Raya Hegeman-Davis, PhD

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Research Interests

Teacher training, K-12 Computer Science integration, STEM education in rural contexts, CS equity and inclusion, STEM pathways and retention, educational policy

Education

- **Ph.D. University of Minnesota, Twin Cities** in Comparative and International Development Education, Educational Policy and Administration, Program Evaluation   2006 - 2013
  Minor Dissertation: *Conceptualizing Empowerment in International Development Education*

- **M.A. University of Minnesota, Twin Cities** in Comparative and International Development Education, Educational Policy and Administration   2004 - 2006
  Thesis: *Implementation and Sustainability of Girls' Clubs in Asamankese, Ghana*

- **B.A. University of Wisconsin, Madison** in Linguistics and Anthropology (cum laude)   1998 – 2002

Professional Experience

- **Director of Engagement, School of Computing**   2022 – Present
  University of Wyoming

- **Affiliated faculty, National Center for Supercomputing Applications (NCSA) / Center for Digital Agriculture**   2022 – Present
  University of Illinois at Urbana Champaign

- **Computer Science Teacher Education, Program Manager**   2018 – Present
  University of Illinois at Urbana Champaign

- **School – University Research Coordinator**   2018 – Present
  University of Illinois at Urbana Champaign

- **Educational Research Consultant**   2012 - 2018
  Tarrymore Consulting LLC

Proposals

The Illinois Workforce and Education Research Collaborative, Computer Science Education Research – Fall 2021 (awarded)
- Co-Principal Investigator, $1M three-year gift award (anonymous donor)

K-12 Computer Science & Coding Out-of-School Time Programs, CME Group Foundation, Spring 2021 (awarded)

- Principal Investigator, $125K award to support tuition coverage for teachers in the Computer Science Secondary Endorsement program

K-12 Computer Science & Coding Out-of-School Time Programs, CME Group Foundation, Spring 2020 (awarded)
- Principal Investigator, $50K award to support:
  - 1) Landscape Study of Computer Science Education in Illinois
  - 2) 2020 Illinois Statewide K-12 Computer Science Education Summit

Artificial Intelligence for Future Agricultural Resilience, Management, and Sustainability (AIFARMS) Institute – Fall 2019 (awarded)
- Senior Personnel for $20M five-year AI Institute in Digital Agriculture
- Broadening Participation and education research through teacher training in computer science

Microsoft Gift Award Fall 2019 (awarded)
- $20K award to support the Inaugural Illinois Statewide K-12 Computer Science Education Summit

UC-UIUC Partnership to Support K-12 Computer Science Education Fall 2019 (awarded)
- $40K proposal to create a collaborative partnership between College of Education researchers at UIUC and researchers at the University of Chicago
- Focus on professional development and community of practice for Chicago area and Central Illinois teachers to incorporate computational thinking practices into existing lesson plans

Discovery Partners Institute Activity Award Spring 2019 (awarded)
- $15K to offer free professional development in AR / VR to Chicago Area teachers
- Funding also covered networking across K-12 CS education stakeholders across Illinois

AI Institute: Cyberinfrastructure Innovation Transforming Data-Driven Scientific Discovery – Fall 2020 (unfunded)
- Education partner for AI Institute in partnership with University of Wyoming
- Focus on rural teacher training in computer science and computational thinking

HDR Institute: Harnessing the Data Revolution through High Throughput Science and Engineering Expertise (HiTSEE) Fall 2020 (unfunded)
- Education partner for HDR Institute
- Focusing on Broadening Participation through teacher training programs and outreach

Motorola Solutions Foundation Award Fall 2019 (unfunded)
- Submitted LOI for $50K award for teacher preparation in computer science

Service

National Science Foundation, RET Review Panel	2021 - 2022
Inclusive Innovation in the Quantum Sciences, Office of the Chancellor for Public Engagement	2021 – Present
CS PD Subcommittee, Illinois State Board of Education	2021 – Present
Member of the Computer Science Education Faculty Search Committee, College of Education	2020 - 2021
Computer Science Working Group, Illinois State Board of Education	2020 – Present
College Research Committee, College of Education	2020 – Present
Campus-Community Compact to Accelerate Social Justice – Campus Co-Lead for Access to Technology, Office of the Vice Chancellor for Public Engagement	2020 – Present
Center for Excellence in Computer Science Education Advisory Board, Northwestern	2020 – 2021
Chancellor's Academic Professional Award (CAPE) selection committee, UIUC	2019 – 2020

- Champaign Unit 4 School District Education Equity Excellence Committee   2017 – 2020

Education Research Consulting Experience

- Improving Girls' Access through Transforming Education (IGATE)   July – October 2015
  Midline Evaluation in Zimbabwe, with Miske Witt and Associates

- First Year Experience Literature Review, with Be the Change   May 2015

- Child-Friendly Schools Training Materials, UNICEF OMAN   October 2014 – June 2015
  with Miske Witt and Associates

- Country Reports on the Patsy Collins Trust Fund Initiative (PCTFI)   May 2014
  Editing and Revising, CARE USA, with Miske Witt and Associates

- Patsy Collins Trust Fund Initiative (PCTFI) CARE Malawi, Data Coding   October 2013
  and Analysis, with Miske Witt and Associates

- Childfund "Unlocking Potential" Reference Manual: Infants and Young   May – June 2013
  Children Programming, with Miske Witt and Associates

- CARE Girls' Education and Empowerment Measurement Tools (GEEMT)   August – September 2012
  Consultancy, with Miske Witt and Associates

- Child Friendly Schools; Gender Responsive Schooling, with Miske Witt   July – August 2011
  and Associates

- Examining Medium-Term Strategies for Developing Post-Primary Education   May – September 2011
  in Ethiopia – For UNICEF Ethiopia, with Miske Witt and Associates

- Malawi Teacher Professional Development Support Project, with Miske Witt   May 2011
  and Associates

Publications

- Hegeman-Davis R. & Sewell, M. (June, 2021). Landscape Report of Computer Science Education in Illinois. University of Illinois, Urbana Champaign.
- Hegeman-Davis, R. (2013). Conceptualizing Empowerment in International Development Education. University of Minnesota, Twin Cities.
- Hegeman-Davis, R. & Kendall, N. (2010). Program innovation for gender transformation: The Patsy Collins Trust Fund Initiative. Written for CARE International, Basic and Girls Education Program.
- Hegeman, R. (2008). External evaluation for the discovery-based undergrad opportunities: collaborative research support programs. A USDA higher education challenge grant. Bozeman: Montana State University.
- DeJaeghere, J. & Hegeman, R. (2007). Transformational engagement of parents and communities in education. Written for Catholic Relief Services, Program Quality and Support Department / Education Unit.
- Hegeman, R (2007). *The Women's Refugee Initiative,* Case Study written for the Office of Women in Public Policy, The Humphrey Institute, University of Minnesota.

Conference Presentations

- *The Administration and Piloting of the GEI across Three Countries*. A paper presented before the Comparative and International Education Society, International conference, New Orleans, L.A. March, 2013.
- *Empowerment as defined and measured in the Patsy Collins Trust Fund Initiative*. A paper presented before the Comparative and International Education Society, International Conference, Charleston, S.C. March 2009.
- *Effective management training practices*: *Preliminary analysis of a Ugandan Head Teacher and Deputy Head Teacher survey*. A paper presented before the Comparative and International Education Society, International Conference, New York, N.Y. March 2008.
- *In whose perception? Gender and funding in a girls' club program in Ghana*. Master's research presented before the Comparative and International Education Society, International Conference, Baltimore, Maryland, February 2007.
- *Girls' clubs in Ghana*. Master's research presented before the Comparative and International Education Society, International Conference, Waikiki, Hawaii, March 2006.