

Nicola Dell

Cornell Tech
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Research Interests

My research interests are in human-computer interaction (HCI) and information and communication technologies for development (ICTD). My goal is to design, build, deploy, and evaluate new computing technologies that improve the lives of underserved communities in low-income regions.

Appointments

2016 - present. Assistant Professor, Information Science (tenure track)
Cornell Tech and the Jacobs-Technion Cornell Institute

2009 - 2015 Graduate Research Assistant
Computer Science and Engineering, University of Washington

2013 Research Intern, Computational User Experience group
Microsoft Research, Redmond, WA

2011 Research Intern, Technology for Emerging Markets group
Microsoft Research, Bangalore, India

Education

2015 Ph.D., Computer Science and Engineering
University of Washington, Seattle, WA
Dissertation: Mobile Camera-Based Input for Low-Resource Settings
Committee: Gaetano Borriello (co-chair), Linda Shapiro (co-chair), Jacob Wobbrock and Kate Starbird.

2011 M.S., Computer Science and Engineering
University of Washington, Seattle, WA

2004 B.S., (First Class Honors) in Computer Science
University of East Anglia, Norwich, UK.
Year abroad at the University of Victoria, BC, Canada.

Academic Awards

2017 ACM CHI Best Paper Honorable Mention
2016 University of Washington Graduate School Distinguished Dissertation Award
2016 ACM CHI Best Paper Honorable Mention
2015 ACM ASSETS Best Paper Award
2014 ACM CHI Graduate Student Research Competition Winner

2013 Facebook Graduate Fellowship
2013 Society of Women Engineers Outstanding Female Engineer Award
2013 Palantir Scholarship for Women in Technology
2012 Google Anita Borg Scholarship
2012 UW Shobe Prize Finalist
2011 Madrona Group UW CSE Affiliates Day People's Choice Award
2001-2004 University of East Anglia International Student Scholarship
2002 University of East Anglia Prize for Distinguished Performance in Year One
2000 Chisipite Senior School Dux of School (Highest Academic Award)
2000 Chisipite Senior School Top Mathematics Student and Top Chemistry Student
1999 Chisipite Senior School Academic Honors

Publications

1. Ahmed, S. I., Guha, S., Rashidujjaman, R., Hossain, F., **Dell, N.** 2017. Privacy Vulnerabilities in the Practices of Repairing Broken Digital Artifacts in Bangladesh. *Journal on Information Technologies & International Development (ITID)*. To appear. ["Best of ICTD" Invited Paper](#).
2. DeRenzi, B., **Dell, N.**, Wacksman, J., Lee, S., Lesh, N. 2017. Supporting Community Health Workers in India through Voice- and Web-Based Feedback. *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '17)*. [Best Paper Honorable Mention](#).
3. Ahmed, S. I., Haque, M. R., Guha, S., Rashidujjaman M. R., **Dell, N.** 2017. Privacy and Surveillance in the Global South: A Study of Biometric Mobile Registration in Bangladesh. *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '17)*.
4. Yang, L., Hsieh, C., Yang, H., Pollak, JP., **Dell, N.**, Belongie, S., Cole, C., Estrin, D. 2017. Yumme: A Personalized Nutrient-based Meal Recommender System. *ACM Transactions on Information Systems*, 9(4), Article 39.
5. Ahmed, S. I., Guha, S., Rashidujjaman, R., Hossain, F., **Dell, N.** 2016. Privacy in Repair: An Analysis of the Privacy Challenges Surrounding Broken Digital Artifacts in Bangladesh. *Int'l Conference on Information and Communication Technologies and Development (ICTD '16)*.
6. DeRenzi, B., Watchman, J., **Dell, N.**, Lee, S., Lesh, N., Borriello, G., and Ellner, A. 2016. Closing the Feedback Loop: Experiences from a 12-month Deployment of a Self-Tracking Tool for ASHAs. *Int'l Conference on Information and Communication Technologies and Development (ICTD '16)*.
7. **Dell, N.**, and Kumar, N. The Ins and Outs of HCI4D. 2016. *ACM Conference on Human Factors in Computing Systems (CHI '16)*. [Best Paper Honorable Mention](#).
8. Kumar, N., Brunette, W., **Dell, N.**, Perrier, T., Kolko, B., Borriello, G., Anderson, R. 2015. Understanding Sociotechnical Implications of Mobile Health Deployments in India, Kenya, and Zimbabwe. *Journal on Information Technologies & International Development (ITID)*, 11(4), 17-32.
9. Vashistha, A., Cutrell, E., **Dell, N.**, and Anderson, R. 2015. Social Media Platforms for Low-Income Blind People in India. *ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '15)*. [Best Paper Award](#).
10. Perrier, T., **Dell, N.**, DeRenzi, B., Anderson, R., Kinuthia, J., Unger, J. and John-Stewart, G. 2015. Engaging Pregnant Women in Kenya with a Hybrid Computer-Human SMS Communication System. 2015. *ACM SIGCHI Conference on Human Factors in Computing Systems (CHI '15)*.

11. **Dell, N.**, Perrier, T., Kumar, N., Lee, M., Powers, R., Borriello, G. 2015. Paper-Digital Workflows in Global Development Organizations. Proceedings of the 2015 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '15).
12. **Dell, N.**, D'Silva, K., and Borriello, G. Mobile Touch-Free Interaction for Global Health. 2015. ACM Workshop on Mobile Computing Systems and Applications (HotMobile '15).
13. **Dell, N.**, Francis, I., Sheppard, H. and Borriello, G. 2014. Field Evaluation of a Camera-Based Mobile Health System in Low-Resource Settings. International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '14).
14. **Dell, N.** A Mobile Point-of-Care Diagnostic System for Low-Resource Settings. 2014. In CHI '14 Extended Abstracts on Human Factors in Computing Systems (CHI EA '14). [Winner ACM SIGCHI Graduate Student Research Competition.](#)
15. **Dell, N.**, Crawford, J., Breit, N., Chaluco, T., Coelho, A., McCord, J. and Borriello, G., Integrating ODK Scan into the Health Worker Supply Chain in Mozambique. 2013. 6th Int'l Conference on Information and Communication Technologies and Development (ICTD '13).
16. **Dell, N.**, Breit, N., Wobbrock, J. O. and Borriello, G., Improving Form-Based Data Entry in Low Resource Settings with Image Snippets. 2013. 39th Graphics Interface Conference (GI '13).
17. Brunette, W., Sundt, M., **Dell, N.**, Chaudhri, R., Breit, N. and Borriello, G., Open Data Kit 2.0: Expanding and Refining Information Services for Developing Regions. 2013. ACM Workshop on Mobile Computing Systems and Applications (HotMobile '13).
18. **Dell, N.** and Borriello, G., Mobile Tools for Point-of-Care Diagnostics in the Developing World. 2013. 3rd Annual ACM Conference on Computing for Development (DEV '13).
19. **Dell, N.**, Vaidyanathan, V., Medhi, I., Cutrell, E., and Thies, W., "Yours is Better!" Participant Response Bias in HCI. 2012. ACM Conference on Human Factors in Computing Systems (CHI '12).
20. **Dell, N.**, Breit, N., Chaluco, T., Crawford, J. and Borriello, G., Digitizing Paper-Based Vaccine Data via Mobile Imaging Technologies. 2012. 2nd Annual ACM Conference on Computing for Development (DEV '12).
21. **Dell, N.**, Venkatachalam, S., Stevens, D., Yager, P. and Borriello, G. Towards a Point-of-Care Diagnostic System: Automated Analysis of Immunoassay Test Data on a Cell Phone. 2011. 5th ACM Workshop on Networked Systems for Developing Regions (NSDR '11).

Funding

2017-2019 Naaman, M., and Dell, N. Strengthening Communities Through ICT-Enabled Indirect Resource Exchange. National Science Foundation. \$298,333.

2017-2018 Freed, D., and Dell, N. Digital Security and Privacy in Abuse Settings and the Intimate Partner Violence Ecosystem. Engaged Cornell Grant. \$14,623.

2013-2014 Dell, N. Camera-based Systems for Low-Resource Settings. Facebook Fellowship. \$37,500.

2013 Dell, N. Mobile Technologies for Low-Resource Settings. Palantir Scholarship. \$7,000.

2012 Dell, N. Camera-based Systems for Low-Resource Settings. Google Anita Borg Award. \$10,000.

Presentations

Invited Talks

- 2017 MIT CSAIL. Cambridge, MA.
- 2017 University of Washington Information School. Seattle, WA.
- 2017 Northwestern University. Evanston, IL.
- 2016 New York City Media Lab Summit. New York, NY
- 2015 Keynote Speaker, Connected Experiences Workshop. New York, NY
- 2015 11 Invited academic job talks for tenure-track faculty positions
- 2014 Google and Women Techmakers Panel for International Women's Day, Kirkland, WA
- 2014 Keynote Speaker, Pacific Northwest Celebration of Women in Computing Conference
- 2013 Technologies for Brighter Futures Workshop, Cayetano Heredia University, Lima, Peru
- 2012 Keynote Speaker, National Center for Women and Information Technology, Award Ceremony

Conference Talks

- 2016 The Ins and Outs of HCI4D. ACM CHI '16
- 2015 Paper-Digital Workflows in Global Development Organizations. ACM CSCW '15
- 2015 Mobile Touch-Free Interaction for Global Health. ACM HotMobile '15
- 2014 Field Evaluation of a Camera-Based mHealth System in Low-Resource Settings. MobileHCI '14
- 2014 A Mobile Point-of-Care Diagnostic System for Low-Resource Settings. ACM CHI '14
- 2013 Integrating ODK Scan into the Health Worker Supply Chain in Mozambique. ICTD '13
- 2013 Improving Form-Based Data Entry in Low Resource Settings with Image Snippets. GI '13
- 2013 Mobile Tools for Point-of-Care Diagnostics in the Developing World. ACM DEV '13
- 2012 "Yours is Better!" Participant Response Bias in HCI. ACM CHI '12
- 2012 Digitizing Paper-Based Vaccine Data via Mobile Imaging Technologies. ACM DEV '12
- 2011 Automated Analysis of Immunoassay Test Data on a Cell Phone. NSDR '11

Teaching

Instructor

- Spring 2017 INFO/CS 6410 HCI and Design, Cornell Tech
- Fall 2016 INFO 6600 Technology for Underserved Communities, Cornell University
- Spring 2016 INFO/CS 6410 HCI and Design, Cornell Tech
- Spring 2014 CSE 373 Algorithms and Data Structures, University of Washington

Guest Lecturer

- 2017 UW INFO 498 Gender, Equity, and Technology
- 2016 Cornell Tech HCI Research Methods
- 2015 UW CSEP 590B Computing and Global Health
- 2015 UW CSE 390L Leadership Seminar Series
- 2014 UW Computers and Society
- 2014 UW CSE 142/143 Exploration Sessions
- 2012 UW CSE 190A Women in Computer Science Seminar Series

Elementary School Teacher

- 2007-2009 Sahmyook Elementary School, Daejeon, South Korea

Advising

Ph.D. Students

- Anthony Poon, Ph.D. Advisor (August 2016 -)

Sharifa Sultana, Ph.D. Advisor (August 2016 -)
 Diana Freed, Ph.D. Advisor (August 2016 -)
 Fabian Okeke, Ph.D. Co-Advisor (January 2016 -)
 Rahul Chatterjee, Ph.D. Thesis Committee (November 2016 -)
 Longqi Yang, Ph.D. Thesis Committee (January 2016 -)
 Ishtiaque Ahmed, Ph.D. Thesis Committee (October 2015 -)

Masters Students

Nishith Kumar (January 2017 -)
 Joyce Zhou (January 2017 -)
 Mengjiao Zhu (January 2017 -)
 Yan Jiang (January 2017 -)
 Shreyas Kulkarni (January 2017 - June 2017)
 Martin Chan (January 2017 - June 2017)
 Huai-Che Lu (January 2016 - June 2017)
 Claire Opila (August 2016 - December 2016)
 Sonia Sen (January 2016 - December 2016)
 Ethan Keller (January 2016 - June 2016)
 Sean Herman (August 2015 - June 2016)
 Xiaoyang Ma (August 2015 - June 2016)
 Muhammad Khadafi (August 2015 - June 2016)
 Jing Dai (August 2015 - June 2016)

Undergraduate Students

Jose Castro (August 2016 - June 2017)
 Matthew Limjoco (August 2016 - June 2017)
 Danielle Charpentier (August 2016 - December 2016)
 Sarah Sinclair (January - June 2016)
 Steven Niu (January - June 2016)
 Drew Samuels (January - June 2016)
 Seth Martin (January - June 2016)
 Munjela Rumanna (June 2014 - June 2015)
 Krittika D'Silva (July 2013 - June 2015)
 Claire Illich (Summer 2014)
 Mitchell Lee (September 2012 - June 2014)
 Leeran Raphaely (September 2012 - July 2013)
 Nathan Breit (April 2011 - October 2011)
 Sugandhan Venkatachalam (September 2010 - July 2011)

Community Service

2017 Robert Woods Johnson Foundation Task Force on Global Advantage
2016 Workshop Organizer, Development Consortium: HCI Across Borders
2011 - 2015 Graduate Student Coordinator, UW CSE Department
2011 - 2015 Change Seminar Organizer, UW CSE Department
2013 Open Data Kit at Code for Humanity, Grace Hopper Celebration of Women in Computing
2012 - 2015 Young Researchers in ICTD Coordinator
2011 - 2015 Computer Science Outreach Volunteer, UW CSE Department
2010 - 2011 Graduate Social Chair, UW CSE Department

Academic Service

Technical Program Chair

2016 ACM Symposium on Computing for Development (DEV)

Sub-Committee Chair

2018-2019 ACM Conference on Human Factors in Computing Systems (CHI)

Program Committee

2018 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)

2016-2017 ACM Conference on Human Factors in Computing Systems (CHI)

2016-2017 Int'l Conference on Information and Communication Technologies and Development (ICTD)

2016 ACM Conference on Mobile Systems and Applications (MobiSys)

2013-2016 ACM Symposium on Computing for Development (DEV)

2013-2015 ACM Conference on Human Factors in Computing Systems Late-Breaking Work

Reviewer

ACM Conference on Human Factors in Computing Systems (CHI)

ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)

ACM Symposium on User Interface Software and Technology (UIST)

ACM Conference on Human-Computer Interaction with Mobile Devices (MobileHCI)

ACM Symposium on Computing for Development (DEV)

Int'l Conference on Information and Communication Technologies and Development (ICTD)

Journal of Information Technology and International Development (ITID)

Journal of Information Technology for Development (ITD)

Industry Employment

2004-2006 Character Matters Animation Studio, Cape Town, South Africa

Created short and long format animated films, including a pilot for an animated CG feature film.

Contributed to Cape Town's Animation XChange, a community driven initiative aimed at unifying the South African animation community.