromised, allowing the detection and preventing the execution of stealthy malware.
- Developed **VMGL**, a VMM-independent 3D hardware acceleration virtualization solution.
- Currently a member of the **Internet Suspend-Resume** project at Carnegie Mellon.
- My M.Sc. thesis comprised research on the robustness of simplified simulation models widely used in the evaluation of **ad hoc network** routing protocols.

PEER-REVIEWED PUBLICATIONS

Lionel Litty, **H. Andrés Lagar-Cavilla** and David Lie, “Hypervisor Support for Identifying Covertly Executing Binaries.” *Usenix Security 2008*. San Jose, California, July 2008.

Ajay Surie, **H. Andrés Lagar-Cavilla**, Eyal de Lara and M. Satyanarayanan, “Low-Bandwidth VM Migration via Opportunistic Replay.” *HotMobile 2008*. Napa Valley, California, February 2008.

H. Andrés Lagar-Cavilla, Niraj Tolia, Eyal de Lara, M. Satyanarayanan and David O’Hallaron, “Interactive Resource-Intensive Applications Made Easy.” *Middleware 2007*. Newport Beach, California, November 2007.

H. Andrés Lagar-Cavilla, Niraj Tolia, Eyal de Lara and M. Satyanarayanan, “VMM-Independent Graphics Acceleration.” In Proceedings of the *Third International ACM Conference on Virtual Execution Environments (VEE ’07)*. San Diego, California, June 2007.

H. Andrés Lagar-Cavilla, Gerard Baron, Tom Hart, Lionel Litty and Eyal de Lara, “On the Robustness of Simple Indoor MANET Simulation Models.” *Ad Hoc & Sensor Wireless Networks* journal, volume 4, number 4, 2007.

H. Andrés Lagar-Cavilla, Gerard Baron, Tom Hart, Lionel Litty and Eyal de Lara, “Simplified Simulation Models for Indoor MANET Evaluation Are Not Robust.” In Proceedings of the *First IEEE International Conference on Sensor and Ad Hoc Communications and Networks (IEEE SECON)*. Santa Clara, California, October 2004.

H. Andrés Lagar-Cavilla and Rafael B. García, “Hermes: Fine Granularity Software DSM.” In Proceedings of the *IX Argentinian Conference on Computer Science (CACIC)*. La Plata, Argentina, October 2003. Reviewed by two international referees.

OTHER PUBLICATIONS

M. Satyanarayanan, Benjamin Gilbert, Niraj Tolia, **H. Andrés-Lagar Cavilla**, Ajay Surie, Partho Nath, Adam Wolbach, Jan Harkes, Matt Toups, Michael A. Kozuch, Casey J. Helfrich, David R. OHallaron, Adrian Perrig, and David J. Farber, “To Carry or To Find? Footloose on the Internet With a Zero-Pound Laptop.” *IEEE Internet Computing*, March 2007.

H. Andrés Lagar-Cavilla, Niraj Tolia, Rajesh Balan, Eyal de Lara, M. Satyanarayanan and David O’Hallaron, “Dimorphic Computing: Sustainable Performance Through Thick and Thin.” Poster presentation at the *ACM Conference on Mobile Systems, Applications and Services, Mobisys 2006*. Uppsala, Sweden, June 2006.

H. Andrés Lagar-Cavilla and Rafael B. García, “Hermes: Fine Granularity Software DSM – Research Report.” Proceedings of *V Workshop on Computer Science Research*, Tandil, Argentina, May 2003.

PRESENTATIONS

“Interactive Resource-Intensive Applications Made Easy.” Middleware 2008. Newport Beach, California, November 2007.

“Snowbird: Interactive Resource-Intensive Applications Made Easy.” Systems Design and Implementation, Lectures in Computer Science Seminar, Carnegie Mellon University. Pittsburgh, Pennsylvania, September 2007.

“VMM-Independent Graphics Acceleration.” VEE 2007. San Diego, California, June 2007.

“VMGL: VMM-Independent Graphics Acceleration.” Xen Summit Spring 2007. Yorktown Heights, New York, April 2007.

“Dimorphic Computing: Sustainable Performance Through Thick and Thin.” Poster and Work-In-Progress presentation at the *ACM Conference on Mobile Systems, Applications and Services, Mobisys 2006*. Uppsala, Sweden, June 2006.

“Simplified Simulation Models for Indoor MANET Evaluation Are Not Robust.” First IEEE International Conference on Sensor and Ad Hoc Communications and Networks (IEEE SECON). Santa Clara, California, October 7th 2004.

SCHOLARSHIPS AND AWARDS

Canada Graduate Scholarship – Doctoral

NSERC: National Sciences and Engineering
Research Council of Canada
Yearly award value: 35K CAD.

May 2006 – April 2009

Ontario Graduate Scholarship

Training, Colleges and Universities, Ontario.
Yearly award value: 25K CAD.

Offered April 2006, declined

Wolfond Scholarship in Wireless Information Technology

Computer Science, University of Toronto.
Yearly award value: 25K CAD.

September 2003 – August 2004

Provincia de Buenos Aires Award

Province of Buenos Aires, Argentina
Award given to the students graduated with the highest GPA.

December 2nd, 2005

Excellence in Education Award

City Council, Bahía Blanca, Argentina
Award given to the students graduated with the highest GPA.

December 2nd, 2004

25 de Mayo Award

Universidad Nacional del Sur, Argentina
Award given to the student graduated with the highest GPA.

September 23rd, 2004

Beca de Estímulo al Estudio Scholarship

Universidad Nacional del Sur, Argentina
Department of Computer Science scholarship based on academic excellence.

March 2003 – July 2003

SOFTWARE

VMGL: Hardware Graphics Acceleration for VMs. <http://www.cs.toronto.edu/~andreslc/vmgl>.

TEACHING**Teaching Assistant**

University of Toronto

September 2003 – Present
Toronto, ON

Duties involve conducting tutorial and lab sessions, grading assignments, midterms and final exams.

- Computer Networks
- Topics in Mobile and Pervasive Computing
- Software Tools and Systems Programming
- Computer Organization
- Software Design

Tutor

Confidential – References upon demand

January 2005 – May 2005
Toronto, ON

Assisted a special-needs student during the course of an undergraduate class. Tasks involved assisting in assignments and exams preparation, by decomposing tasks into manageable parts and organizing a weekly schedule.

Teaching Assistant

Universidad Nacional del Sur university

September 2001 – July 2003
Bahía Blanca, Argentina

Duties involved conducting tutorial sessions, and grading midterms and final exams.

- Operating Systems
- Computer Architecture
- Computer Organization

PROFESSIONAL ACTIVITIES**Reviewer:**

- Conference on Ubiquitous Computing, Ubicomp 2007.
- ACM Conference on Mobile Systems, Applications and Services, Mobisys 2006.
- Elsevier Ad Hoc Networks, Journal, 2006.
- Conference on Ubiquitous Computing, Ubicomp 2006.