

Turgay Ayer, Ph.D.

I. EARNED DEGREES

- Ph.D. Industrial and Systems Engineering, **University of Wisconsin-Madison**
Minor in Mathematics, July 2011.
- M.Sc. Industrial and Systems Engineering, **University of Wisconsin-Madison**,
May, 2008.
- B.S. Manufacturing Systems Engineering, **Sabanci University, Turkey**
Minor in Mathematics, June 2006.

II. EMPLOYMENT HISTORY

Georgia Institute of Technology, Atlanta, GA

- George Family Foundation Early Career Professor April 2016—
H. Milton Stewart School of Industrial and Systems Engineering
- Associate Professor August 2018—
H. Milton Stewart School of Industrial and Systems Engineering
- Research Director, Business Intelligence and Healthcare Analytics April 2018—
Center for Health and Humanitarian Systems
- Research Director for Medical Decision Making August 2014—April 2018
Center for Health and Humanitarian Systems
- Assistant Professor 2011— 2018
H. Milton Stewart School of Industrial and Systems Engineering

Emory University, Atlanta, GA

- Associate Professor (by courtesy) August 2016—
Winship Cancer Institute

III. HONORS AND AWARDS

(Awards given to mentored students for joint work marked with a *)

A. International or National Awards

i. Research Awards

- Inducted as the Franz Edelman Laureate, 2017¹
 - INFORMS Franz Edelman Laureates are “recognized for their significant contribution to work that is selected as representative of the best applications of analytical decision making in the world”
- NSF CAREER Award, 2015
- South Big Data Hub Program to Empower Partnerships with Industry (PEPI) Fellow, 2015
 - Financially supports early career faculty members and pairs each fellow with industry partners. Ayer is hosted by the UnitedHealthcare Group.
- INFORMS Seth Bonder Foundation Research Award, 2012, 2014
 - awarded to the most promising young researchers in healthcare area
- INFORMS Bonder Scholarship for Applied Operations Research in Health Services, 2010
 - Selected annually; provides financial support to one Ph.D. student with the greatest potential for making a significant contribution to the field of applied Operations Research in healthcare

ii. Paper Awards

- First prize, MSOM Responsible Research in Operations Management, 2019
- Finalist, MSOM Student Paper Competition, 2019*
- Honorable Mention, 2019 INFORMS Dantzig Dissertation Award, 2019*
- Finalist, INFORMS Public Sector OR Best Paper Award, 2018
- First Prize, INFORMS eBusiness Section Best Paper Competition, 2018
- First Prize, M&SOM Practice-Based Research Competition, 2017
- First prize winner, 2017 MSOM Student Paper Competition*
- Finalist, INFORMS Franz Edelman Award for Achievements in Operations Research and Management Science, 2017
 - “the world’s most prestigious award for achievement in the practice of analytics and operations research” (informs.org)
- First Prize, POMS College of Sustainable Operations Best Student Paper

¹ For the work that impacted and changed blood collection operations at the American Red Cross; a video synopsis produced by the American Red Cross highlighting the realized impact can be found here: <https://vimeo.com/206581123/72c76ad3dd>

Competition, 2017*

- Finalist, INFORMS Pierskalla Award (Healthcare Applications Society Best Paper Competition), 2016
 - recognizes research excellence in the field of health care management science
- First Prize, INFORMS Decision Analysis Society Student Paper Competition, 2016*
- Honorable Mention, INFORMS Public Sector OR Paper Competition, 2016
- First Prize, INFORMS Doing Good with Good OR Paper Competition, 2015*
 - recognizes outstanding papers in the field of operations research and the management sciences that have a significant societal impact
- Finalist, INFORMS Nicholson Student Paper Competition, 2015*
- First Prize, 2011 INFORMS Doing Good with Good OR Competition
- Second Prize, 2011 INFORMS M&SOM Society Student Paper Competition
- Finalist, 2011 INFORMS Decision Analysis Society Student Paper Competition
- First Prize, Society for Medical Decision Making (SMDM) Lee B. Lusted Award, 2009
 - recognizes outstanding presentations of research at the Annual Meeting of the SMDM
- First Prize, INFORMS Interactive Session Award, 2009
- Outstanding Presentation Award in the Informatics Session of 2008 Annual Meeting of Radiological Society of North America (invited for publication in RadioGraphics)
- Paul Carbone Prize for Best Poster in Cancer Control during 2nd Annual UW Carbone Comprehensive Cancer Center (UWCCC) Research Retreat in 2008
- Selected for the 2010 INFORMS Doctoral Colloquium

B. Institute or School Awards

- George Family Foundation Assistant Professorship, 2016-present
- Thank a teacher Certificate, Georgia Tech, Spring 2012, Spring 2013

IV. RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

(* indicates work conducted at Georgia Tech)

(Bolded co-authors are advisees [i.e., post-docs, graduate or undergraduate students] under Dr. Ayer's supervision)

(*M.D.* denotes a medical doctor collaborator)

A. PUBLISHED BOOKS, BOOK CHAPTERS, AND EDITED VOLUMES

A2. Refereed Book Chapters

1. ***T. Ayer, Q. Chen** (2018), "*Personalized Medicine*", forthcoming in *Handbook of Healthcare Analytics: Theoretical Minimum for Conducting 21st Century Research on Healthcare Operations*, edited by Sridhar Tayur and Tinglong Dai, John Wiley & Sons (invited and refereed).
2. *T. Ayer, P. Keskinocak, and J. Swann (2014), "*OR/MS Research in Public Health*," in *Bridging Data and Decisions* (pp. 216-239), edited by A. Newman and C. Smith (invited and refereed).
3. O. Alagoz, T. Ayer, F.S. Erenay (2011), "*Operations Research Models in Cancer Screening*," in *Encyclopedia of Operations Research and Management Science*, edited by James J. Cochran, John Wiley & Sons. Published online: 14 January 2011, DOI: 10.1002/9780470400531.eorms0597 (invited and refereed).

B. REFEREED PUBLICATIONS AND SUBMITTED ARTICLES

(* indicates work conducted at Georgia Tech)

(Bolded co-authors are advisees [i.e., post-docs, graduate or undergraduate students] under Dr. Ayer's supervision)

(*M.D.* denotes a medical doctor collaborator)

B1. Published and Accepted Journal Articles

Operations / Management Papers

1. ***C. Zhang**, A. Atasu, T. Ayer, B. Toktay (2019), "Truthful Mechanisms for Medical Surplus Products Allocation", *M&SOM*, <https://doi.org/10.1287/msom.2018.0770>
 - o First prize winner, 2019 MSOM Responsible Research in Operations Management
 - o First prize winner, 2017 MSOM Student Paper Competition
 - o First prize winner, 2017 INFORMS Doing Good with Good OR Student Paper Competition
 - o First prize winner, 2017 POMS College of Sustainable Operations Best Student Paper Competition

2. *T. Ayer, **C. Zhang, A. Bonifonte**, A. Spaulding (*M.D.*), J. Chhatwal (2019), “*Prioritizing Hepatitis C Treatment in U.S. Prisons*”, *Operations Research*, <https://doi.org/10.1287/opre.2018.1812> [Epub ahead of print].
 - Finalist, INFORMS Healthcare Applications Society Best Paper Award (Pierskalla Award)
3. ***A. Bonifonte**, T. Ayer (2018), “*An Analytics Approach to Guide Randomized Controlled Trial Design for Hypertension Management*”, *NIPS ML4Health Workshop*.
 - Winner, 2017 IISE Health Care Student Paper competition
4. *T. Ayer, M. Ayvaci, Z. Karaca, **J. Vlachy** (2018) “The Impact of Health Information Exchanges on Emergency Department Length of Stay,” *Production and Operations Management (POM)*, <https://doi.org/10.1111/poms.12953> [Epub ahead of print].
 - Finalist, INFORMS Conference on Information Systems and Technology (CIST) Best Paper Competition, 2015
 - Finalist, Workshop on Health IT & Economics (WHITE) Best Paper Competition, 2015
5. *T. Ayer, **C. Zhang, C. Zeng**, C. C. White III, V. Roshan Joseph (2018) “Analysis and Improvement of Blood Collection Operations”, *M&SOM*, <https://doi.org/10.1287/msom.2017.0693> [Epub ahead of print].
 - First prize winner, 2017 M&SOM Practice-Based Research Competition
 - First prize winner, 2015 INFORMS Doing Good with Good OR Competition
 - Selected as one of the four showcase presentations by the College of Healthcare Operations (CHOM) of the Production & Operations Management Society (POMS) annual Synapse Mini-Conference, 2017
 - [Here](#) is a [video](#) about this project, produced by the American Red Cross, highlighting the realized impact
6. *M. Cevik. T. Ayer, O. Alagoz (2018), “Analysis of Mammography Screening Policies under Resource Constraints,” *Production and Operations Management (POM)*, 27(5), 949-972, <https://doi.org/10.1111/poms.12842> [Epub ahead of print].
7. *T. Ayer, **C. Zhang, C. Zeng**, C.C. White, V. Roshan Joseph, K. Lee, Z. Ozkaynak, M. Deck (2018), “American Red Cross Uses Analytics-based Methods to Improve Blood Collection Operations”, *INFORMS Journal on Applied Analytics*, 48(1), 24-34.
 - Finalist, 2017 INFORMS Franz Edelman Award, “the world’s most prestigious award for achievement in the practice of analytics and operations research” (informs.org)²

² See [www.informs.org/About-INFORMS/News-Room/Press-Releases/2017-INFORMS Franz-Edelman-Award-finalists-selected-from-leading-analytics-teams-around-the-world](http://www.informs.org/About-INFORMS/News-Room/Press-Releases/2017-INFORMS-Franz-Edelman-Award-finalists-selected-from-leading-analytics-teams-around-the-world) for the finalist announcement.

8. ***Q. Chen**, T. Ayer, J. Chhatwal (2017), “Optimal M-switch Surveillance Policies for Liver Cancer in Hepatitis C-Infected Population,” *Operations Research*, 66(3), <https://doi.org/10.1287/opre.2017.1706> [Epub ahead of print].
 - First Prize Winner, 2016 INFORMS Decision Analysis Society Student Paper Competition.
 - Honorable Mention, INFORMS Public Sector OR Paper Competition, 2016
9. *T. Ayer, O. Alagoz, N.K. Stout, E.S. Burnside (*M.D.*) (2015), “Heterogeneity in Women’s Adherence and Its Role on Optimal Breast Cancer Screening Policies,” *Management Science*, 62 (5), 1339-1362.
 - First Prize Winner of the 2011 INFORMS Doing Good with Good OR Competition
10. *T. Ayer (2015), “Inverse optimization for Assessing Emerging Technologies in Breast Cancer Screening,” *Annals of Operations Research*, 230(1), 57-85.
11. *T. Ayer, O. Alagoz, N.K. Stout (2012), “A POMDP Approach to Personalize Mammography Screening Decisions,” *Operations Research*, 60, 1017-1018.
 - First Prize Winner of the 2009 INFORMS Best Poster Presentation Award
 - Second Prize Winner of the 2011 INFORMS M&SOM Student Paper Competition
 - Finalist in 2011 INFORMS Decision Analysis Society Student Paper Competition
 - This paper was covered in *Daily Herald*³

Health Policy and Healthcare Analytics Papers

12. ***Q. Chen**, T. Ayer, ED Bethea (*M.D.*), F Kanwal (*M.D.*), X **Wang**, M Roberts (*M.D.*), Y Zhuo, S Fagioli (*M.D.*), J Petersen (*M.D.*), J Chhatwal, (2019), “Changes in hepatitis C burden and treatment trends in Europe during the era of direct-acting antivirals: a modelling study”, *BMJ Open*, 9 (6).
13. ***H. Jang**, M. Ozkaynak, CR Amura, T. Ayer, M. Sills (*M.D.*) (2019), “Analysis of medication patterns for pediatric asthma patients in emergency department: Does the sequence placement of glucocorticoids administration matter?,” *Journal of Asthma*, doi: 10.1080/02770903.2019.1666866 [Epub ahead of print].
14. *J Chhatwal, X **Wang**, **Q Chen**, T Ayer, ED Bethea (*M.D.*), F Kanwal (*M.D.*), KV Kowdley (*M.D.*), MS Roberts (*M.D.*), SC Gordon (*M.D.*) (2018), “Assessment of the Feasibility and Cost of Hepatitis C Elimination in Pakistan”, *JAMA Network Open*, 2 (5), doi:10.1001/jamanetworkopen.2019.3613

³ See <http://www.dailyherald.com/article/20130809/entlife/708099955/print/>

15. * **C Çaglayan**, H Terawaki (*M.D.*), T Ayer, JS Goldstein (*M.D.*), A Rai (*M.D.*), Q Chen, C Flowers (*M.D.*) (2019), “Assessing the Effectiveness of Treatment Sequences for Older High-Risk Follicular Lymphoma Patients with a Multi-state Model”, *Clinical Lymphoma Myeloma and Leukemia*, doi: <https://doi.org/10.1016/j.clml.2018.12.019> [Epub ahead of print].
16. * **C Çaglayan**, T Ayer, JS Goldstein (*M.D.*), A Rai (*M.D.*), C Flowers (*M.D.*) (2019), “A Population-Based Multi-state Model for Diffuse Large B Cell Lymphoma-Specific Mortality in Older Patients”, *Cancer*, doi: [Epub ahead of print].
17. OO Dalgic, S Samur, AC Spaulding(*M.D.*), S Lierena(*M.D.*), C Cobo(*M.D.*), T Ayer, MS Roberts(*M.D.*), J Crespo(*M.D.*), J Chhatwal (2019), “Improved Health Outcomes from hepatitis C Treatment Scale-Up in Spain’s Prisons: A Cost-Effectiveness Study”, *Scientific Reports*, 9(1), 1-11
18. *ED Bethea, S. Samur, F. Kanwal (*M.D.*), T. Ayer, C. Hur (*M.D.*), MS Roberts (*M.D.*), N Terrault (*M.D.*), RT Chung (*M.D.*), J. Chhatwal (2018), “Cost-effectiveness of Transplanting HCV-Infected Livers into Uninfected Recipients with Preemptive Antiviral Therapy,” *Clinical Gastroenterology and Hepatology*, 17(4), 7390747, doi: https://doi.org/10.1016/j.cgh.2018.08.042_
19. ***Q. Chen**, AD Staton (*M.D.*), T. Ayer, DA Goldstein (*M.D.*), JL Koff (*M.D.*), CR Flowers (*M.D.*) (2018), “Exploring the Potential Cost-Effectiveness of Precision Medicine Treatment Strategies for Diffuse Large B-cell Lymphoma”, *Leukemia and Lymphoma*, 59 (7), 1700-1709.
20. ***H. Jang**, M. Ozkaynak, T. Ayer, M. Sills (*M.D.*) (2018), “Factors Associated with First Medication Time for Children Treated in the Emergency Department for Asthma,” *Pediatric Emergency Care*, doi: 10.1097/PEC.0000000000001609 [Epub ahead of print].
21. *J Chhatwal, **Q Chen**, ED Bethea (*M.D.*), T Ayer, Y Zhuo, C. Hur (*M.D.*), A Spaulding (*M.D.*), F Kanwal (*M.D.*) (2018), “Changing Cascade of Care for Hepatitis C in the Era of Direct-Acting Antivirals”, *Hepatology*, 68, 918A-919A.
22. * **C. Caglayan**, H. Terawaki (*M.D.*), Q. Chen, A Rai, T. Ayer, CR. Flowers (*M.D.*) (2018) Microsimulation Modeling in Oncology, *JCO Clinical Cancer Informatics*, 2, 1-11.
23. **I. Arsik**, J. K. Frediani (*M.D.*), **D. Frezza**, **W. Chen**, T. Ayer, P. Keskinocak, Pinar et al. (2018), “Alanine Aminotransferase as a Monitoring Biomarker in Children with Nonalcoholic Fatty Liver Disease: A Secondary Analysis Using TONIC Trial Data”, *Children*, 5(6), 64-75.
24. ***J. Vlachy**, **M. Jo**, **Q. Li**, T. Ayer P. Keskinocak, J. Swann, L. Olson (*M.D.*), A. Vats(*M.D.*) (2018), “Risk factors for seizures among young children monitored with continuous electroencephalography in intensive care unit: A retrospective study,” accepted, *Frontiers in Pediatrics*.

25. ***J. Yan**, T. Ayer, P. Keskinocak, A. Caughey (*M.D.*) (2017), “Age-based Differences in the Predictive Accuracy of a One-Size-Fits-All Risk-Cutoff Value in Prenatal Integrated Screening for Down Syndrome,” *Prenatal Diagnosis*⁴, 37(9), 894-898.
- First prize winner, 2017 the Society for Health Systems graduate student paper competition
26. ***J Chhatwal**, **Q Chen**, T Ayer, ED Bethea (*M.D.*), F Kanwal (*M.D.*), KV Kowdley (*M.D.*), **X Wang**, MS Roberts (*M.D.*), SC Gordon (*M.D.*) (2018), “Hepatitis C virus re-treatment in the era of direct-acting antivirals: projections in the USA”, *Alimentary pharmacology & therapeutics*, 47(7), 1023-1031.
27. ***J. Chhatwal**, S Samur, E. Bethea (*M.D.*), T. Ayer, F. Kanwal (*M.D.*), C. Hur (*M.D.*), MS Roberts (*M.D.*), N Terrault (*M.D.*), RT Chung (*M.D.*) (2018), “Transplanting HCV-positive livers into HCV-negative patients with preemptive antiviral treatment: A modeling study,” *Hepatology*⁵, 67(6), 2085-2095.
28. ***S. Samur**, B Kues, T Ayer, MS Roberts (*M.D.*), F Kanwal (*M.D.*), C Hur (*M.D.*), DMS Donnell (*M.D.*), R Chung (*M.D.*), J. Chhatwal (2017), “Cost-Effectiveness of Pre versus Post Liver Transplant Hepatitis C Treatment with Direct-Acting Antivirals”, *Clinical Gastroenterology and Hepatology*⁶, 16(1), 115-122.
29. ***DA Goldstein** (*M.D.*), **Q. Chen**, T. Ayer, KW Chan (*M.D.*), K Virik (*M.D.*), A Hammerman (*M.D.*), B Brenner (*M.D.*), CR Flowers (*M.D.*), PS Hall (*M.D.*) (2017), “Bevacizumab for metastatic colorectal cancer: A global cost-effectiveness analysis,” *The Oncologist*⁷, 22(6), 694-699, DOI:10.1634/theoncologist.2016-0455.
30. ***R. Aggarwal** (*M.D.*), **Q. Chen**, A. Goel (*M.D.*), N. Seguy (*M.D.*), R. Pendse (*M.D.*), T. Ayer, J. Chhatwal (2017) “Cost-Effectiveness of Hepatitis C Treatment using Generic Direct-Acting Antivirals Available in India,” *PLoS One*⁸, 12 (5), <https://doi.org/10.1371/journal.pone.0176503>.
31. ***H. Terawaki** (*M.D.*), **C. Caglayan**, Q. Chen, A Rai, T. Ayer, CR. Flowers (*M.D.*) (2018) Microsimulation Modeling in Oncology, *JCO Clinical Cancer Informatics*, 2, 1-11.
32. ***AR Ruiz** (*M.D.*), **J Vlachy**, JW Lee (*M.D.*), EJ Gilmore (*M.D.*), T Ayer, et al. (2017), “Association of Periodic and Rhythmic Electroencephalographic Patterns With Seizures in Critically Ill Patients”, *JAMA Neurology*⁹, 74(2), 181-188.
33. ***M. Capan**, A. Khojandi, B. Denton, KD Williams, T. Ayer, J. Chhatwal, M. Kurt, JM Lobo, MS Roberts (*M.D.*), G. Zaric, S. Zhang, JS Schwartz (*M.D.*) (2017), “From Data to Improved Decisions: Operations Research in Healthcare Delivery”, *Medical Decision Making*¹⁰, doi: 10.1177/0272989X17705636 [Epub ahead of print].

⁴ Impact Factor: 3.27, ranking #1 in Prenatal Diagnosis area.

⁵ Impact Factor: 14.079, highest ranking hepatology journal.

⁶ Impact Factor: 7.68

⁷ Impact Factor: 4.7

⁸ Impact Factor: 3.05

⁹ Impact Factor: 8.2, #2 among 40+ clinical neurology journals.

¹⁰ Impact Factor: 2.9, #4 among 25+ medical informatics journals.

34. ***Q. Chen**, T. Ayer, J. Chhatwal (2016), “Sensitivity Analysis in Sequential Decision Models: A Probabilistic Approach”, *Medical Decision Making*, doi: 0272989X16670605 [Epub ahead of print].
35. ***Q. Chen**, N. Jain (*M.D.*), T. Ayer, W.G. Wierda (*M.D.*), C. R. Flowers (*M.D.*), S. O’Brien (*M.D.*), M. Keating (*M.D.*), H. M. Kantarjian (*M.D.*), J. Chhatwal (2016), “Economic Burden of Chronic Lymphocytic Leukemia in the Era of Oral Targeted Therapies in the United States”, *Journal of Clinical Oncology (JCO)*¹¹, 35(2), 166-174.
- This paper was covered by the *Economic Times* and *Cancer Network*¹²
36. *J. Chhatwal, **X. Wang**, T. Ayer, M. Kabiri, R.T. Chung (*M.D.*), C. Hur (*M.D.*), J. M. Donohue (*M.D.*), M. S. Roberts (*M.D.*), F. Kanwal (*M.D.*) (2016), “Hepatitis C Disease Burden in the United States in the Era of Oral Direct-Acting Antivirals”, *Hepatology*¹³, 64(5), 1442-1450.
37. *J. Chhatwal, **S. Samur**, B Kues, T Ayer, MS Roberts (*M.D.*), F Kanwal (*M.D.*), C Hur (*M.D.*), DMS Donnell (*M.D.*), R Chung (*M.D.*) (2016), “Optimal Timing of Hepatitis C Treatment in Patients on The Liver Transplant Waiting List”, *Hepatology*, 65(3), 777-788.
38. *T. He (*M.D.*), K. Li, M.S. Roberts (*M.D.*), A. C. Spaulding (*M.D.*), T. Ayer, J. J. Grefenstette, J. Chhatwal (2016), “Prevention of Hepatitis C By Screening and Treatment in United States Prisons,” *Annals of Internal Medicine*¹⁴, 164(2), 84-92.
- This paper was covered in NPR¹⁵
39. *G. Rust (*M.D.*), S. Zhang (*M.D.*), Z. Yu, L. Caplan (*M.D.*), S. Jain (*M.D.*), T. Ayer, L. McRoy, R.S. Levine (*M.D.*) (2016) “Counties Eliminating Racial Disparities in Colorectal Cancer Mortality,” *Cancer*¹⁶, 122(11), 1735-1748.
40. *DA Goldstein (*M.D.*), **Q. Chen**, T. Ayer, D. Howard, J. Lipscomb, SS Ramalingam (*M.D.*), FR Khuri (*M.D.*), CR Flowers (*M.D.*) (2015), “Necitumumab in Metastatic Squamous Lung Cancer – Establishing a Value-Based Cost,” *JAMA Oncology*, 1(9), 1293-1300.
- This paper was covered in the Wall Street Journal and Washington Post¹⁷
41. ***Q. Chen**, T. Ayer, L. Nastoupil (*M.D.*), JL Koff (*M.D.*), L Jean (*M.D.*), AD Staton (*M.D.*), J. Chhatwal, CR Flowers (*M.D.*) (2015), “Population-specific prognostic models

¹¹ Impact Factor: 20.98, the most widely read oncology publication.

¹² See <http://www.cancernetwork.com/hematologic-malignancies/cost-cll-management-expected-skyrocket> and <http://health.economictimes.indiatimes.com/news/industry/targeted-therapy-drugs-could-radically-increase-the-cost-of-leukemia-treatment/55505495>

¹³ Impact Factor: 11.05, highest ranking hepatology journal.

¹⁴ Impact Factor: 17.81, the highest of any specialty journal in the Thomson Reuters' General and Internal Medicine category.

¹⁵ See <http://www.npr.org/sections/health-shots/2015/11/23/457145471/treating-prisoners-with-hepatitis-c-may-be-worth-the-hefty-price>

¹⁶ Impact Factor: 5.64.

¹⁷ See <https://www.washingtonpost.com/news/wonk/wp/2015/08/27/cancer-drugs-arent-just-really-expensive-theyre-a-bad-value/> and <http://www.wsj.com/articles/lillys-lung-cancer-drug-portrazza-to-cost-11-430-a-month-1449867424>

are needed to stratify outcomes for African-Americans with diffuse large B-cell lymphoma,” *Leukemia and Lymphoma*¹⁸, 57(4), 842-851.

42. *DA Goldstein (M.D.), BA Ahmad (M.D.), **Q. Chen**, T. Ayer, D. Howard, J. Lipscomb, RD Harvey (M.D.), B El-Rayes (M.D.), CR Flowers (M.D.) (2015), “Cost-effectiveness Analysis of Regorafenib for Metastatic Colorectal Cancer,” *Journal of Clinical Oncology*¹⁹, 33(32), 3727-3732.
43. ***J. Yan**, T. Ayer, P. Keskinocak, A. Caughey (M.D.) (2015), “Preference-Sensitive Risk Cutoff Values for Prenatal Integrated Screening Test for Down Syndrome,” *Prenatal Diagnosis*²⁰, 35(7), 645-51.
44. ***A. Bonifonte**, T. Ayer, E. Veledar, **A. Clarke**, P. Wilson (M.D.) (2015), “Antecedent blood pressure as a predictor of Cardiovascular Diseases,” *Journal of the American Society of Hypertension*²¹, 9(9), 690-696.
45. *AD Staton (M.D.), JL Koff (M.D.), **Q Chen**, T Ayer, CR Flowers (M.D.) (2015), “Next-generation prognostic assessment for diffuse large B cell lymphoma”, *Future Oncology*, 20, 1-15 (invited paper).
46. *DA Goldstein (M.D.), **Q. Chen**, T. Ayer, D. Howard, J. Lipscomb (M.D.), RD Harvey (M.D.), B El-Rayes (M.D.), CR Flowers (M.D.) (2015), “First and Second line bevacizumab in addition to chemotherapy for metastatic colorectal cancer: A US based cost-effectiveness analysis,” *Journal of Clinical Oncology (JCO)*²², 33(10), 1112-8.
47. ***Q. Chen**, T. Ayer, AC Rose (M.D.), LJ Nastoupil (M.D.), CR Flowers (M.D.) (2015), “Comparing the Cost Effectiveness of Rituximab Maintenance and Radio-immunotherapy Consolidation Therapy Following First-line Chemo-Immunochemotherapies for Follicular Lymphoma,” *Value in Health*²³, 18(2), 189-97.
 - This paper was covered by ISPOR News and Press²⁴
48. *DA Goldstein (M.D.), **Q. Chen**, T. Ayer, D. Howard, J. Lipscomb, RD Harvey (M.D.), B El-Rayes (M.D.), CR Flowers (M.D.) (2014), “Cost Effectiveness Analysis of Pharmacokinetically Guided 5-Fluorouracil therapy in FOLFOX chemotherapy for metastatic colorectal cancer,” *Clinical Colorectal Cancer*²⁵, 13(4), 219-25.
49. *T. Ayer, **Q. Chen**, E.S. Burnside (M.D.) (2013), “Artificial Neural Networks in Mammography Interpretation and Diagnostic Decision Making,” *Computational and Mathematical Methods in Medicine*, doi:10.1155/2013/832509 (invited paper).
50. ***Q. Chen**, T. Ayer, L. J. Nastoupil (M.D.), R. Sinha (M.D.), H. Zhang (M.D.), C. R. Flowers (M.D.) (2012), “Initial Management Strategies for Follicular Lymphoma,”

¹⁸ Impact Factor: 3.09

¹⁹ Impact Factor: 20.98, the most widely read oncology publication.

²⁰ Impact Factor: 3.27, ranking #1 in Prenatal Diagnosis area.

²¹ Impact Factor: 2.77.

²² Impact Factor: 20.98, the most widely read oncology publication.

²³ Impact Factor: 3.27, Ranking 6th out of 76 in Health Care Sciences & Services

²⁴ See <http://press.ispor.org/index.php/maintenance-and-consolidation-therapies-cost-effective-strategies-to-prolong-remission-in-patients->

²⁵ Impact Factor: 2.90.

- International Journal of Hematologic Oncology*, 1(1), 35-45 (invited paper).
51. T. Ayer, O. Alagoz, J. Chhatwal, J. W. Shavlik, C.E. Kahn, E.S. Burnside (2010), “Breast Cancer Risk Estimation with Artificial Neural Networks Revisited: Discrimination and Calibration,” *Cancer*²⁶, 116, 3310–21.
 - Winner of the 2009 Society for Medical Decision Making Lee B. Lusted award
 52. T. Ayer, J. Chhatwal, O. Alagoz, C.E. Kahn, R.W. Woods, E.S. Burnside (2010), “Comparison of Logistic Regression and Artificial Neural Network Models with an Example in Breast Cancer Risk Prediction,” *RadioGraphics*²⁷, 30, 13–22.
 53. T. Ayer, M.U.S. Ayvaci, Z.X. Liu, O. Alagoz, E.S. Burnside (2010), “Computer Aided Diagnostic Models in Breast Cancer Screening,” *Imaging in Medicine*, 2(3), 313-23 (invited paper).

B2. Submitted and Working Papers (drafts available upon request)

54. ***Z. She**, T. Ayer “Can Big Data Cure Risk Selection in Healthcare Capitation Programs?,”
 - Finalist, MSOM Student Paper Competition, 2019
 - Finalist, INFORMS Public Sector OR Best paper award, 2018.
55. ***J. Vlachy**, T. Ayer, M. Ayvaci, S. Raghunathan (2017), “The Business of Healthcare: Physician Integration in Bundled Payments”.
 - Selected for presentation as one of the four 2017 M&SOM Healthcare Special Interest Group presentations, from 80+ submissions.
56. ***C. Zhang**, T. Ayer, C. C. White (2015) “2-Approximation Policies for Fixed-Lifetime Perishable Inventory Control”.
 - Finalist, 2015 INFORMS Nicholson Student Paper Competition
57. ***C. Zhang**, T. Ayer, C. C. White (2017) “Perishable Inventory Sharing in a Two-location System”.
58. ***J. Yan**, T. Ayer, P. Keskinocak, R. Palmer (*M.D.*) (2017), “Capacity Allocation in a School-Based Asthma Care Model for Pediatric Patients”.
59. ***Y. Kim**, M. Ayvaci, S. Raghunathan, T. Ayer (2017), “When IT Creates Legal Vulnerability: Not Just Overutilization but Underprovisioning of Health Care Could be a Consequence”.
 - Winner, INFORMS eBusiness Section Best Paper Competition, 2018.

²⁶ Impact Factor: 5.64.

²⁷ Impact Factor: 3.095.

60. * **Caglayan C.**, Ayer T., & Ekwueme D.U. Assessing Multi-Modality Screening Strategies for Women at High Risk of Developing Breast Cancer.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3139779
61. * **Caglayan C.**, Liu Y., Pasupathy K., Nestler D., Ayer T., & Sir M.Y. Physician Staffing in Emergency Rooms (ERs): Opening the Black-box of ER Care via a Multi-Class Multi-Stage Network.
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3400900

D. PRESENTATIONS

D1. Tutorial/Keynote at Conferences

1. T. Ayer, ““Perspectives On Successful Healthcare Analytics Projects,” Distinguished Speaker Series, INFORMS Health Applications Society, INFORMS, Seattle, WA, October 20-23, 2019
2. T. Ayer, P. Keskinocak, J. Swann, “Global Healthcare Operations: Research in Public Health for Efficient, Effective, and Equitable Outcomes,” INFORMS, San Francisco, CA, November 9-12, 2014.
3. T. Ayer, “Future of Chronic Disease Screening and Treatment,” SAMSI Data Driven Healthcare Workshop, Raleigh, NC, USA, August 26-29, 2012.

D2. Invited Seminar Presentations

1. National University of Singapore, August 2019
2. Singapore Management University, August 2019
3. University of Toronto, Department of Mechanical and Industrial Engineering, April 2019
4. Carnegie Mellon University, Heinz College of Information Systems and Public Policy, March 2019
5. McGill University, Desautels Faculty of Management, October 2018
6. Alberta School of Business, October 2018.
7. University of Southern California, Center for Artificial Intelligence in Society, September 2018.
8. University of Cambridge, Judge Business School, July 2018.
9. London Business School, June 2018.
10. University College London, School of Management, June 2018.
11. John Hopkins University, Carey Business School, March 2018
12. University of Maryland, Robert H. Smith School of Business, February 2018.
13. MIT, Sloan School of Management, October 2017.
14. Centers for Disease Control & Prevention (CDC), Division of Cancer Prevention and Control, June 2017.
15. Harvard/MGH, November 2017.
16. UT Austin, ORIE, February 2017.
17. Mayo Clinic, Center for the Science of Health Care Delivery and Division of Health Care Policy & Research, February 2017.

18. Carnegie Mellon University, Tepper School of Business, January 2017.
19. The University of Texas at Austin, Operations Research and Industrial Engineering, February 2017.
20. University of Minnesota, Industrial and Systems Engineering, December 2016.
21. Harvard University, Institute for Technology Assessment, November 2016.
22. University of Michigan, Industrial Engineering and Operations, October 2016.
23. Northwestern University, Industrial Engineering and Management Sciences, October 2016.
24. Harvard University & Mass General Hospital, Institute for Technology Assessment, November 2016.
25. University of Chicago, Booth School of Business, October 2016.
26. University of Tennessee, Industrial and Systems Engineering, April 2016.
27. Rutgers University Business School, New Brunswick, NJ, October 2015.
28. Kelley School of Business, Indiana University, Bloomington, IN, October 2015.
29. The MD Anderson Cancer Center, Houston, TX, November 2014.
30. Bogazici University, Istanbul, Turkey, July 2014.
31. Koc University, Istanbul, Turkey, July 2014.
32. Ozyegin University, Istanbul, Turkey, July 2014.
33. MIT, Operations Research Center, Boston, MA, January 2013.
34. Emory University, Winship Cancer Institute, December 2013.
35. Emory University, Emory Clinical Cardiovascular Research Institute, September 2013.
36. The University at Buffalo, Department of Industrial and Systems Engineering, NY, March 2012.
37. Centers for Disease Control and Prevention, Division of Cancer Control and Prevention, Atlanta, GA, January 2012.
38. Penn State University, Department of Industrial and Manufacturing Engineering, Department of Industrial and Manufacturing Engineering, February 2011.
39. University of Minnesota, Department of Industrial and Systems Engineering, February 2011.
40. Rutgers University, Department of Industrial and Systems Engineering, February 2011.
41. MIT, Engineering Systems Division, Boston, MA, January 2011.
42. University of British Columbia, Sauder School of Business, Vancouver, Canada, January 2011.
43. Indiana University, Kelley School of Business, Bloomington, IN, January 2011.

E. GRANTS AND CONTRACTS (Total Ayer Portion ~ \$2.1 million)

E1. As Principal Investigator

1. Robert Wood Johnson Foundation (Award No. RJ259, \$120,000), “Health Policy Research Scholars Program”, 2018-2022, (Role: PI)

2. NSF-NIH Smart and Connected Health (SCH) Grant (accepted for funding, award no pending, total \$1.2 million), “SCH: INT: Collaborative Research: Smart Intervention Strategies for Hepatitis C Elimination, “National Science Foundation - National Institutes of Health Interagency Initiative: Smart and Connected Health, August 2018-August 2022 (Role: PI, Ayer portion: \$430,000, collaborative proposal with Harvard Medical School and Emory University Rollins School of Public Health).
3. NSF-NIH Smart and Connected Health (SCH) Grant (NSF Award No. 1601084, \$289,569), “SCH: EXP: Smart Adaptive Adherence-Enhancing Intervention Strategies for Breast Cancer Prevention”, National Science Foundation - National Institutes of Health Interagency Initiative: Smart and Connected Health, January 2017-January 2020 (Role: PI).
4. NSF CAREER Award (Award No. 1452999, \$500,000), “CAREER: Optimal Management of Chronic Diseases Caused by Infections”, National Science Foundation, September 2015-August 2020 (Role: PI).
5. NSF Grant (Award No. 1335137, \$360,000), “GOALI: Improving Blood Collection, Production, and Inventory Operations,” National Science Foundation, May 2014-May 2017 (Role: PI, Ayer Portion: \$280,000, Co-PIs: J. DeShane, Z. Ozkaynak, C. White).
6. Georgia Tech - Geisinger Health System Grant Program (\$99,932). “Development of an Operational Decision Support Tool for Biologic Pharmaceutical Use in Chronic Disease Management”, 2016-2018 (Role: PI, GT Portion: \$46,808, Co-PI: Seth Hostetler of Geisinger, Collaborators: P. Griffin, J. Swann, N. Serban).
7. Emory University – CORPH, Children’s Healthcare of Atlanta, and Georgia Tech (\$50,000), “Optimization of the algorithms for screening for critical congenital heart disease,” 2014 – 2015 (Role: PI, Ayer Portion: \$43,000, Co-PI: M. Oster (*M.D.*) of the Children’s Healthcare of Atlanta and CDC, Collaborators: R. Simeone (CDC), P. Keskinocak).
8. Emory University – Department of Neurology (\$50,000), “Continuous ICU Electroencephalography Monitoring: Prediction Models for Improving Outcomes and Cost Effectiveness,” 2015 – 2017 (Role: PI).
9. NIH Health Innovation Program via ACTSI Grant (\$25, 000), “Next generation prognostic models for patients with lymphoma”, July 2015-2016 (Role: PI, Ayer Portion: \$21,000, Co-PI: C. Flowers (*M.D.*) of the Emory University Winship Cancer Institute)
10. George Family Foundation Seed Grant (\$10,000), “Optimizing Screening for Critical Congenital Heart Disease,” March 2015-2016, (Role: PI, Co-PI: P. Keskinocak).
11. George Family Foundation Seed Grant (\$5,000), “Optimal Policies for Hepatocellular Carcinoma Surveillance,” March 2014-2015, (Role: PI).
12. George Family Foundation Seed Grant (\$5,000), “Sequential Blood Pressure Change-point Detection,” March 2014-2015, (Role: PI, Collaborators: Y. Xie).
13. George Family Foundation Seed Grant (\$5,000), “Considering Women's Preferences in Down Syndrome Screening,” March 2014-2015, (Role: PI, Collaborators: P. Keskinocak).

E2. As Co-Principal Investigator

1. Merck (229,944 direct, total \$350K) “Strategies for Management of Hepatitis C Virus: A Global Optimization Tool” (Ayer portion: \$105, 814, Role: Co-PI , PI: J. Chhatwal of the Harvard Medical School).

E3. As Senior Personnel or Contributor

1. Burroughs Welcome Fund, “Microsimulation modeling to evaluate the clinical effectiveness of novel cancer therapies”, 2017-2020 (Role: Senior Personnel, Ayer Portion: \$192,000, PI: C. Flowers (M.D.) of the Emory University Winship Cancer Institute)
2. Gilead Sciences (Award No. IN-US-337-1856, \$231,103, Ayer Portion: \$40,697), “Hepatitis C Prevention in Society Because of Treatment in United States Prisons”, (Role: Co-PI, PI: J. Chhatwal of the Harvard Medical School).

G. SOCIETAL AND POLICY IMPACTS

G1. Impact in Practice

- Ayer and co-authors developed an alternative blood collection model which was implemented by the American Red Cross. The implementation of the proposed solution resulted in an approximately 40 percent reduction in the per unit collection cost for cryoprecipitate, a blood product with a tight collection-to-processing time constraint. A video synopsis produced by the American Red Cross to highlight the realized impact can be found here:
 - <https://vimeo.com/206581123/72c76ad3dd>
- Ayer and co-authors published a study on the value-based pricing of lung cancer drugs, which provided additional evidence for the final disapproval decision of this drug in the UK. For more details, please see:
 - <http://www.fiercepharma.com/pharma/eli-lilly-s-portrazza-turned-away-final-nice-guidance>

G2. Press/media coverage of research

- Value-based pricing of cancer treatment drugs
 - Washington Post: Cancer drugs aren’t just really expensive; they’re a bad value drugs aren’t just really expensive; they’re a bad value - See more at: <https://www.washingtonpost.com/news/wonk/wp/2015/08/27/cancer-drugs-arent-just-really-expensive-theyre-a-bad-value/>
 - The Wall Street Journal Coverage I: Lilly’s Lung-Cancer Drug Portrazza to Cost \$11,430 a Month - See more at: <http://www.wsj.com/articles/lillys-lung-cancer-drug-portrazza-to-cost-11-430-a-month-1449867424>
 - The Wall Street Journal Coverage II: Experimental Lilly Lung-Cancer Drug Stirs Price Debate - See more at: <http://www.wsj.com/articles/unapproved-lilly-lung-cancer-drug-stirs-price-debate-1440687723>
 - Cancer Network: Cost of CLL Management Expected to Skyrocket – See more at:

<http://www.cancernetwork.com/hematologic-malignancies/cost-cll-management-expected-skyrocket>

- The Economic Times: Targeted therapy drugs could radically increase the cost of leukemia treatment – See more at:
<http://health.economictimes.indiatimes.com/news/industry/targeted-therapy-drugs-could-radically-increase-the-cost-of-leukemia-treatment/55505495>

- Hepatitis C treatment in US prisons and jails
 - NPR: Treating Prisoners With Hepatitis C May Be Worth The Hefty Price - See more at: <http://www.npr.org/sections/health-shots/2015/11/23/457145471/treating-prisoners-with-hepatitis-c-may-be-worth-the-hefty-price>
 - US News: Screening Inmates for Hepatitis C Benefits General Community - See more at: <http://health.usnews.com/health-news/articles/2015/11/23/screening-inmates-for-hepatitis-c-benefits-general-community-study>

- High Cost, Minimal Benefit for Bevacizumab in Metastatic Colorectal Cancer
 - Cancer Network: <http://www.cancernetwork.com/colorectal-cancer/high-cost-minimal-benefit-bevacizumab-metastatic-crc#sthash.P22BJbw5.dpuf>

- Maintenance And Consolidation Therapies: Cost-Effective Strategies To Prolong Remission In Patients With Follicular Lymphoma
 - ISPOR News and Press: <http://press.ispor.org/index.php/maintenance-and-consolidation-therapies-cost-effective-strategies-to-prolong-remission-in-patients->

- Reconsider the Mammogram
 - Slate Magazine
http://www.slate.com/articles/double_x/doublex/2013/08/mammograms_the_right_way_to_use_them.html
 - Daily Herald
<http://www.dailyherald.com/article/20130809/entlife/708099955/print/>
 - Chicago Tribune <http://www.chicagotribune.com/news/plus/chi-wp-slate-reconsider-mammogram,0,3708527.story>

H. OTHER PROFESSIONAL ACTIVITIES

- **Consulting Experience**
 - Gilead Sciences, 2017.
 - MD Anderson Cancer Center, Houston, TX, 2014.

V. TEACHING

A. COURSES TAUGHT

Undergraduate Courses

Semester, Year	Course No.	Course Name	# Enrolled
Spring, 2012	ISyE 2027	Probability with Applications	139
Spring, 2013	ISyE 2027	Probability with Applications	30
Fall, 2014	ISyE 4106	Senior Design	10
Spring, 2015	ISyE 4106	Senior Design	5
Spring, 2017	ISyE 4803	Healthcare Systems Engineering	15
Summer, 2018	ISyE 4803	Healthcare Systems Engineering	19
Summer, 2018	ISyE 3770	Statistics and Applications	34
Summer 2019	ISyE 2027	Probability with Applications	27

Graduate Courses

Semester, Year	Course No.	Course Name	# Enrolled
Spring, 2014	HS 6000	Intro to Healthcare Delivery	11
Fall, 2014	HS 6000	Intro to Healthcare Delivery	8
Spring, 2015	HS 6400 (x-listed with ISyE 6320)	Health Systems Practice	17
Fall, 2015	HS 6000	Intro to Healthcare Delivery	8
Fall, 2016	HS 6000	Intro to Healthcare Delivery	16
Fall, 2017	HS 6000	Intro to Healthcare Delivery	10
Summer, 2017	MGT 8803	Management of Healthcare Enterprises (MBA Course)	25
Spring, 2018	HS 6400 (x-listed with ISyE 6320)	Health Systems Practice	15
Fall, 2018	HS 6000	Intro to Healthcare Delivery	13
Fall, 2019	HS 6000	Intro to Healthcare Delivery	16

B. INDIVIDUAL STUDENT GUIDANCE

B1. Ph.D. Students

B1. a. Graduated

1. Caglar Caglayan

a. Advisement began in Fall 2013, graduated in 2019

- b. Passed Ph.D. Comprehensive exams in OR Track in Fall 2014
 - c. Dissertation Title: Analytics Approaches To Improve Strategic, Operational, And Clinical Decision-Making In Healthcare
 - d. Current Position: Assistant Professor at Clemson University, Industrial Engineering Department
2. Can Zhang (co-advised with Chip White)
 - a. Advisement began in Fall 2013, graduated in 2018.
 - b. Passed Ph.D. Comprehensive exams in EDA Track in Spring 2014.
 - c. Dissertation Title: Essays on Socially Responsible Operations
 - d. Honorable Mention, INFORMS Dantzig Dissertation Award, 2019
 - e. Finalist in INFORMS Nicholson Student Paper Competition, 2015.
 - f. First Prize, POMS College of Sustainable Operations Best Student Paper Competition, 2017
 - g. Honorable mention for the ISyE Jarvis Award, 2017
 - h. Current Position: Assistant Professor at Duke University Fuqua School of Business.
 3. Anthony Bonifonte
 - a. Advisement began in Fall 2012, graduated in 2018.
 - b. Passed Ph.D. Comprehensive exams in Operations Research Track in Fall 2012.
 - c. Dissertation Title: Models and Analysis for Optimal Real Time Blood Pressure Monitoring and Control
 - d. Health Systems Institute George Fellowship for academic performance and leadership, 2013.
 - e. Currently position: Assistant Professor at Denison University, Data Analytics Department.
 4. Qiushi Chen
 - a. Advisement began in Spring 2012, graduated in 2016.
 - b. Dissertation Title: Cost-Effective Management of Chronic Diseases: Surveillance, Treatment, and Elimination
 - c. Health Systems Institute George Fellowship for academic performance and leadership, 2012.
 - d. INFORMS Decision Analysis Society Best Student Paper Award recipient, 2016.
 - e. Currently position: Assistant Professor at Penn State University Industrial Engineering Department.
 5. Chenxi Zeng (co-advised with Chip White)
 - a. Advisement began in 2012, graduated in 2016.
 - b. Dissertation Title: A minimum cost and risk mitigation approach for blood collection
 - c. 2013 Georgia Tech Research and Innovation Conference (GTRIC) fellowship recipient
 - d. 2015 INFORMS Doing Good with Good OR Award recipient
 - e. Current employer: Amazon Inc.
 6. Jia Yan (co-advised with Pinar Keskinocak)
 - a. Advisement began in Spring 2013, graduated in Fall 2017.

- b. Passed Ph.D. Comprehensive exams in Operations Research Track in Spring 2014.
- c. Dissertation Title: Personalized Down Syndrome Screening and Diagnosis Strategies
- d. Current employer: Lyft.

B1. b. In Process

7. Jan Vlachy

- a. Advisement began in Spring 2013; planned graduation date: Fall 2017.
- b. Passed Ph.D. Comprehensive exams in Operations Research Track in Fall 2013.
- c. Dissertation Title: Data-driven Healthcare in Emerging Directions: Health Information Exchanges, New Payment Models, and Patient Workflow Optimization
- d. Health Systems Institute George Fellowship for academic performance and leadership, 2014.
- e. Will join Google.

8. Zhaowei She

- a. Advisement began in Fall 2015
- b. Passed Ph.D. Comprehensive exams in OR Track in Fall 2016
- c. Tentative Dissertation Title: TBD
- d. Health Systems Institute George Fellowship for academic performance and leadership, 2014.
- e. Finalist, 2019 MSOM Student Paper Competition.
- f. Primary Funding Source: NSF.

9. Andrew ElHabr

- a. Advisement began in Fall 2017
- b. Passed Ph.D. Comprehensive exams in OR Track in Fall 2018
- c. Tentative Dissertation Title: TBD
- d. Primary Funding Source: NSF.

10. Jovan Julien

- a. Advisement began in Fall 2018
- b. Passed Ph.D. Comprehensive exams in Stats in Fall 2019
- c. Elected as the Society for Medical Decision Making Lee Lusted Awardee
- d. Primary Funding Source: RWJF

11. Zilong Wang

- a. Advisement began in Fall 2019
- b. Passed Ph.D. Comprehensive exams in OR Track in Fall 2019
- c. Tentative Dissertation Title: TBD
- d. Primary Funding Source: Singapore A Star Scholarship.

12. Austin McCandlish

- a. Advisement began in Fall 2019
- b. Passed Ph.D. Comprehensive exams in Stats in Fall 2019
- c. Primary Funding Source: NSF.

B2. M.S. Students

B2.a. Graduated M.S. Non-thesis

1. Wen Chen, Master's Student in Health Systems (Spring 2016-2017)
2. Damon Frezza, Master's Student in OR (Spring 2016)
3. Mahadevan Vaidyanathan, Master's Student in IE (Spring 2016-present)
4. Darshini Nanavati, Master's Student in Health Systems (Spring 2016)
5. Jane Wang, Master's Student in Health Systems (Spring 2014-2015)
6. Ruizhi Wang, Master's Student in IE (Spring 2012)
7. Luke Wang, Master's Student in IE (Summer 2013, Fall 2013)
8. Justin Huff, Master's Student in Health Systems (Summer 2013, Fall 2013)
9. Shwetha Devanagondi, Master's Student in Health Systems (Summer 2013, Fall 2013)
10. Kirthana Hampapur, Master's Student in OR (Spring 2017-Spring 2018)

B3. Undergraduate Students

1. Ijeabalum Okafor, NSF Summer Undergraduate Research in Engineering/Sciences (S.U.R.E.), Summer 2016
2. Diem "Dineise" Tran, Fall 2015-present
3. Simon Chow, undergraduate student (Spring 2013-2015)
4. Allison Clark, visiting undergraduate student from Texas Lutheran University under NSF S.U.R.E. program (Summer 2012)
5. Wesley Marrero, visiting undergraduate student from Universidad del Turabo at Gurabo, Puerto Rico under NSF S.U.R.E. program (Summer 2013)

B4. Service on thesis or dissertation committees

Internal

1. Pravara Harati, Advisor: Nicoleta Serban
2. Yanling Chan, graduated in 2015, Advisors: Alan Erera, Chip Chite, ISyE.
3. Isil Alev, graduated in 2015, Advisors: Atalay Atasu, Ozlem Ergun, Beril Toktay, ISyE.
4. Monica Villarel, graduated in 2014, Advisor: Pinar Keskinocak, ISyE.
5. Pengyi Shi, graduated in 2013, Advisors: Jim Dai & Pinar Keskinocak, ISyE.
6. Jacqueline Griffin, graduated in 2012, Advisor: Pinar Keskinocak, ISyE.
7. Hannah Smalley, graduated in 2012, Advisor: Pinar Keskinocak, ISyE.

B5. Mentorship of postdoctoral fellows

1. Sumeyye Samur, 2015-2016, currently Research Fellow at Harvard Medical School
2. Hoon Jang, 2016-2017, currently Associate Research Fellow, Science and Technology

C. OTHER TEACHING ACTIVITIES

C1. Course Development

- Co-developed a new undergraduate course, ISyE 4803 – Health Systems Engineering: this course is intended for preparing undergraduate students for a professional career in healthcare industry. Healthcare is the largest industry, yet; ISyE did not have a healthcare-focused course in its undergraduate program. In this new course, students learn about the healthcare systems, various stakeholders, incentive misalignments, grand challenges, and potential applications of Industrial Engineering and Operations Research/ Analytics in healthcare.

C2. Course Improvement

- Completely redesigned HS 6000 – Introduction to Healthcare Delivery (a core course for the MSHS program). In addition to regular classroom teaching activities, the students are actively participating in real healthcare projects in collaborations with the medical organizations in Atlanta area (past collaborators include Winship Cancer Institute, Emory University Hospital, Shepherd Center, and Perkins Will).

C3. Professional Development/Continuing Education

- Course Developer, organizer, and instructor for the short course on “Clinical Applications of Artificial Neural Networks,” Society for Medical Decision Making (SMDM) Annual Meeting (intended audience: medical professionals such as medical doctors and health policy researchers).

VI. SERVICE

A. PROFESSIONAL CONTRIBUTIONS

A1. Editorial Board Memberships

- Associate Editor
 - *Operations Research*, 2017-
 - *Management Science*, 2018-
 - *MSOM*, 2019-
 - *Naval Research Logistics*, 2019-
 - *MSOM* (Special Issue: Practice-Based Research Competition), 2018-

A2. Society Offices, Activities, and Membership

A2.1. Institute for Operations Research and Management Science (INFORMS)

- Health Applications Society (HAS), 800+ members society, the second largest society within INFORMS
 - *President*, 2016-2017
 - *Vice President (President-Elect)*, 2015-2016
 - *Treasurer*, Health Applications Society, 2013-2015.
 - *Judge*, HAS Student Paper Competition (2013, 2015, 2017)
- *Co-Chair*, INFORMS Doing Good with Good OR Paper Competition, 2017.

A2.2. Society for Medical Decision Making (SMDM)

- *Short Course Instructor*, 2011-2013.

- taught short courses on analytics to mainly medical doctors
- Member, 2008-present

A3. Organization and Chairmanship of Technical Sessions, Workshops and Conferences

- Cluster Chair, Public Health and Health Policy, INFORMS Healthcare, 2019
- Program Committee Member, ML4H: Machine Learning for Health Workshop at NIPS, 2019
- MSOM Healthcare SIG Conference Co-Chair, 2018
- INFORMS HAS Cluster Chair, 2013, 2015
 - Organized 60+ healthcare focused conference sessions in HAS cluster
- Organizing Committee Member and Stream Chair, Healthcare Analytics, INFORMS Computing Society (ICS) Conference, 2017
- Organizing Committee Member, INFORMS Healthcare Conference, 2013.
- Management Committee Member, 8th INFORMS Workshop on Data Mining and Health Informatics, 2014.
- Program Committee Member, Global Joint Conference on Industrial Engineering and Its Application Areas, 2016.
- Organizing Committee Member, Health Systems Optimization Workshop, Northwestern University, 2014.
- Program Committee Member, Global Conference On Healthcare Systems Engineering (Gchse) 2014.
- Program Committee Member, International Conference on Health Informatics, 2014.
- Program Committee Member, YAEM (Turkish INFORMS) Conference, 2014.
- Session Chair, IFORS Conference, 2014.
- Stream Chair, Health Applications, MOPTA Conference, Lehigh University, 2012.
- Session Chair, INFORMS Annual Meetings, 2010- present.
- Session Chair, Production and Operations Management Society Conference, 2012, 2014

A4. Technical Journal or Conference Referee Activities

- Judge roles at INFORMS Competitions
 - Nicholson Student Paper Competition (2018-2020)
 - JFIG Paper Competition (2018)
 - INFORMS Doing Good with Good OR Competition (2016, 2017)
 - M&SOM Healthcare SIG (2016, 2017)
 - Pierskalla Best Paper Competition (2013, 2014)
 - Decision Analysis Society Student Paper Competition (2013)
 - INFORMS Interactive Session Competition (2011- 2013)
 - Canadian Operations Research Society (CORS)/INFORMS Student Paper
- *Judge*, College of Healthcare Operations Management Best Paper Competition, 2012, 2014, 2015.
- *Reviewer*, Society of Medical Decision Making Annual Meetings, 2011-
- *Reviewer*, ISERC Annual Meeting, 2012.
- Referee for *Operations Research, Management Science, M&SOM, Productions and Operations Management, Decision Analysis, IEE Transactions, IEE Transactions on Healthcare Systems Engineering, Medical Decision Making, Health Care Management Science, Wiley Series in Operations Research and Management Science, Radiology, Cancer, Value in Health, Socio-Economic Planning Science, British Journal of Cancers,*

A5. Proposal Panels and Reviews

- National Science Foundation, 2012-

A6. Other Involvement

- Editor-in-Chief Search Committee, INFORMS *TutORials* Journal, 2017
- Committee Member, INFORMS Finance Committee, 2016-

C. INSTITUTE CONTRIBUTIONS

- ISyE Mentoring Committee, 2019-2020
- College of Engineering, Strategic Planning Committee, Member, 2018-2019
- ISyE Graduate Committee, 2016-
- ISyE Ph.D. Admissions Committee, 2016-2018
- Organizer, NSF OE Program Director visit to ISyE, 2017
- ISyE Distinguished Scholarship Lecture Host Committee, 2015, 2016
- Organizer, NSF SES/MES Program Director visit to ISyE, 2016
- Search Committee Member for the George Chair, ISyE, GaTech, 2011-2014
- Host for several faculty candidates, 2011-