

# Dr Deepti Aggarwal

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## Research Highlights

- 14 peer-reviewed publications, majority of which appear in Tier-A ACM conferences in the field of Human Computer Interaction (HCI) (Citation count: 71, h-index: 5, i10-index: 3 as of Nov 2018)
- *Best Paper Honorable Mention Awards* at ACM CHI 2015 and at CIS Doctoral Colloquium 2017.
- Finalist for the 2018 *Victorian Premier's Design Award*.
- Winner of the 2017 *Victorian Fresh Science Award*. Fresh Science is a national competition that helps early-career researchers to find, and then share their stories of discovery to a large audience through several media outlets.
- Featured on over 200 media outlets in Australia and overseas, with a combined coverage of over 86 million. Key highlights include cover stories in *The Indian Weekly* and *G'Day India* magazines; video coverage on *BBC news*, *Ten News*, *ABC News*, and *7 News*; selection in the *London Science Museum (From the lab video series)*; and live interviews on *Channel 9 Today Show* and *Pulse Radio*.
- Public exhibitions of the works at seven international academic events attracting over 1000 attendees.
- Finalist for the *Student Innovation Contest* at ACM UIST 2013.
- Recipient of the prestigious scholarships and travel grants including *MIFRS and MIRS PhD Scholarships 2014-2017*, *ACM Travel Scholarship 2016* and *ACM-Women Travel Grant 2013*.
- Honorary appointment at *Royal Children's Hospital* and *Murdoch Children's Research Institute, Melbourne*.

## Education

<b>Doctor of Philosophy</b>	2014 - 2018
University of Melbourne, Australia <i>Thesis:</i> Supporting Bodily Communication in Video Consultations of Physiotherapy <i>Advisors:</i> Prof. Frank Vetere, Dr. Bernd Ploderer and Dr. Thuong Hoang	
<b>Master of Science by Research in Computer Science &amp; Engineering</b>	2010 - 2013
International Institute of Information Technology, Hyderabad, India <i>Thesis:</i> Exploring Crowdsourcing to Personalize Web Experiences <i>Advisors:</i> Prof. Venkatesh Choppella and Prof. Vasudeva Varma	
<b>Bachelor of Technology in Computer Engineering</b>	2006 - 2010
Gobind Ballabh Pant University of Agriculture & Technology, Pantnagar, India	

## Work Experience

<b>Research Fellow</b>	May 2018 – Oct 2018
Dept. of Computing and Information Systems University of Melbourne, Australia Manager: Prof. Frank Vetere	
<b>Honorary Fellow</b>	June 2018 – present
Dept. of Anaesthesia and Pain Management Murdoch Children's Research Institute (MCRI), Melbourne Manager: Dr. Suzette Sheppard	

## Honorary Fellow

Feb 2017 – present

Dept. of Anaesthesia and Pain Management  
Royal Children's Hospital (RCH), Melbourne  
Manager: Dr. Suzette Sheppard

## Research Intern

Oct 2016 – Nov 2016

Interaction Centre  
University College London, UK  
Manager: Prof. Nadia Berthouze

## Student Intern

May 2013 – Oct 2013

Human Computer Interaction Institute  
Carnegie Mellon University, USA  
Manager: Prof. Anind K. Dey

## Research Associate

Jan 2011 – Dec 2012

International Institute of Information Technology, Hyderabad, India  
Manager: Prof. Venkatesh Choppella

## Journal Articles

- [2] **Deepti Aggarwal**, Frank Vetere, Bernd Ploderer, Thuong Hoang, and Mark Bradford. A Framework to Evaluate the Efficacy of Video Consultation Systems. Submitted to ACM Transactions on Computing for Healthcare.
- [1] Robyn Garnett, Patricia Eadie, Bronwyn Davidson, Ken Clarke, and **Deepti Aggarwal**. Telepractice Delivery of an Autism Communication Intervention to Parent Groups: A Feasibility Study. Submitted to Journal of Clinical Practice in Speech-Language Pathology.

## Full Papers (top-tier venues in the field of Human Computer Interaction are ACM CHI and DIS)

- [9] **Deepti Aggarwal**, Thuong Hoang, Bernd Ploderer, Frank Vetere, and Mark Bradford. Towards Effective Video Consultations of Lower Limb Physiotherapy: Field Evaluation of a Wearable Technology. Submitted to ACM 2019 CHI Conference on Human Factors in Computing Systems (CHI '19).
- [8] **Deepti Aggarwal**, Weiyi Zhang, Thuong Hoang, Bernd Ploderer, Frank Vetere, and Mark Bradford. 2017. SoPhy: A Wearable Technology for Lower Limb Assessment in Video Consultations of Physiotherapy. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 3916-3928. (Acceptance rate: 25%)
- [7] Rohit Ashok Khot, **Deepti Aggarwal**, Ryan Pennings, Larissa Hjorth, and Florian 'Floyd' Mueller. 2017. EdiPulse: Investigating a Playful Approach to Self-monitoring through 3D Printed Chocolate Treats. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA, 6593-6607. (Acceptance rate: 25%)
- [6] **Deepti Aggarwal**, Bernd Ploderer, Frank Vetere, Mark Bradford, and Thuong Hoang. 2016. Doctor, Can You See My Squats?: Understanding Bodily Communication in Video Consultations for Physiotherapy. In Proceedings of the 2016 ACM Conference on Designing Interactive Systems (DIS '16). ACM, New York, NY, USA, 1197-1208. (Acceptance rate: 26%)

- [5] **Deepti Aggarwal**, Robyn Garnett, Bernd Ploderer, Frank Vetere, Patricia Eadie, and Bronwyn Joy Davidson. 2015. Understanding Video based Parent Training Intervention for Children with Autism. In Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction (OzCHI '15), Bernd Ploderer, Marcus Carter, Martin Gibbs, Wally Smith, and Frank Vetere (Eds.). ACM, New York, NY, USA, 10-19. (Acceptance rate: 49%)
- [4] Rohit Ashok Khot, Jeewon Lee, **Deepti Aggarwal**, Larissa Hjorth, and Florian 'Floyd' Mueller. 2015. TastyBeats: Designing Palatable Representations of Physical Activity. In Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15). ACM, New York, NY, USA, 2933-2942. [**Best Paper Honorable Mention Award – top 5% papers**] (Acceptance rate: 25%)
- [3] **Deepti Aggarwal**, Rohit Ashok Khot, Vasudeva Varma and Venkatesh Choppella. 2012. uPICK: Crowdsourcing Based Approach to Extract Relations Among Named Entities. In Proceedings of the 4th Indian Conference on Human Computer Interaction (IndiaHCI '12), available as a technical report in IIIT-Hyderabad archival (Report No: IIIT/TrR/2012/-1). (Acceptance rate: 50%)
- [2] **Deepti Aggarwal**, Himanshu Zade, and Anind K. Dey. 2012. Demography based Automated Teller Machines. In Proceedings of the 4th Indian Conference on Human Computer Interaction (IndiaHCI '12). (Acceptance rate: 50%)
- [1] Vasudeva Varma, Bhaskar Ghosh, Mohan Soundararajan, **Deepti Aggarwal**, and Priya Radhakrishnan. 2012. IIIT Hyderabad at TAC 2012. In Proceedings of the Text Analysis Conference (TAC '12). (TAC comprises of different tasks known as "tracks," focusing on a particular sub-problem of Natural Language Processing, such as slot filling task in a given knowledge base.)

## Short Papers (top-tier venues in the field of Human Computer Interaction are ACM CHI and DIS)

- [6] **Deepti Aggarwal**, Thuong Hoang, Weiyi Zhang, Bernd Ploderer, Frank Vetere, and Mark Bradford. 2017. SoPhy: Smart Socks for Video Consultations of Physiotherapy. In: Bernhaupt R., Dalvi G., Joshi A., K. Balkrishan D., O'Neill J., Winckler M. (eds) Human-Computer Interaction – INTERACT 2017. INTERACT 2017. Lecture Notes in Computer Science, vol 10516. Springer, Cham.
- [5] **Deepti Aggarwal**. 2016. Supporting Bodily Communication in Video Based Clinical Consultations. In Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '16). ACM, New York, NY, USA, 188-192. (I was one of the only 15 candidates selected, Acceptance rate: 22%)
- [4] Robyn Garnett, Patricia Eadie, Bronwyn Davidson, Ken Clarke, Zaher Joukhadar and **Deepti Aggarwal**. 2015. Utilising Technologies to Address the Social Communication of Young Children with Autism Spectrum Disorder. In Proceedings of Asia Pacific Autism Conference (APAC '15).
- [3] Rohit Ashok Khot, Jeewon Lee, Helmut Munz, **Deepti Aggarwal** and Florian Floyd Mueller. 2014. TastyBeats: making mocktails with heartbeats. In CHI '14 Extended Abstracts on Human Factors in Computing Systems (CHI EA '14). ACM, New York, NY, USA, 467-470. (Acceptance rate: ~32%)
- [2] **Deepti Aggarwal**, Rohit Ashok Khot and Venkatesh Choppella. 2013. Power of friends: when friends guess about their friends' guess. In CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13). ACM, New York, NY, USA, 907-912. (Acceptance rate: ~32%)
- [1] T. B. Dinesh, S. Uskudarli, Subramanya Sastry, **Deepti Aggarwal** and Venkatesh Choppella. 2012. Alipi: a framework for re-narrating web pages. In ACM Proceedings of the International Cross-Disciplinary Conference on Web Accessibility (W4A '12). ACM, New York, NY, USA, Article 22, 4 pages. (Acceptance rate: 30%)

## Workshop Papers (top-tier venues in the field of Human Computer Interaction are ACM CHI and DIS)

- [3] **Deepti Aggarwal**, Philip Goebel, and Rohit Ashok Khot. 2017. Caring for the Caregivers of People with Dementia. In Proceedings of CHI'17 workshop on HCIXDementia: The Role of Technology and Design in Dementia.
- [2] **Deepti Aggarwal**, Bernd Ploderer, and Frank Vetere. 2015. Addressing Research Gaps in Teleconsultation Settings. In Proceedings of CHI '15 workshop on Everyday TelePresence: Emerging Practices and Future Research Directions.
- [1] Rohit Ashok Khot, Larissa Hjorth, **Deepti Aggarwal**, and Florian 'Floyd' Mueller. 2014. Supporting Autonomy in Physical Activity Through Material Artefacts. In Proceedings of CHI '14 workshop on Positive Computing.

## Selected Press

My PhD work has received coverage in over 200 media outlets (TV news, radio, newspapers and magazines) in Australia and overseas, with a combined coverage of over 86 million. The story was covered overseas in the United Kingdom, America, Malaysia, Israel, Italy, New Zealand, Iran, Canada and China. Some highlights of the coverage are listed below.

<b>London Science Museum (From the Lab video series)</b> , How smart socks revolutionise physiotherapy	June 2018
<b>Tenplay Scope TV</b> , Smart Socks	June 2018
<b>Radio Mirchi Love</b> , Smart Socks	June 2018
<b>BBC News</b> , Smart SoPhy socks send data to your physiotherapist	May 2018
<b>Pulse Radio</b> (Live Interview), 'Smart socks' offer hope for remote patients with chronic pain	May 2018
<b>The Indian Weekly</b> (Cover Story), Smart Solution	April 2018
<b>Pursuit</b> , Clever socks connecting remote patients and physios	April 2018
<b>SBS</b> , Indian-Australian invents 'smart socks' for chronic pain sufferers	April 2018
<b>Channel 9 Today Show</b> (Live Interview), Smart Socks	April 2018
<b>New Atlas</b> , Smart socks designed to aid physio-by-Skype	April 2018
<b>Cosmos</b> , Young inventor puts a sock in it	April 2018
<b>Ten News</b> , Big Step	April 2018
<b>ABC News</b> , 'Smart socks' offer hope for remote patients with chronic pain, researcher says	April 2018
<b>7 News</b> , Vic student creates physio 'smart socks'	April 2018
<b>Ten Play</b> , Wearable technology improves treatment opportunities for rural and remote patients	April 2018
<b>Starts at 60</b> , 'Smart socks' to help physiotherapists treat pain	April 2018
<b>TVNZ</b> , Australian student using 'smart socks' to allow remote treatment by a physiotherapist	April 2018

## Teaching

### Lecturing

- Hosted the Panel Discussion in INF090006 Fieldwork for Design, University of Melbourne, 2018 (in the absence of the lecturer)

### Tutoring

- INF090006 Fieldwork for Design, University of Melbourne, 2018 (semester 2)

### Marking

- ISYS90051 Impacts of Digitisation, University of Melbourne, 2018 (semester 1)
- ISYS90085 Interaction Design and Usability, University of Melbourne, 2017 (semester 1)

## Guest Lectures

- INF090006 Fieldwork for Design, University of Melbourne, 2018 (Host: Dr Jenny Waycott)
- MGMT90223 Design Thinking, University of Melbourne, 2018 (Host: Prof. Frank Vetere)
- INFO30004 Usability Engineering, University of Melbourne, 2018 (Host: Prof. Martin Gibbs)

## Professional Development

- Tutor and Demonstrator Professional Development Training, 2018 (a 6-week training program for staff taking tutoring responsibilities)

## Supervision

- Weiyi Zhang (Masters Project, Dec. 2015 - May 2016), “Real-time data visualization system for smart socks”, Co-supervised with Dr. Thuong Hoang
- Kartikey Vyas & Deep Dixit (B.Tech Project, Feb. 2012 - May 2013), “Developing Ontological Framework for Alipi”, Co-supervised with Prof. Venkatesh Choppella
- Mentoring of the 10th grade experience students at The University of Melbourne, 2018

## Honors and Awards

- **Finalist** for the 2018 Victorian Premier’s Design Award, Student Category
- **Winner** of the 2017 Victorian Fresh Science Award
- **Invited Panel** on ‘Games and Health’ at SIGCHI Sponsored Summer School on Playful Interactions 2017
- **Best Paper Honorable Mention Award** at CIS Doctoral Colloquium 2017
- **Invited Research Demo** of SoPhy: A Wearable Technology for Video Consultations of Physiotherapy at CHI 2017
- **Best Paper Honorable Mention Award** at ACM CHI 2015
- **Finalist** for the Premier’s Design Award 2015, Student Category (The team was invited to attend the award ceremony at Government House in Melbourne)
- **Finalist** for the Student Innovation Contest, UIST 2013
- **Innovative Design Award** at TechEase 2011

## Scholarships

- **Conference Travel Scholarship** to present at ACM CHI 2017 (AUD \$750)
- **Melbourne Abroad Travel Scholarship** to present at ACM DIS 2016 (AUD \$750)
- **ACM Travel Scholarship** to present at ACM CHI 2016 Doctoral Consortium (USD \$2,050)
- **SocialNUI Student Travel Scholarship** 2015 – 2017 (AUD \$7,000)
- **SocialNUI Postgraduate Research Top-up Scholarship** 2015 - 2017 (AUD \$15,000)
- **Melbourne International Fee Remission Scholarship (MIFRS)** 2014 – 2017 (AUD \$ 34,080 annually)
- **Melbourne International Research Scholarship (MIRS)** 2014 – 2017 (AUD \$25,810 annually)
- **Pursuit Travel Grant** 2013 to intern at Carnegie Mellon University (USD \$1,000)
- **ACM-Women Travel Grant** to present at CHI 2013 (USD \$2,000)

## Invited Talks

- Dept. of Anaesthesia and Pain Management, Royal Children’s Hospital, 2017 (Host: Dr. George Chalkiadis)
- Microsoft Research Cambridge, 2017 (Host: Kenton O’Hara)
- Pain Management Centre, University College London Hospital, 2017 (Host: Dr. Diarmuid Denny)
- UCL Interaction Center, London, 2017 (Host: Prof. Nadia Berthouze)
- Health XL Hackathon on Aging 2015, Melbourne

## Professional Activities

- **Public Exhibitions:** LNCS INTERACT 2017, ACM CHI (2017, 2014), IIT Bombay Techfest 2014, UIST Student Innovation Contest 2013, OpenData Camp Showcase – Hyderabad Meet 2012, MIT Media Lab Design Innovation Workshop 2012, IIIT-Hyderabad R&D Showcase 2011-2013
- **Media Liaison:** Dept. of Computing & Information Systems, University of Melbourne, 2016
- **Coordinator:** Interaction Design Lab seminars, 2015 – 2016
- **Co-Chair:** ACM OzCHI 2015 Student Design Challenge
- **Co-organizer:** Hands on computing 2015 at University of Melbourne, TechEase-2011 at IIIT- Hyderabad, Spic Macay Virasat 2010 at IIIT- Hyderabad
- **Program committee member:** ACM OzCHI 2018
- **Associate Chair:** ACM CHI 2018 Late Breaking Work
- **Reviewer (full paper category):** ACM CHI 2017-2019, ACM OzCHI 2014-2018, ACM DIS 2016, ACM CHI Play 2017, ACM NordiCHI 2018
- **Reviewer (Late breaking work):** ACM OzCHI 2017, ACM CHI Play 2016-2017, ACM CHI 2013, 2014 & 2017
- **Student Volunteer:** ACM DIS 2016, ACM CHI 2015, ACM WWW 2011

## References

### Prof. Frank Vetere

Director of Microsoft Research Center for SocialNUI,  
Professor, Dept. of Computing and Information Systems  
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### Prof. Anind K. Dey

Professor and Dean of the Information School  
University of Washington, USA  
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### Prof. Nadia Berthouze

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Professor in Affective Computing and Interaction  
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