

# John David N. Dionisio

## Curriculum Vitae

Department of Electrical Engineering & Computer Science  
Loyola Marymount University  
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<http://myweb.lmu.edu/dondi>

## Education

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- Ph.D. University of California, Los Angeles, December 1996. Computer Science Department.  
*Major:* Database and Knowledge Base Systems; *Minors:* Scientific Computing, Computer Architecture.  
*An Integrated Data Model, Language, and User Interface for Knowledge, Multimedia, and Simulations.*  
Alfonso F. Cárdenas (Chair), Wesley W. Chu, Ricky K. Taira, and Walter Karplus.
- M.S. University of California, Los Angeles, June 1993. Computer Science Department.
- B.S. Loyola Marymount University, May 1991. Department of Electrical Engineering & Computer Science.

## Academic Employment

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Loyola Marymount University  
Seaver College of Science & Engineering  
Department of Electrical Engineering & Computer Science

**Associate Professor**  
**August 2010–present**

*Assistant Professor*  
August 2004–July 2010

University of California, Los Angeles  
Department of Radiological Sciences  
Medical Imaging Informatics Group

*Adjunct Assistant Professor*  
July 2000–June 2004

Loyola Marymount University  
College of Science & Engineering  
Department of Electrical Engineering & Computer Science

*Part Time Instructor, Computer Graphics*  
fall semester, 2004  
fall semester, 2003

University of California, Los Angeles  
Department of Radiological Sciences  
Telemedicine Division

*Assistant Professor*  
January 1997–June 2000

Loyola Marymount University  
College of Science & Engineering  
Department of Electrical Engineering & Computer Science

*Part Time Instructor, Human-Computer Interaction*  
fall semester, 1998

## Professional Experience

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DataPop  
Los Angeles, California

*Software Developer*  
May 2013–present

Friendbuy, Inc.  
Beverly Hills, California

*Software Developer*  
February 2013–present

Medaxis Corporation  
Santa Monica, California

*Board Member*      *Software Developer*  
January 2007–2013      February 2001–2013

## Teaching/Advising

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### Courses Taught

\* Course designed or co-designed by the instructor(s)

† Interdisciplinary team-taught course

‡ Taught at undergraduate and graduate levels

CMSI 182	Introduction to Computer Science
CMSI 185	Computer Programming
CMSI 186	Programming Laboratory
CMSI 252	Multimedia Authoring
CMSI 270	Modern Web Apps
CMSI 284	Computer Systems Organization
CMSI 367/698	Biological Databases
BIOL 367/598	
HNRS 398	
CMSI 370/670	Interaction Design
CMSI 371/671	Computer Graphics
CMSI 387/587	Operating Systems
CMSI 398	Introduction to Virtual Worlds
PSYC 398	
CMSI 486	Introduction to Database Systems
CMSI 299/499	<i>Various independent studies offerings such as: Device Driver Development, Gesture &amp; Sketch Recognition, Introduction to iOS Development, Software Engineering Practicum, Xbox 360 Game Development, Biological Databases Practicum, Gene Regulatory Network Visualization, Wearable Programming</i>
CMSI 585	Programming Languages (graduate level)
CMSI 598/698	Special Studies: Open Source Software Development Workshop (graduate level)
CMSI 601	Graduate Seminar ( <i>served as advisor for various masters thesis projects</i> )
HNRS 222	Research & Exhibition

Courses with multiple subjects have been cross-listed with other departments.

Courses with alternate numbers have been offered at undergraduate and graduate levels.

### Advising Responsibilities

- No formal advising until fall, 2011 due to relatively small computer science major/minor population
- Honors thesis and graduating student advising from fall, 2011 to present (20–60 students per year)
- Formal advising according to class year from fall, 2014 onward (20–30 students per year)

## Selected Scholarship

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The work in this section is not a complete list; selections were made based on either: dissemination after promotion to Associate Professor or relevance to my overall scholarship. A full publication list is available at:

<http://myweb.lmu.edu/dondi/publications>

### Published Work: Books & Book Chapters

**Dionisio JDN**, Toal R. *Programming with JavaScript: Algorithms and Applications for Desktop and Mobile Browsers*. Jones and Bartlett Learning, 2013.

**Dionisio JDN**, Fulton B, Fulton M. *Instructor Solutions Manual to Accompany Multivariable Calculus, Fourth Edition*, by Dennis G. Zill and Warren S. Wright. Jones and Bartlett Learning, 2011.

**Dionisio JDN**, Fulton B, Fulton M. *Instructor Solutions Manual to Accompany Single Variable Calculus: Early Transcendentals, Fourth Edition*, by Dennis G. Zill and Warren S. Wright. Jones and Bartlett Learning, 2011.

Toal R, **Dionisio JDN**. *The JavaScript Programming Language*. Jones and Bartlett Publishers, 2009.

**Dionisio JDN**, Cárdenas AF. "Advances in Image Database Languages." Chapter 7, *Medical Image Databases*, ed. S. Wong, Kluwer Academic Publishers, 1998.

### Published Work: Peer-Reviewed/Juried Articles

**Dionisio JDN**, Burns WG, Gilbert R. "3D Virtual Worlds and the Metaverse: Current Status and Future Possibilities." *ACM Computing Surveys* **45**(3):1–38, June 2013.

Carberry AR, Siniawski MT, **Dionisio JDN**. "Standards-based grading: Preliminary studies to quantify changes in student affective and cognitive behaviors." In *Proceedings of IEEE Frontiers in Education (FIE) 2012*; Seattle, Washington, October 3–6, 2012.

Siniawski MT, Carberry AR, **Dionisio JDN**. "Standards-based grading: An alternative to score-based assessment." In *Proceedings of the 2012 ASEE PSW Section Conference*; San Luis Obispo, California, April 19–21, 2012.

**Dionisio JDN**, Dahlquist KD. "Improving the computer science in bioinformatics through open source pedagogy." *ACM SIGCSE Bulletin* **40**(2):115–119, June 2008.

**Dionisio JDN**, Dickson CL, August SE, Dorin PM, Toal R. "An open source software culture in the undergraduate computer science curriculum." *ACM SIGCSE Bulletin* **39**(2):70–74, June 2007.

### Grants Awarded: External

**Dionisio JDN**. *Undergraduate database systems course*. Google App Engine Education Award. Fall 2012.

**Dionisio JDN**, Toal R. *Cultivating an Open Source Software Culture Among Computer Science Undergraduate Students*. National Science Foundation (NSF) Course, Curriculum, & Laboratory Improvement (CCLI) Program, Award No. 0511732 (100 funded out of 727). August 2005–August 2009.

I have also either applied or co-applied for external grants which have not been funded: one to Google, and a few more to the National Science Foundation. Details on these proposals can be provided if desired.

### Grants Awarded: Internal

**Dionisio JDN**. *Inversion of Immersion: How Wearable Technologies are Reversing Virtual Reality*. Seaver College of Science & Engineering Equipment Grant 2014.

**Dionisio JDN**, Siniawski M. *Streamlining the Implementation of Standards-based Grading*. Loyola Marymount University Academic Technology Grant 2013–2014.

**Dionisio JDN**, Gilbert R, Forney A, Dorin PM. *Mapping the Distributed Self*. Seaver College of Science & Engineering Equipment Grant 2013.

Siniawski M, **Dionisio JDN**. *Design and Pedagogical Value of a Standards-based Grading System for Undergraduate STEM Education*. Loyola Marymount University Center of Teaching Excellence R. Patricia Walsh Scholarship of Teaching & Learning Grant 2012–2013.

## Forthcoming Work

Gilbert R, Murphy N, **Dionisio JDN**. "Psychology Island: A Case Study of Interdisciplinary education in a 3D virtual environment." In S. Gregory, M. Lee, B. Dalgarno, & B. Tynan (eds.) *Virtual worlds in online and distance education*. (accepted into manuscript by editors, with Nova Science Publishers, Inc. contracted to publish)

## Work in Progress

Dahlquist KD, **Dionisio JDN**. "GRNsight: A web application and service for visualizing models of gene regulatory networks." In preparation for submission to the *Nucleic Acids Research Web Server Issue*:

[http://www.oxfordjournals.org/our\\_journals/nar/for\\_authors/submission\\_webserver.html](http://www.oxfordjournals.org/our_journals/nar/for_authors/submission_webserver.html)

Gilbert R, Forney A, **Dionisio JDN**, Dorin P. *The Identity Mapping Project: An effort to graphically represent patterns of The Distributed Self as described by Gilbert and Forney (2013) "The Distributed Self: Virtual Worlds and the Future of Human Identity" in The Immersive Internet: Reflections on the Entangling of the Virtual with Society, Politics, and the Economy*, Powers D & Teigland R (eds.), Palgrave-Macmillan, pages 23–37.

\* Anguiano N, Varshneya A, **Dionisio JDN**, Dahlquist KD, Fitzpatrick BG. "Improvements to GRNsight: A Web Application for Visualizing Models of Gene Regulatory Networks." In preparation for submission to the 2014 Southern California Conference on Undergraduate Research (SCCUR), California State University Fullerton, November 22, 2014.

\* Akers A, Loustau J, **Dionisio JDN**. "A Comparative Analysis of the Learnability of Google Glass, Android Wear, and Pebble Smartwatch." In preparation for submission to the 2014 Southern California Conference on Undergraduate Research (SCCUR), California State University Fullerton, November 22, 2014.

## Open Source Software Projects

Of these, the first three—GRNsight, Identity Mapping Project, and XMLPipeDB—are currently the most active.

"GRNsight: A web app and service for modeling and visualizing gene regulatory networks."

<http://dondi.github.io/GRNsight> (main site)

<https://github.com/dondi/GRNsight> (developer site)

"Identity Mapping Project: A survey application assessing online media users' expressions of identity."

<http://mapmyidentity.cs.lmu.edu> (main site)

<https://github.com/Forns/identity-mapping> (developer site)

"XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources."

<http://xmlpipedb.cs.lmu.edu> (main site)

<http://sourceforge.net/projects/xmlpipedb> (developer site)

"LMU Diabolical: A Database Back-End with a Web Service for a [Hypothetical] Role-Playing Game."

<http://lmu-diabolical.appspot.com> (main site)

<https://github.com/SaymV/diabolical> (developer site)

"Headmaster: A student information system with a RESTful, service-oriented architecture."

<https://github.com/dondi/headmaster>

"Quo: A Programmable Social Network Status Demultiplexer."

<https://github.com/dondi/quo>

"Shag Graphical User Interface Library."

<http://sourceforge.net/projects/shag-gui>

"OpenJSGL: Web 3D Rendering Without Plug-Ins."

<http://openjsgl.sourceforge.net> (main site)

<http://sourceforge.net/projects/openjsgl> (developer site)

## Selected Presentations

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A complete list of presentations is available at <http://myweb.lmu.edu/dondi/publications>.

*\* Work resulting from student mentoring, advising, and collaboration are shaded in gray and marked with an asterisk.*

### Peer-Reviewed/Refereed Conference Presentations

- \* Nichols T, **Dionisio JDN**. "Empirical Analysis of Popular Cryptographic Algorithms." 2012 Southern California Conference on Undergraduate Research (SCCUR), California State University Channel Islands, November 17, 2012.
  - \* Brous RA, **Dionisio JDN**, Dahlquist KD. "Implementing Multiple Species Export in XMLPipeDB's GenMAPP Builder." 2011 Southern California Conference on Undergraduate Research (SCCUR), Mt. San Antonio College, November 19, 2011.
  - \* Parks KC, Dahlquist KD, **Dionisio JDN**. "Using XMLPipeDB to Create a GenMAPP-Compatible Gene Database for the Analysis of DNA Microarray Data for Staphylococcus aureus MRSA 252." 2010 Southern California Conference on Undergraduate Research (SCCUR), Pepperdine University, November 20, 2010.
  - \* Dahlquist KD, Alphonso A, Smith D, Villaflores C, **Dionisio JDN**. "XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources." 10th annual Bioinformatics Open Source Conference (BOSC 2009). Stockholm, Sweden, June 27–28, 2009.
  - \* Buriticá A, **Dionisio JDN**. "OpenJSG: Web 3D Rendering Without Plug-Ins." 2007 Southern California Conference on Undergraduate Research (SCCUR), California State University Los Angeles, November 17, 2007.
- Dahlquist KD, **Dionisio JDN**. "An Open Source Framework for Teaching Bioinformatics." 8th annual Bioinformatics Open Source Conference (BOSC 2007). Vienna, Austria, July 19–20, 2007.
- \* Dahlquist KD, Nicholas J, **Dionisio JDN**. "XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources." 8th annual Bioinformatics Open Source Conference (BOSC 2007). Vienna, Austria, July 19–20, 2007.

### Invited Conference Presentations

- Dionisio JDN**. "Wearable Computing and the Reversal of Virtual Reality." Immersion 2014. Immersive Education Initiative, Los Angeles, California, June 6–8, 2014.
- Dahlquist KD, **Dionisio JDN**. "An Open Source, Open Science Pedagogy for Computational Biology." Beyond BIO2010 Symposium, National Academy of Sciences, Washington, D.C. May 21–22, 2010.

### Scientific Exhibits and Posters

- Dionisio JDN**. Identity Mapping Project survey and visualization preview. Immersion 2014. Immersive Education Initiative, Los Angeles, California, June 6–8, 2014.
- Dionisio JDN**. Wearable computing device hands-on exhibit. Immersion 2014. Immersive Education Initiative, Los Angeles, California, June 6–8, 2014.
- \* Murphy DB, Dahlquist KD, **Dionisio JDN**. "Implementing Support for Multiple Species in XMLPipeDB's GenMAPP Builder." 2010 Southern California Conference on Undergraduate Research (SCCUR), Pepperdine University, November 20, 2010.
  - \* Paiz-Ramirez K, Dahlquist KD, **Dionisio JDN**. "Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for *Mycobacterium tuberculosis*." Society for the Advancement of Chicanos and Native Americans in Science National Conference, Anaheim, California, October 2010.

\* Parks KC, Hirning AJ, McDonald K, **Dionisio JDN**, Dahlquist KD. "Extending XMLPipeDB to Create GenMAPP-compatible Gene Databases for the Analysis of DNA Microarray Data from Human Pathogens." Experimental Biology 2010, Anaheim, California. April 24–28, 2010.

\* Pak B, Murphy DB, **Dionisio JDN**, Dahlquist KD. "Extending XMLPipeDB with GO Slim to Update the GenMAPP-compatible Gene Database for Budding Yeast, *Saccharomyces cerevisiae*, for the Analysis of DNA Microarray Data." Experimental Biology 2010, Anaheim, California. April 24–28, 2010.

**Dionisio JDN**, Dahlquist KD. "Improving the computer science in bioinformatics through an open source pedagogy." First RECOMB Satellite Conference on Bioinformatics Education, March 2009.

\* Alphonso A, Villaflores C, Smith D, Dahlquist KD, **Dionisio JDN**. "Extending XMLPipeDB to create gene databases for plants and microorganisms for the analysis of DNA microarray data." First RECOMB Satellite Conference on Bioinformatics Education, March 2009.

Dahlquist KD, **Dionisio JDN**. "Fostering interdisciplinary teamwork in an undergraduate biological databases course." First RECOMB Satellite Conference on Bioinformatics Education, March 2009.

\* Schmidt KO, **Dionisio JDN**. "Texture-Map-Based Sound Synthesis in Rigid-Body Simulations." In *SIGGRAPH '08: ACM SIGGRAPH 2008 posters*, August 2008. **(Semi-finalist in Student Poster Competition)**

**Dionisio JDN**, Toal R. "Teaching by Collaborating: Toward a Pedagogy Adapted from the Open Source Culture." National Science Foundation CCLI Showcase, SIGCSE 2008, Portland, Oregon, March 12–15, 2008.

## LMU (Internal) Conference Presentations

\* Southwick B, Anguiano N, Dahlquist KD, **Dionisio JDN**. "GRNsight: A Web Application for Visualizing Models of Gene Regulatory Networks." Sixth Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 29, 2014.

\* Pita A, **Dionisio JDN**, Dahlquist KD. "Constructing a GenMAPP-compatible Gene Database for *Streptococcus pneumoniae* to Perform Pathway Analysis on Microarray Data Comparing Biofilm Versus Planktonic Forms." Sixth Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 29, 2014.

\* Dahilig J, Forney A, Nichols T, **Dionisio JDN**. "Quo: A Programmable Social Network Status Demultiplexer." Fourth Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 23, 2012.

\* Parks KC, **Dionisio JDN**, Dahlquist KD. "Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for *Staphylococcus aureus* MRSA 252." Third Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 19, 2011.

## LMU (Internal) Scientific Exhibits and Posters

\* Petredis M, **Dionisio JDN**, Dahlquist KD. "Gene Database Construction and GenMAPP Analysis of *Sinorhizobium meliloti* Microarray Data Comparing Salt and Sucrose Stress." Sixth Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 29, 2014.

\* McGee K, **Dionisio JDN**, Dahlquist KD. "Pathway Analysis of *Leishmania major* Promastigote and Amastigote Stages with GenMAPP and MAPPFinder." Sixth Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 29, 2014.

\* Murphy DB, Dahlquist KD, **Dionisio JDN**. "Implementing Support for Multiple Species in XMLPipeDB's GenMAPP Builder." Third Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 19, 2011.

- \* McDonald K, **Dionisio JDN**, Dahlquist KD. "Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for *Pseudomonas aeruginosa* for the Analysis of DNA Microarray Data." Second Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 20, 2010.
- \* Pak B, Murphy DB, Dahlquist KD, **Dionisio JDN**. "Extending XMLPipeDB with GO Slim to Update the GenMAPP-compatible Gene Database for Budding Yeast, *Saccharomyces cerevisiae*, for the Analysis of DNA Microarray Data." Second Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 20, 2010.
- \* Parks KC, **Dionisio JDN**, Dahlquist KD. "Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for *Staphylococcus aureus* MRSA252." Second Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 20, 2010.
- \* Alphonso A, Villaflores C, Smith D, **Dionisio JDN**, Dahlquist KD. "Extending XMLPipeDB to Create GenMAPP-compatible Gene Databases for Plants and Microorganisms for the Analysis of DNA Microarray Data." First Annual Undergraduate Research Symposium, Loyola Marymount University, Los Angeles, California, March 22, 2009.

## Seminar/Non-Conference Presentations

- Dionisio JDN**, Drummond E, Washburn R. "Helping Students Learn Discipline-Specific Ways of Thinking and Practicing: Examples from Across the Disciplines." Loyola Marymount University Center for Teaching Excellence (CTE), March 19, 2014.
- Siniawski M, **Dionisio JDN**. "Standards-based Grading." Loyola Marymount University Center for Teaching Excellence (CTE), January 22, 2013.
- Dionisio JDN**. "The Internet Technology Status Quo: What's Hot, What's Cool, and What Might Actually be Useful." Rotary Club of Westchester, September 30, 2009.
- Gilbert R, **Dionisio JDN**. "Get a Life...Better Yet, Get a Second Life: An Introduction to Virtual Worlds." Loyola Marymount University Faculty Colloquium, March 20, 2009.
- Dionisio JDN**, Gilbert R. "LMU in Second Life." Loyola Marymount University Center for Teaching Excellence (CTE), March 19, 2009.
- Dahlquist KD, **Dionisio JDN**. "Using Google Sites and MediaWiki." Loyola Marymount University Center for Teaching Excellence (CTE), October 22, 2008.
- Dionisio JDN**. "A Wiki Tutorial." Regular meeting of the Los Angeles Chapter of the Association for Computing Machinery (LA ACM), October 6, 2008.
- Dionisio JDN**, Toal R. "A Computer Science Pedagogy Adapted from the Open Source Culture." Loyola Marymount University Center for Teaching Excellence (CTE), April 24, 2008.

## University/Professional/Community Service

### Loyola Marymount University

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*Interim Director*, University Honors Program, summer 2014

*Associate Director*, University Honors Program, fall 2011–present

#### University Committees/Collaborations

- WASC self-study steering committee, fall 2012–fall 2014
- Virtual worlds initiative, May 2008–present (now called the Identity Mapping project)
- University Committee on Mission & Identity, fall 2007–present
- LMU bioinformatics group, January 2006–present (includes XMLPipeDB and GRNsight projects)

#### Conferences/Institutes

- President's Institute, May 2006 (participant), 2010–present (co-organizer, facilitator)
- Western Conversations, October 2008, October 2009
- Presidential Core Curriculum Institute, May 2008

#### Miscellaneous Involvement/Participation

- New faculty orientation speaker (academic grants, mission & identity), various years
- Core curriculum: conversations, institute (see above), model development, and working groups, 2004–2012

### College/School

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- Faculty Development Committee, fall 2013–spring 2014
- Third Year Review Committee, fall 2012–fall 2013
- College Academic Technology Committee, February 2009–2011
- Computational Biology Presidential Scholar Search Committee, September 2008–2009

### Department

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- Ad hoc administration, management, and maintenance of Keck computer science laboratory facilities, August 2008–December 2008
- Annual ENGR 100 presentation on electrical engineering & computer science disciplines, 2007–2012

### Professional

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#### Professional Memberships/Affiliations

- Association for Computing Machinery (ACM), May 2005–present
- Immersive Education Initiative (iED) West chapter board of governors, October 2012–present
- Open Bioinformatics Foundation (OBF), July 2008–present
- International Society for Computational Biology, May 2008–May 2009

#### Publication/proposal review

- Formal manuscript reviewer, *Interactive Computer Graphics: A top-down approach with OpenGL (Sixth Edition)* by Edward Angel and Dave Shreiner, July–December 2010
- Informal external reviewer for various article, book, and grant proposals, August 2007–present
- Formal manuscript reviewer, *Building Interactive Systems* by Dan Olsen, Jr., October 2007–August 2008
- Assistant Editor (Chair of Editorial Subcommittee, Informatics) for the American Journal of Roentgenology (AJR), August 2005–August 2008; currently a reviewer of submitted manuscripts for that journal within appropriate areas of expertise



## Relevant Honors, Fellowships, and Awards

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In 2014, I was selected for induction into the Alpha Sigma Nu Jesuit Honors society. As it turned out, I had already been inducted as a student and thus was already a member, but the selection committee was not aware of this and so I was nominated and selected anew. Despite my already being a member of Alpha Sigma Nu, it was heartening to know that my new work and service as faculty still qualified me for this honor, distinct and separate from what I did when I was a student.