

# Laura K. Wiley

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## Education

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2016	Ph.D.	Human Genetics, Vanderbilt University <i>Addressing Barriers to Clinical Implementation of Pharmacogenomics</i> Advisor: Joshua C Denny
2014	M.S.	Biomedical Informatics, Vanderbilt University <i>Discovery &amp; Replication of Pathway-Based Trans-eQTL</i> Advisor: William S Bush
2009	B.S.Ch.	Chemistry, University of Denver University Honors
2009	B.S.	Molecular Biology, University of Denver Minors: Math, Chemistry, University Honors

## Experience

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2014-2016	Assistant Professor, Division of Biomedical Informatics and Personalized Medicine, University of Colorado Anschutz Medical Campus
2014-2016	Graduate Student Researcher/Post-Doctoral Fellow, Vanderbilt University PI: Joshua Denny
2010-2014	Graduate Student Researcher, Vanderbilt University PI: William Bush
2008-2009	Research Assistant, Mycologics & University of Colorado Denver PI: Claude Selitrennikoff
2007-2008	Research Fellow, Colorado Kids Sun Care & U of Colorado Cancer Center PI: Lori Crane
2004	Research Assistant, Pathology Lab, Penrose Hospital PIs: Joel Ernster and Cosimo Sciotto

## Honors & Special Events

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2013-2016	Invited Attendee (x4), AMIA 7 <sup>th</sup> , 8 <sup>th</sup> , 9 <sup>th</sup> , 10 <sup>th</sup> Health Policy Invitational
2015	Best Student Paper, AMIA Joint Summits: Clinical Research Informatics

## Publications

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### Peer Reviewed Publications

1. **Wiley LK**, VanHouten JP, Samuels DC, Aldrich MC, Roden DM, Peterson JF, Denny JD. Strategies for equitable pharmacogenomic-guided warfarin dosing among European and African-American individuals in a clinical population. *Pac Symp Biocomput.* 2017 (Accepted)
2. **Wiley LK\***, Tarczy-Hornoch P\*, Denny JC, Freimuth RR, Overby CL, Shah NH, Martin RD, Sarkar IN. Harnessing next-generation informatics for personalizing medicine: a report from AMIA's 2014 Health Policy Invitational Meeting. *JAMIA.* 2016. PMID: [26911808](#) \*Co-first
3. **Wiley LK**, Moretz JD, Denny JC, Peterson JF, Bush WS. Phenotyping Adverse Drug Reactions: Statin-Related Myotoxicity. *AMIA Summits Transl Sci Proc.* 2015 . PMID: [26306287](#)
  - Selected as Best CRI Student Paper
4. **Wiley LK**, Sivley RM, Bush WS. Rapid storage and retrieval of genomic intervals from a relational database system using nested containment lists. *Database* 2013. PMID: [23894185](#)
5. **Wiley LK**, Shah A, Xu H, Bush, WS. ICD-9 tobacco use codes are effective identifiers of smoking status. *JAMIA* 2013. PMID: [23396545](#)

### Book Chapters

1. Denny JC, **Wiley LK**, Peterson JF. Use of Clinical Decision Support to Tailor Drug Therapy Based on Genomics, in *Clinical Decision Support Systems: Theory and Practice* (3<sup>rd</sup> edition). Publisher: Springer, Editor: Eta Berner. [In press.]

### Manuscripts Submitted:

1. Kuziemyky CE\*, **Wiley LK\***, Unertl KM, Haque S, Turner SD, Martin K, Schleyer TS, Rosenbloom ST. Preliminary Analysis of Four Years of Twitter Activity at the AMIA Annual Symposium. Submitted: *JAMIA.* \*Co-first authors

### Abstracts

1. Prendergast CJ, Predazzi IM, **Wiley LK**, Lilley JS, Van Driest S, Fazio S, McGregor T. Indications and Adverse Effects of Statin Therapy in Children: A Retrospective Electronic Health Record Review. American Heart Association, New Orleans, LA, 2016.
2. **Wiley LK**, Carroll RJ, Edwards TL, Kirby J, Bastarache L, Kuivaniemi H, Tromp G, Jarvik GP, Crosslin DR, Carrell D, Larson EB, Brilliant MH, Hebring SJ, Kullo IJ, Pathak J, Pacheco JA, Kho AN, Denny JC, Bush WS. Translation of Pathway-Based trans-eQTL to Human Phenotypes. AMIA Joint Summits on Translational Bioinformatics, San Francisco, CA, 2015.
3. Teixeira P, Davis M, **Wiley LK**, Bastarache L, Smith JC, Carroll RJ, Fabbri D, Roden DM, Denny JC. Improving Phenotypic Granularity with NLP-PheWAS in Multiple Sclerosis. AMIA Joint Summits on Translational Bioinformatics, San Francisco, CA, 2015.

4. **Wiley LK**, Goodloe R, Farber-Eger E, Crawford DC, Bush WS. Using a Biobank Linked to Electronic Medical Records to Identify Non-Specific Clinically Associated Genetic Variants. AMIA Joint Summits on Translational Bioinformatics, San Francisco, CA, 2014.
5. Bastarache L, Bochenek J, Edwards T, Xu Y, Pulley J, Bowton E, Mo H, Wei W, **Wiley L**, Roden D, Denny J. Investigation of Synthetic Association in GWAS using PheWAS and Exome Sequencing. 64th Annual Meeting of the American Society for Human Genetics, San Diego, CA, 2014.
6. **Wiley LK**, Peterson JF, Denny JC, Bush WS. Establishing the Need for Personalized Medicine: Simvastatin Exposure Among a SLCO1B1 Variant Population. Annual Symposium of the American Medical Informatics Association, Washington DC 2013
7. **Wiley LK**, Goodloe R, Farber-Eger E, Boston J, Crawford DC, Bush WS. Association of Metabochip variants to systolic blood pressure in African Americans from a
8. biorepository linked to de-identified electronic medical records. 63<sup>rd</sup> Annual Meeting of the American Society for Human Genetics, Boston, MA, 2013.
9. **Wiley LK**, Bush WS. Discovery and replication of pathway-based trans-eQTL associations. 62nd Annual Meeting of the American Society for Human Genetics, San Francisco, CA, 2012.
10. **Wiley LK**, Bush WS. High-throughput annotation of genomic variants using a relational database system. 61<sup>st</sup> Annual Meeting of the American Society for Human Genetics, Montreal, QC, Canada, 2012.

## Funding

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2015-Present	U01 HG007253 (Denny) Integrated, Individualized, Intelligent Prescribing (I3P)	Role: Trainee
2014-2015	T15 LM007450 (Gadd) Vanderbilt Biomedical Informatics Training Program	Role: Trainee
2011-2013	T32 GM080178 (Haines) Training Program on Genetic Variation and Human Phenotypes	Role: Trainee
2011-2015	Travel Grant (x5) - Vanderbilt Graduate School	
2012	Travel Award – Translational Bioinformatics Conference	
2009	Preisendanz-Schmid Thesis Scholarship, University of Denver	
2007	Fellowship, University of Colorado Cancer Center	

## Professional Organizations

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### American Medical Informatics Association (2011-Present)

2016-Present	Chair, Working Group Steering Committee (Appointed by BOD)
2016-Present	Student Representative to the AMIA Board of Directors (Elected)
2014-Present	Past-Chair/Chair/Chair-Elect/, Student Working Group
2014-2015	Member, Membership Committee (Liaison for Student Working Group)
2012-2015	Member, Public Policy Committee

### American Society for Human Genetics (2011-Present)

## Professional Activities

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### Intramural:

2013	Organizer, DBMI Career Panel, Vanderbilt
2012	Secretary, Human Genetics Graduate Student Association - Vanderbilt
2012	Secretary, Biomed. Informatics Graduate Student Association-Vanderbilt
2005-2009	Member, Conduct Review Board – University of Denver
2008	Student Rep, Writing in the Majors Committee: Chemistry, U. of Denver

### Extramural:

2015-Present	Member, AMIA Task Force on Women in Informatics
2014-2016	Attendee (x3), AMIA Hill Day
2015	Member, AMIA Common Rule NPRM Response Team
2014-2015	Organizer, AMIA High School Scholars Mentor Program
2014-2015	Organizer, AMIA Annual Health Policy Invitational Meeting Scribes
2012	Attendee, AMIA Hill Day
2012	Scribe, AMIA 6 <sup>th</sup> Annual Invitational Health Policy Meeting

### Outreach:

2015	Presenter, TWISTER (Tennessee Women in Science, Technology, Engineering and Research) STEM Conference for Girls in 9 <sup>th</sup> to 12 <sup>th</sup> Grade
2015	Precision Medicine, Biomedical and Health Informatics Baccalaureate Course, American Medical Informatics Association
2012-2014	ASHG DNA Day Essay Contest Judge (x3)

### Reviewer:

Journal of Biomedical Informatics  
 Database  
 Journal of Cardiovascular Pharmacology  
 AMIA Annual Symposium  
 AMIA Joint Summits on Translational Science

## Teaching Experience

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2007-2016	Faculty, Kaplan Test Prep & Admissions; Denver, Nashville, Online
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### Guest Lecturer

2015	Precision Medicine, Biomedical and Health Informatics Baccalaureate Course, American Medical Informatics Association
Apr 2015	Performing Manual Review in the Synthetic Derivative, BioVU Study Design
Jan 2015	Medication Data in the Synthetic Derivative, BioVU Study Design

Nov 2014 HL7 Immunization Messages Programming Lab, Introduction to Biomedical Informatics

### Invited Tutorials

Nov 2015 Using R for Healthcare Data Science, AMIA Fall Symposium , Co-Taught by Vojtech Huser

Nov 2015 The Data Scientist's Workflow in R, Nashville UseR Group

Aug 2015 Overview of ggplot2 and the "Grammar of Graphics", Nashville Data Science Group

May 2015 Knitr and R Markdown for Reproducible Workflow, Nashville UseR Group

Mar 2015 Introduction to R and ggplot for Genetics, Vanderbilt Genetics Student Association

Aug 2014 Making ggplot2 Sing, Nashville UseR Group

## **Presentations**

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### Invited Talks

Jun 2016 University of Colorado at Denver School of Medicine, Denver  
*Informatics Enabled Opportunities for Precision Medicine*

Mar 2016 University of Tennessee Health Science Center, Memphis  
*Informatics Enabled Opportunities for Precision Medicine*

Mar 2016 University of Washington, Seattle  
*Informatics Enabled Opportunities for Precision Medicine*

Jan 2016 University of Alabama, Birmingham  
*Addressing Barriers to Adoption of Precision Medicine with Informatics*

### Podium Talks

Jun 2016 Drug Safety Gordon Research Seminar, Boston  
*Strategies for Equitable Pharmacogenomic-Guided Warfarin Dosing Among European and African American Individuals in a Clinical Population*

Mar 2016 AMIA Joint Summits on Translational Bioinformatics, San Francisco  
*Evaluating Physician Response to Pharmacogenomic-Guided Warfarin Dosing in a Hospitalized Population*

Mar 2016 ACMG Annual Clinical Genetics Meeting, Tampa  
*Incorporation of Decision Support in Pharmacogenetics (I<sup>3</sup>P)*

Mar 2015 AMIA Joint Summits on Clinical Research Informatics, San Francisco  
*Phenotyping Adverse Drug Reactions: Statin-Related Myotoxicity*  
• Selected as Best CRI Student Paper

Mar 2015 AMIA Joint Summits on Translational Bioinformatics, San Francisco  
*Translation of Pathway-Based trans-eQTL to Human Phenotypes.*

- Apr 2014 AMIA Joint Summits on Translational Bioinformatics, San Francisco  
*Using a Biobank Linked to Electronic Medical Records to Identify Non-Specific Clinically Associated Genetic Variants.*
- Oct 2012 62nd Annual Am. Society of Human Genetics Meeting, San Francisco  
*Discovery and replication of pathway-based trans-eQTL associations.*
- Oct 2012 2nd Annual Translational Bioinformatics Conf., Jeju South Korea  
*ICD-9 tobacco use codes are effective identifiers of smoking status.*

### Panels

- Mar 2016 AMIA Joint Summits on Translational Bioinformatics, San Francisco  
*Career Opportunities for the Many Paths to Informatics*  
  - Moderator & Organizer. Sponsored by AMIA Student Working Group.
- Nov 2015 Annual Symposium of the Am. Med. Info. Assoc, San Francisco  
*Career Opportunities for the Many Paths to Informatics*  
  - Moderator & Organizer. Sponsored by AMIA Student Working Group.
- Nov 2014 Annual Symposium of the Am. Med. Info. Assoc, Washington DC  
*Harnessing Next-Generation Informatics for Personalizing Medicine: Report from the 2014 AMIA Health Policy Invitational Meeting.*  
  - Substitute Panelist for Nigam Shah

### Tutorials

- Nov 2015 Annual Symposium of the Am. Med. Info. Assoc., San Francisco  
*Using R for Healthcare Data Science.* Co-Taught by Vojtech Huser

### Webinars

- Sep 2015 Navigate AMIA Webinar – Students and Young Professionals

### Posters

- Jun 2016 Drug Safety Gordon Research Conference, Boston  
*Strategies for Equitable Pharmacogenomic-Guided Warfarin Dosing Among European and African American Individuals in a Clinical Population.*
- Nov 2013 Annual Symposium of the Am. Med. Info. Assoc, Washington DC  
*Establishing the need for personalized medicine: Simvastatin exposure among a SLCO1B1 variant population.*
- Oct 2013 63rd Annual Meeting of the Am. Society for Human Genetics, Boston  
*Association of Metabochip variants to systolic blood pressure in African Americans from a biorepository linked to deidentified EMRs.*
- Oct 2011 61st Annual Meeting of the Am. Society for Human Genetics. Montreal  
*High-throughput annotation of genomic variants using a relational database system.*

## References

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