# Curriculum Vitae

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| **Education** | Ph.D. in [Computer Science](#), [UCLA](#), 1993 (Major: Semantics, Minors: Database Systems and Computation Theory). |
| **Appointment** | Professor, Loyola Marymount University, 1986-present. Chair of the department from 2015-2022 and 2024-present. |
| **University Courses Taught** | Introductory Computer Science and Programming; Data Structures; Algorithms; Systems Organization; Programming Languages; Compilers; Computer Graphics; Networks and Internetworks; On the Nature of Things; Software Engineering; Distributed Programming; Artificial Intelligence; Language, Thought, and Computation; Programming Language Foundations; Software Security. |
| | Numerous Practica, Independent Studies offerings, and Master's Theses supervisions. |
| **Books** | Ray Toal, *Programming Language Concepts and Implementation* (in preparation), CRC Press, publication expected 2025. |
| | Ray Toal, Sage Strieker, and Marco Berardini, *Programming Language Explorations 2nd Edition,* CRC Press, 2024. |
| | Ray Toal, Rachel Rivera, Alex Schneider, and Eileen Choe, *Programming Language Explorations,* CRC Press, 2017. |
| | John David N. Dionisio and Ray Toal, *Programming in JavaScript: Algorithms and Applications for Desktop and Mobile Browsers,* Jones and Bartlett, 2013. |
| | Ray Toal and John David N. Dionisio, *The JavaScript Programming Language*, Jones and Bartlett, 2010. |

**Selected Papers**

N. Fuhr, S. Zhou, K. Shen, A. Rajab, S. Es-Said, S. Thaung, S.Tan, R. Riebe, N. Santos, Y. Thura Hein, R. Toal, Y.Li, M. Timko, and O. S. Es-Said. Comparison of Fatigue Life of AA2050-T852 and AA7050-T7452 Alloy Forgings at Different Orientations. *Journal of Engineering Materials and Technology, Transactions of the ASME* **145**(4), 2023.

Keren Shen, Mark Timko, Yong-Jun Li, Ray Toal, Nathan Santos, Salim Es-Said, Shonnu Ba Thaung, Luis Guevara, Ryan Riebe & Omar S. Es-Said. The Effect of Temper, Grain Orientation, and Composition on the Fatigue Properties of Forged Aluminum-Lithium 2195 Alloy. *Journal of Materials Engineering and Performance* **28**(9):5625-5638, 2019.

F. Alzubi, M. Timko, Y. Li, R. Toal, K. Tovalin, O.S. Es-Said. Large Versus Small Grain Sizes on Fatigue Life of Aluminum Aircraft Wheels. *Defect and Diffusion Forum* **391**: 174-194, 2019.

A. AlSumait, Y. Li, M. Weaser, K. Niji, G. Battel, R. Toal, C. Alvarez & O. S. Es- Said. A Comparison of the Fatigue Life of Shot- Peened 4340M Steel with 100, 200, and 300% Coverage. *Journal of Materials Engineering and Performance* **28**(3):1780-1789, 2019.

Jarod C. Long and Ray Toal. Modeling Patterns for JavaScript Browser-Based Games. *Proceedings of the 15th IASTED International Conference on Internet and Multimedia Systems and Applications*, Washington, pages 51-56, ACTA Press, May 2011.

Loren Abrams and Ray Toal. An Annotation Language Framework for Statically-Typed Syntax Trees. *Proceedings of the 13th IASTED International Conference on Software Engineering and Applications*, Cambridge, pages 1-6, ACTA Press, 2009.

Ray Toal and Derek Smith. Convention-Based Syntactic Descriptions. *Proceedings CSIE 2009*, pages 797-801, IEEE Computer Society, March, 2009.

John David N. Dionisio, Caskey L. Dickson, Stephanie E. August, Philip M. Dorin, and Ray Toal. An open source software culture in the undergraduate computer science curriculum. *ACM SIGCSE Bulletin* **39**(2):70-74, June 2007.

Raymond J. Toal and Caskey L. Dickson, Language Issues in Generating Simulations from Specifications, In M. H. Hamza, editor. *Proceedings of the 4th IASTED International Conference on Modelling, Simulation and Optimization*, Po`ipū, pages 281-286, ACTA Press, 2004.

Masahji C. Stewart and Ray Toal, Object Structure Navigation, In M. H. Hamza, editor. *Proceedings of the 6th IASTED International Conference on Software Engineering and Applications*, Cambridge, pages 137-142, ACTA Press, 2002.

Robert G. Hayes, Gary B. Hughes, Philip M. Dorin and Raymond J. Toal, Numeric Issues in Test Software Correctness, *Proceedings AUTOTESTCON 2002*, Huntsville, pages 662-677, IEEE Computer Society, 2002.

Raymond J. Toal and Robert G. Hayes, ATS Software Design Patterns, *Proceedings IEEE Systems Readiness Technology Conference*, Valley Forge, pages 649-657, IEEE Computer Society, 2001.

Robert G. Hayes and Raymond J. Toal, Distributed And Concurrent Test Environments On Popular COTS Platforms, *Proceedings AUTOTESTCON 2000*, Anaheim, pages 544-553, IEEE Computer Society, 2000.

Robert Hayes and Ray Toal. Difficulties with Multithreaded Programming in Popular Distributed and Object-Oriented Frameworks, *Proc. 1st Annual Software Technology Conference*, Raytheon, Inc., El Segundo, CA, September 1999.

Raymond J, Toal. Using Ada and C++ in Early Computer Science Education. *ACM Ada Letters*, **16**(1): 58-69, 1996.

Jodene M. Sasine and Raymond J. Toal. Implementing the Model-View-Controller Paradigm in Ada 95. In Charles B. Engle, editor, *TRI-Ada '95 Conference Proceedings*, Anaheim, pages 202-211. ACM Press, 1995.

Raymond J. Toal. *Toward Automated Compiler Verification*. Ph.D. Thesis, UCLA Computer Science Department, 1993.

David F. Martin and Raymond J. Toal. Case studies in compiler correctness using HOL. In *Proceedings of the 1991 International*

*Workshop on the HOL Theorem Proving System and its Applications*, Davis, pages 242-252. IEEE Computer Society Press, 1992.

Raymond J. Toal and Philip M. Dorin. Software engineering and the game of Monopoly. *ACM SIGCSE Bulletin* **22**(4):2-10. December, 1990.

R. Toal, C. W. Lee, B. W. Oppenheim, L. Rice and O. S. Es-Said. A model to predict the kinetics of transformation in 3000 series Al alloys (II). In M. H. Hamza, editor, *Proceedings of the IASTED International Symposium on Identification, Modelling and Simulation*, Paris, pages 479-486. ACTA Press, 1987.

**Grants**

Co-Principal Investigator, *Cultivating an Open Source Software Culture Among Computer Science Undergraduate Students*, National Science Foundation Course, Curriculum, and Laboratory Improvement Program, Award No. 0511732.

**Awards**

[Fritz B. Burns Distinguished Teaching Award](), Loyola Marymount University, 2006.

[California Professor of the Year, 2008](). Carnegie Foundation for the Advancement of Teaching. [http://www.usprofessorsoftheyear.org/](http://www.usprofessorsoftheyear.org/).

[Best Paper Award, AUTOTESTCON 2000]().

**Other Activities**

Television Interviewee; Featured speaker at IEEE and ACM technical sessions and conferences; Taught workshops for industry professionals; Organized several student-industry activities; ACM ICPC coach 2012-present.

Lead instructor for Computer Science Summer Institute: Google+LMU 2017-2022, LMU 2023-present.

Consulting: Citysearch, LiquidWit, CityGrid Media, Medaxis Corporation, Handmade Mobile Entertainment, M-GO, [Friendbuy](), [Criteo](), [Zoodiker](), My Looking Glass, [Undivided]().

Research communities: [HARC]().

**Professional**     [ACM](#) (several offices in the local chapter, including chair). Occasional technical reviewer for journals and conferences. Occasional session chair. Board of Advisors for Computer Science, Los Angeles City College.

**University Service**     Moderator, student chapter of the ACM. Member of various committees, including SCSE Faculty Development Committee, Dean's Core Curriculum Committee, First Year Advising Committee, Equipment Committee, Faculty Senate, President's Fritz B. Burns Distinguished Teaching Award Committee. Department library representative.