School of Computer Science
Tel Aviv University

Mooly (Shmuel) SAGIV, Ph.D.

CURRICULUM VITAE

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E-mail:	msagiv@tau.ac.il
Date and place of birth:	11.4.1959, Ramat-Hasharon, Israel
ZAHAL (Israeli) Military Service:	1977-1980
Marital status:	married + 3
Citizenship:	Israeli

EDUCATION

1982-1985 B.A. Computer Science, Cum Laude,
Technion, Israel Institute of Technology, Haifa
Date of award: 1985

1986-1990 Ph.D. Computer Science, Summa Cum Laude
Technion, Israel Institute of Technology, Haifa
Date of award: 1991
Title of Doctoral Dissertation: High Level Formalisms for Program Flow Analysis and their use in Compiling
Name of Supervisor: Professor Michael Rodeh and Professor Nissim Francez

ACADEMIC AND PROFESSIONAL EXPERIENCE

1988-1991	Instructor, Computer Science Department, Technion- Israel Institute of Technology
1991-1993	Research Staff Member, IBM Israel Scientific Center
1993-1994	Visiting Professor, Datalogisk Institute, University of Copenhagen, Copenhagen
1994-1995	Visiting Associate Research Scientist, Computer Science Department, University of Madison-Wisconsin

1996-1997	Visiting Professor, Computer Science Department, University of Chicago
1997-2000	Lecturer, Computer Science Department, Tel-Aviv University
Sep 2000-2004	Senior Lecturer, School of Computer Science, Tel-Aviv University
Nov 2004-	Associate Professor, School of Computer Science, Tel-Aviv University

SHORT TERM VISITING POSITION

Summer 1987	Visiting research assistant, New York University
Summer 1988	Visiting Research Scientist, IBM T.J. Watson Center

ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

See List of Publications – Proceedings of Conferences

MEMBERSHIP IN PROFESSIONAL SOCIETIES

1993-	ACM

GRANTS

1997-2000	B.S.F grant, "Slicing Programs with Recursive Data Structures", PI (co-PI: Susan Horwitz and Thomas Reps), (47,000 $)
1999-2000	Intel innovation grant, "Static Analysis", PI (30,000$)
1999-2002	Israel academy of science grant, "Shape Analysis", PI (76,000$)
2000-2002	The European IST Programme of the Fifth Framework Programme (FP5), Coordinator: Patrick Cousot, PI (my share: 93,360 Euro),
2000-2002	IBM Faculty Partnership Award, "Garbage Collection", PI (70,000 $)
2002-2004	Giesecke & Devrient GmbH, and Tel Aviv University, "Garbage Collection for Smartcards", PI (106,000 Euro)
2003	Intel innovation grant, "Subpath profiling", PI (co-PI: Yossi Matias) (jointly: 20,000$)
2003-2007	Israel academy of science grant, PI (1,200,000 NIS)
2004-5	IBM Faculty Partnership Award, "Combining Dynamic and Static Analysis", PI (40,000$)
2007-2009	GIF Shape Analysis and Encapsulation, PI 87,000 Euro
2007-2011	Israel academy of science grant, "Specialized Shape Analysis", PI (1,120,000 Sheckels)

AWARDS

1985	Miriam and Aharon Gutwirth Fellowship
1989	Wolf Foundation Fellowship
1993	IBM Outstanding Technical Achievement Award
2002	the Friedrich Wilhelm Bessel Research Award, granted by the Humboldt Foundation, Germany.

OTHER ACTIVITIES

Conference Program Committee Chair:

• The ESOP'05 European Conference on Programming.

• The 6th ACM International Symposium on Memory Management, ISMM 2007 , Montreal, Quebec, Canada, October 21-22, 2007 ACM 2007 **Conference Program Committee Co-chair:**

• The Dagstuhl Seminar "Programs with Recursively Defined Data Structures (using pointers)" 20-24 April 1998, Schloss Dagstuhl, Germany

• The Dagstuhl Seminar "Program Analysis" 12-18 April 1999, Schloss Dagstuhl, Germany

• Heap Analysis and Verification Workshop March 25, 2007, Braga, Portugal. A satellite workshop of ETAPS 2007

• Heap Analysis and Verification Workshop July 2008, Princeton, USA. A satellite workshop of CAV 2008

Conference Program Committee:

• ACM PLDI'97 SIGPLAN Conference on Programming Language Design and Implementation, 1997

• ACM PLDI'98, SIGPLAN Conference on Programming Language Design and Implementation, 1998

• The SAS'99 Static Analysis Symposium

• The CC'99 8th International Conference on Compiler Construction.

• The CC'00 8th International Conference on Compiler Construction.

• The ESOP'01 European Conference on Programming.

• ACM POPL'01, Principles of Programming Languages

• The ESOP'02 European Conference on Programming.

• The SAS'02 Static Analysis Symposium

• Paste'02, Program Analysis for Software Tools and Engineering (PASTE 2002)

• CC'03, 10th International Conference on Compiler Construction.

• The SAS'03 Static Analysis Symposium

• SPIN'03, International SPIN Workshop on Model Checking of Software

• ACM POPL'04, Principles of Programming Languages

• SPIN'04, International SPIN Workshop on Model Checking of Software

• ACM ISMM'04, International Symposium on Memory Management

• VMCAI'05, Verification, Model Checking and Abstract Interpretation

• CAV'05, 17th Conference on Computer Aided Verification

• ACM PLDI'06, SIGPLAN Conference on Programming Language Design and Implementation, 2006

• SAS'07, The 14th International Static Analysis Symposium

• TACAS 2008 Fourteenth International Conference on Tools and Algorithms for the Construction and Analysis of Systems

Invited Speaker

2003	"Shape Analysis", Workshop on Infinite State Systems France.
2004	"On the Expressive Power of Canonical Abstraction", Conference on Verification, Model Checking, and Abstract Interpretation
2004	"TVLA: A System for Generating Abstract Interpreters" Marktoberdorf Summer School 2004, an Advanced Study Institute of the NATO Science committee
2004	"Compile-Time Verification of Properties of Heap Intensive Programs", UC Berkeley Distinguished Lecture Series
2005	"Automatically proving properties of heap intensive imperative programs", Software Model Checking Workshop
2005	"Decision Procedures for Linked Data Structures" Marktoberdorf Summer School 2005, an Advanced Study Institute of the NATO Science committee.
2005	The Program Analysis and Transformation Summer School Denmark
2005	Shape Analysis workshop, CVS Osaka Japan
2007	Shape Analysis, Berkeley, CA
2008	Distinguished Lecture Series, MPI Germany
2008	Thirty Years of Abstract Interpretation, Co-located with POPL'08

SOFTWARE DEVELOPED

TVLA: A System for implementing Static Analysis
"http://www.cs.tau.ac.il/∼tvla/"

PATENTS

• Efficient and Flexible Aliasing Method and Apparatus using Alias Lists for Code Generation • Automatic Removal of Array Memory Leaks in Java • Identifying Control Flow Graphs in Assembly Code

REFEREE FOR

TOPLAS, JACM, Nordic Journal of Computing

MASTERS STUDENTS SUPERVISION

1998–1999	Nurit Dor, Tel-Aviv University (jointly with Michael Rodeh) "Detecting Memory Errors via Static Pointer Analysis"

1998–1999	Ran Shaham, Tel-Aviv University (jointly with Elliot Kolodner) “ Automatic Removal of Array Memory Leaks in Java”
1999–2000	Tal Lev-Ami, Tel-Aviv University, “TVLA: A System for implementing Static Analysis”
1999–2000	Noam Rinetskey, Technion, “Interprocedural Shape Analysis” (jointly with Orna Grumberg)
1999–2002	David Oren, Tel-Aviv University (jointly with Yossi Matias)
2000-2001	Alex Warshavsky, Tel-Aviv University, “Analysing Java Components”
2000-2001	Michael Pan, Tel-Aviv University, “Heap Profiling for Java Programs”
2000-2003	Roman Manevich, Tel-Aviv University, “Efficient Data Structures for Shape Analysis”
2000-2003	Greta Yorsh, Tel-Aviv University, “ Logical Characterizations of Heap Abstractions”
2002-	Boris Litvin, System and framework for Low-overhead on-line subpath profiling, Tel-Aviv University (jointly with Yossi Matias)
2003–2004	Guy Erez, Tel-Aviv University, “Generating Concrete Counter Examples for Abstract Interpreters”
2003–2004	Yair Sade, Tel-Aviv University, “Allocating thread-local storage in C programs”
2003–2004	Gilad Arnold, Tel-Aviv University, “Merging Heap Abstractions”
2004–2005	Ohad Shacham, Tel-Aviv University, “Improving Scalability of Model Checking using Dynamic Information” (jointly with Assaf Shuster)
2004-2005	Ron Elebogen, Tel-Aviv University, “Fully Automatic Verification of Absence of Errors via Interprocedural Integer Analysis” (jointly with Nurit Dor and Roberto Bagnara)
2005-2007	Aharon Abadi, Tel-Aviv University ((jointly with Alexander Rabinovich), “Proving Specifications with First Order Theorem provers”
2005-2007	Daphna Amit, Tel-Aviv University, “Automatic Proving of Linearizability”
2005–2006	Shachar Rubinstein, Tel-Aviv University, “Dynamic heap Profiling”
2005-	Uri Juhasz, Tel-Aviv University, “Assume Gaurantee Reasoning with Abstraction”
2005-2006	Ronny Morad, Tel-Aviv University, “Garbage Collection of Long-Lived Objects”
2005-2006	Guy Gueta, Tel-Aviv University, “ Cartesian Partial-Order Reduction”

DOCTORAL STUDENTS SUPERVISED

1999-2003	Nurit Dor, Tel-Aviv University, “Checking Memory Cleanness”

2000-2003	Ran Shaham, Tel-Aviv University, "Memory Management in Java using Static Analysis"
1999-2004	Eran Yahav, Tel-Aviv University, "Analyzing Multithreading in Java"
2003-	Roman Manevich, Tel-Aviv University, "Heap Abstractions"
2003-	Greta Yorsh, Tel-Aviv University (jointly with Alexander Rabinovich), "Employing Decision Procedures in Abstract Interpretation"
2003-	Noam Rinetzky, Tel-Aviv University, "Hierarchical Shape Analysis of Object Oriented Programs"
2004-	Tal Lev-Ami, Tel-Aviv University
2007-	Daphna Amit, Tel-Aviv University
2007-	Ohad Shacham, Tel-Aviv University

Date: December 2007