

# Phil McGachey

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## EDUCATION

### **Purdue University (2002-present).**

PhD Candidate, Computer Science. Expected completion March 2010.  
MS, Computer Science. December 2005.

### **Glasgow University (1998-2002)**

BSc (Hons) First Class, Software Engineering.

### **Boston College (1999-2000).**

Exchange student, Computer Science.

## EXPERIENCE

### **Purdue University (2002-present)**

Research Assistant, focusing on the transparent distribution of Java applications.

### **Intel (Summer 2006, Summer 2007)**

Implemented a transactional concurrent garbage collector for Java. Designed performance metrics and contributed to discussions regarding future research directions.

### **Sun Microsystems (Summer 2005)**

Studied interactions between the Hotspot Java VM and SPARC processor under simulation. Designed experiments, extended simulator framework and analyzed results.

### **Reuters Research and Standards Group, London (Summer, 2001)**

Evaluated and provided recommendations on several secure authentication solutions.

## PUBLICATIONS

### **GPCE 09: Classifying Java Class Transformations for Pervasive Virtualized Access**

Phil McGachey, Antony L. Hosking and J. Eliot B. Moss.

### **Bytecode 09: Pervasive Load-Time Transformation for Transparently Distributed Java**

Phil McGachey, Antony L. Hosking and J. Eliot B. Moss.

### **PPoPP 08: Concurrent GC Leveraging Transactional Memory**

Phil McGachey, Ali-Reza Adl-Tabatabai, Richard L. Hudson, Vijay Menon, Bratin Saha and Tatiana Shpeisman.

### **Sun Microsystems Technical Report: Introspection of a Java Virtual Machine Under Simulation**

Greg Wright, Phil McGachey, Erika Gunadi and Mario Wolczko.

### **ISMM 06: Reducing Generational Copy Reserve Overhead with Fallback Compaction**

Phil McGachey and Antony L. Hosking.

### **Cluster 05: VioCluster: Virtualization for Dynamic Computational Domains**

Paul Ruth, Phil McGachey, Dongyan Xu.

## RELEVANT PROJECTS AND COURSES

### **PhD Dissertation: Transparent Distribution of Java Applications (2010)**

Designed and implemented RuggedJ: a transparent Java distribution framework. Performed original research into whole-program modification and object virtualization using bytecode rewriting, run-time support for distribution including static data representation, distributed threading models and object replication and migration. Investigated application partitioning strategies to maximize performance.

### **Masters Thesis: An Improved Generational Copying Collector (2005)**

Designed and implemented a generational copying garbage collector with a reduced copy reserve and a fallback compaction system. Performed extensive modifications to the Java Memory Management Toolkit and the Jikes Research Virtual Machine.

### **Applied Management Principles Course (May 2008)**

Participated in an intensive two-week overview of business practices, ranging from accounting to personnel management at Purdue's Krannert School of Management.

## ACTIVITIES

Supervised undergraduate research project. 2009.

Reviewer, Software Practice and Experience. 2004.

Student volunteer, OOPSLA 2003, Experienced Student Volunteer at OOPSLA 2004.

Invited to join Upsilon Pi Epsilon, the International Honor Society for Computer Science. 2004