# Gendered Design in STEAM Bulletin

ISSUE ONE | January, 2021

Gendered Design in STEAM Bulletin Issue One | January, 2021

"Thank you to everyone who helped in producing the first edition of the GDS Bulletin. Special thanks to Amina Mire and Claire Thompson for their content pieces, Maya Chopra for the design assist, and Ona Bantjes-Rafols and Najeeba Ahmed for sourcing key information, all three our GDS Research Assistant Coordinators."

Kerry Grace, GDS Program Coordinator

Photo of Ursula Franklin, by Mark Neil Balson, source University of Toronto

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Submit recommendations for the Open Learning section here: https://forms.gle/WqQoHJmAHyhn3p4c9

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@gendesignsteam

### Contents

Main feature Meet the Sector Experts	1-4
Project spotlight Africa: ID33 & ID79 Latin America: ID37 & IDA Asia: ID50	5-7
Insights from the field LabOne	8
A closer look Amina Mire on Ursula Franklin	9
Q&A with Claire Thompson, IDRC	10
Open learning	11

### Upcoming events

- Tensions Paradoxes Pluralities, hosted by RMIT University | February 2 to 5
- International Day of Women and Girls in Science | February 11
- Thinking freedom from the global south Spring series | February 2 to April 7
- Towards a feminist post-COVID city: Claiming space in a man-made world | February 23
- International Women's Day | March 8
- Women in design; Harvard University | March 9 (free online event)

### Reminders

- Project update report | Monday 15 March, 2021
- Financial summary report and receipts | Monday 15 March, 2021

### MAIN FEATURE

### Meet the Sector Experts

The GDS Program is supported by an interdisciplinary collection of STEAM experts based at Carleton University, known as the Sector Experts (SE), whose fields include architecture, biology, computer engineering, data science, design, environment, geography, interdisciplinary science, journalism and mechanical engineering, and more. This first main feature is an overview of who they are.

#### Adrian D. C. Chan

Professor, Systems and Computer Engineering

Projects: ID91 and IDA (Latin America) Research Assistant: Alicia Gal, PhD Biomedical Engineering student

Twitter: @AdrianDCChan | @CarletonSce

Dr. Chan's research focuses on biomedical engineering with expertise in biomedical signal processing, biomedical image processing, and non-invasive sensor systems. Other research interests include machine learning, pattern classification and accessibility. Application of his research

includes assistive and rehabilitation devices, para-sport, and the intersection of technology, disability, and history. Dr. Chan is also the Director for the Research and Education in Accessibility, Design, and Innovation (READi) training program and and member of the



CUDRG. Read more about Dr. Chan.

#### Fred Afagh

#### Professor, Mechanical and Aerospace Engineering

#### Project: ID65 and ID71 (Africa)

#### Research Assistant: Victoria Asi, M.ASc Sustainable Energy and Policy

#### Twitter: @CU\_MechAero

Dr. Afagh's research interests and expertise include structural modelling of thin-walled, open and closed cross-section beams; dynamic modelling and stability of helicopter rotors; modelling and investigation of blade-

#### Amir Hakami Associate Professor, Environmental Engineering

Projects: ID17 (Asia) and ID74 (Africa)

## Research Assistant: TBC (previously Lucia Vargas who has now completed her studies)

Dr. Hakami's research areas include air quality modeling in support of policy-making; formal sensitivity analysis in air quality modeling; inverse modeling and data assimilation; and uncertainty analysis. One objective of Dr. Hakami's research is to provide policy-makers with the best strategy to reduce air pollution. His areas of research are by nature

interdisciplinary, and borrow from various engineering (civil, chemical, mechanical) and science (mathematics, earth science, physics, chemistry) disciplines. <u>Read</u> <u>more</u> on Dr. Hakami's research and visit <u>Carleton</u> <u>Atmospheric</u> <u>Modelling</u> Group.



Unfortunately Dr. Hakami will no longer be able to continue as a SE. We will be introducing a new SE soon.

sailing effects in shipboard rotor aircraft, using numerical and analytical methods; controlling bladesailing phenomena by using smart structures technology;

optimization of actuator configuration and positioning using genetic algorithms; and stability analysis of elastic systems subjected to follower type forces. <u>Read more</u> about Dr. Afagh.



#### Burak Gunay

Assistant Professor, Building Science Projects: ID40 (Africa) and ID88 (Latin America) Research Assistant: Yagmur Babaoglu, PhD in Environmental Engineering

#### Twitter: @civilenvirograd

Dr. Gunay's research interests include adaptive indoor climate control in buildings; automated fault detection and diagnostics in buildings; data-driven modelling in building science; building performance simulation; and big data for intelligent buildings. He is a member of the Carleton Building Performance Research Centre (<u>BPRC</u>), which seeks to advance the state of the art in building and community design and operations for low energy and greenhouse gas emissions, while improving comfort and usability. Dr.

Gunay is also the principal investigator of the Datadriven Building Operation and Maintenance (<u>DBOM</u>) laboratory – a research group that operates within the BPRC. The research group examines methods to optimize the operation of commercial and institutional buildings for comfort and



energy use. <u>Read more</u> about Dr. Gunay.

#### **Jill Wigle**

## Associate Professor, Geography and Environmental Studies

Projects: ID61 and ID80 (Latin America) Research Assistant: TBC, previously Lucia Vargas who has now completed her studies

#### Twitter: @CarletonDGES

Prof. Wigle received her PhD in Geography from the University of Toronto. After completing a postdoctoral fellowship at the Universidad Autónoma Metropolitana (Azcapotzalco) in Mexico City, she joined the Department of Geography and Environmental Studies at Carleton. Her primary research interests include informal housing and settlement processes, urban spatial regulation, and sociospatial conflict in Latin America, especially Mexico City.

#### **Chiara Del Gaudio** Assistant Professor, Industrial Design

Project: ID53 (Latin America)

Research Assistant: Najeeba Ahmed, MDes Industrial Design Student

#### Twitter: @Chiara\_dg

Chiara Del Gaudio is a designer, a researcher, and Assistant Professor at Carleton University's School of Industrial Design. Her work focuses on design as a political process, power and conflict within design processes, and explores the possibilities for design processes for selfdetermination. Her practice embraces participatory and collaborative design approaches, strategic and speculative design. <u>Read more</u> about Prof. Del Gaudio.



Before starting her doctorate, Jill worked as an urban planner in Toronto and remains a Member of the Canadian Institute of Planners (<u>MCIP</u>). She is cross-appointed to the Institute of Political Economy at Carleton. <u>Read more</u> about Prof. Wigle.



#### **Catherine Bonier**

Associate Professor, Architecture and Urbanism

Projects: ID37 and ID41 (Latin America), with Ozayr Saloojee

Research Assistant: Fiki Falola, M.Arch student, Azrieli School of Architecture and Urbanism Twitter: @CarletonU\_Arch

Prof. Bonier teaches in architectural and urban design, research, history, and theory. Her research spans from historical analysis to futuristic visions, and centers on the shaping of the built environment around water, technology, and ideas of



health and balance. Her prior positions in construction management, mental health counseling, and video game design contribute to her focus on the nexus of evolving technologies, shifting environments, social equity, and urban health.

Prof. Bonier is co-director and co-founder of the Carleton Urban Research Lab\_(<u>C-URL</u>) with Prof. Ozayr Saloojee. C-URL is engaged in collaborative interdisciplinary research, teaching, and design centered on three themes — water, cities, and equity. She is also one of many multidisciplinary researchers on the <u>Global Water Initiative</u>, exploring and addressing local and international water management challenges. <u>Read more</u> about Prof. Bonier.

#### Ozayr Saloojee

Associate Professor, Architecture and Urbanism'

Projects: ID37 and ID41 (Latin America), with Prof. Catherine Bonier

Research Assistant: Fiki Falola, M.Arch student, Azrieli School of Architecture and Urbanism Twitter: @osaloojee | @CarletonU Arch

Prof. Saloojee teaches courses in architectural design, urbanism and history & theory, exploring themes and questions of infrastructure, water, post-colonialism, and alternative urban and landscape futures. His research and academic interests include a focus on politically contested terrains and infrastructure through the intersections of architecture, landscape, cultural geographies and geoimaginaries.

Prof. Saloojee is co-director and co-founder of the Carleton Urban Research Lab\_(<u>C-URL</u>) with Prof. Catherine Bonier. C-URL is engaged in collaborative interdisciplinary

research, teaching, and design centered on three themes — water, cities, and equity. <u>Read more</u> about Prof. Saloojee.



#### **Mika Westerlund**

Associate Professor, Entrepreneurship

Projects: ID33 and ID79 (Africa)

Research Assistant: Madiha Rehman, MABA – Technology Innovation Management student

#### Twitter: @Timprogram

Dr. Westerlund's current research interests include open and user innovation, the Internet of Things, social big data, natural-linguistic programming (NLP), emerging technologies, business strategy, small and medium enterprises (SME), and management models in high-tech and service-intensive industries, among others. His areas of expertise include technology entrepreneurship and commercialization, user innovation and innovation adoption, industrial ecology and sustainability entrepreneurship, business networks, and online

user communities. Dr. Westerlund also teaches the master level Technology Innovation Management (<u>TIM</u>). <u>Read more</u> about Dr. Westerlund.



#### Vivian Nguyen

Assistant Professor, Institute of Environmental and Interdisciplinary Science

Projects: ID47 and ID57 (Africa), with Owen Rowland

Research Assistant: Andrew Howarth, MSc Biology student (Fish Ecology and Conservation)

Twitter: @vivmn | @CarletonBiology

Prof. Nguyen's research embodies inter-and transdisciplinary principles to solve today's environmental and societal challenges such as natural resource biodiversity conservation, management, ecological restoration, climate change adaptation, food insecurity, among others. Her research uses concepts and principles from knowledge exchange and mobilization theory, social ecology, conservation social science, and human dimensions research. As a result, her work is very collaborative and spans the natural and social sciences,

as well as science and policy. Read more on The Social-Ecological Research and Applications Collaborative (SERAC) and about <u>Prof.</u> Nguyen.



#### Owen Rowland Professor, Biology and Institute of Biochemistry

Projects: ID47 and ID57 (Africa), with Vivian Nguyen Research Assistant: Andrew Howarth, MSc Biology Student (Fish Ecology and Conservation) Twitter: @CarletonBiology

### Prof Powland's research recognizes

Prof. Rowland's research recognizes that plants are our greatest source of renewable resources, providing food, medicines, industrial products, and biofuels. Agriculture around the world will face many challenges over the coming decades, including those imposed by changes in global



climate patterns. His key research interests include understanding plant adaptations that protect against environmental stresses, such as drought, salt stress and pathogen attack, which is critical for generating crop varieties that are more stress resistant. Prof. Rowland's

NSERC-funded research program is primarily aimed at understanding the biosynthesis and function of protective plant surface barriers that are composed of polymerized lipids and associated waxes. <u>Read more</u> about Prof. Rowland and his <u>Rowland Lab</u>.

#### **Tracey Lauriault**

Assistant Professor, Critical Media and Big Data Projects: ID38 and ID 73 (Africa), and ID50 (Asia) Research Assistant: Maya Chopra (temporarily), MDes, Industrial Design student Twitter: @TraceyLauriault | @CUIDS Carleton

Dr. Lauriault's research focus is part of a new field entitled critical data studies, and her areas of interest are data, infrastructures and geographical imaginations, spatial data infrastructures, open data and the preservation and access to research and geomatics data and Big Data. She is also actively engaged in public policy research as it pertains to data and their related infrastructures. Dr. Lauriault is a Board member for The Carleton University Institute for Data Science (<u>CUIDS</u>), which supports the growth of interdisciplinary research and graduate studies in data science. <u>Read more</u> about Dr. Lauriault.



## **PROJECT SPOTLIGHT**

In each Bulletin issue, Project Spotlight will introduce a selection of projects from across the regions. <u>Find</u> information on all the GDS projects here.

## Improving access to financial services for women in Ethiopia (ID33)





#### Stream 2 - Case study plus prototype

This project aims to provide financial services to women in Ethiopia through a mobile app. The researchers aim to conduct a survey in order to develop a prototype that addresses the needs and concerns of women in Ethiopia.

The team comprises of three assistant professors from Addis Ababa University; primary investigator Dr. Getachew Mengesha, and co-principal investigators Dr. Elefelious Getachew and Dr. Moges Ayele who have expertise in Information Systems, Software Engineering and Development Psychology respectively. Other team members include three female lecturers, a graduate assistant, and a student, who all have a background in Information Systems (IS).

## Modernizing the batik industry to improve income for women in Tanzania (ID79)



Stream 2 -Case study plus prototype

This research project aims to modernize the batik production process in Tanzania to assist women in becoming the primary batik producers. This modernization will provide women in Tanzania a higher and more sustainable income

towards alleviating poverty. The first phase of the project will focus on establishing techniques for local producers to create higher quality batik, and the second phase will work with artists to develop new motif designs and patterns for batik.

L to R: Ms. Viridiana Sulle (MSc Eng. student); Mr. Lucas Japhet (BSc Textile Eng. student); Ms. Happiness Wella (BSc Textile Eng. student); Dr. Pendo Bigambo (PI); Ms. Safina Kimbokota (Co-PI); Dr. Mbonea Mrango (Co-PI)



Iop L to bottom R: Dr Getachew (PI); Dr Elefelious (Co-PI); Dr Moges (Co-PI); W/ro. Selamawit (lecturer of IS); W/rt. Bitanya (student of IS); W/rt. Dagmawit (lecturer of IS); W/rt. Mihret (lecturer of IS)



Primary investigator: Dr. Getachew Hailemarian Mengesha Co-Primary investigators: Dr. Elefelious Getachew and Dr. Moges Ayele

Institute: Addis Ababa University

The research team consists of primary investigator Dr. Pendo Bigambo and co-primary investigator Dr. Mbonea Mrango, both lecturers in textile technology at the University of Dar Es Salaam. While co-primary investigator Ms. Safina Kimbokota is a senior artist in residence at the university. The remaining members of the team are students and research assistants.

Primary investigator: Dr. Pendo Bigambo Co-Primary investigators: Dr. Mbonea Mrango and Ms. Safina Kimbokota Institute: University of Dar es Salaam



#### Exploring urban childcare infrastructures to support women's autonomy in Argentina (ID37)





Stream 1 -Case study

Using the public childcare systems of Córdoba as a case study, this project will highlight the omission of women in urban planning, and how this influences their daily lives. The study will produce qualitative maps and new research in order to argue for a feminist approach to urban planning. Cartography will be a tool to bring new arguments to the debate, while focusing specifically on how low-income women experience the public childcare infrastructures of Córdoba, in Argentina.

The team consists of eight feminist researchers committed to gender studies, the majority with Master's or PhD. Their expertise includes gender and urban studies, architecture, public policy and law. Ana Falú is a well-recognized expert in Feminist Women and Cities studies with more than four decades of producing knowledge, teaching and advocating on Housing, Services and Infrastructures.



Primary investigator: Professor Ana Falú Co-Primary investigator: Mgt. Eva Lia Colombo Institute: Centro de Intercambio y Servicios Para el Cono Sur Argentina (CISCSA) – Ciudad Feminista

3D-printed prostheses to support female survivors of domestic violence, accidents or cancer treatment in Brazil (IDA)



Stream 2 - Case study plus prototype

This research project examines the effects of providing visually and/or mechanically enhancing prostheses to lowincome women with visible disabilities caused by domestic violence, accidents or cancer treatment. A first round of prostheses provided to the women improved their quality of life in many ways, including their social inclusion, self-worth, confidence, and independence. Supported by the experiences from the first round of 3D-printed prostheses, including the nose, ear, breast and upper lip, to improve further the outcome for the women. Rehabilitation and psychological support for the women have been integrated into the project design. The research team is comprised of one PhD student, three master students and two undergraduate students, as well as a psychologist and biomedical engineer. Dr

Kunkel's expertise is in Biomechanics, Co-Principal Investigator Dr Ferreira's is in History and Gender Studies, and Co-Principal Investigator Dr Felipe Moura's is in Physical Education.



Isabeli tries 3D-printed prosthesis with occupational therapist

Primary investigator: Dr. Maria Elizete Kunkel Co-Primary investigators: Professor Luciana Ferreira and Professor Felipe Moura (UEL)

*Institute*: Universidade Federal de São Paulo (UNIFESP) *with* Universidade Estadual de Londrina (UEL)

#### Designing mobile services for ageing women in Malaysia (ID50)



Stream 1 -Case study

This case study will look at gender and age differences in mobile use preferences and behaviour patterns. Data will be collected through focus groups and surveys to understand mobile use. The findings will inform the design of mobile apps to increase smartphone ownership use among ageing women in Malaysia. The interdisciplinary research team consists of five members who have completed a PhD and/or a Master's from various institutions across Malaysia. Each researcher brings a unique perspective to the project. Their expertise includes: gerontechnology, IT in human factors, creative multimedia, economic growth, gender and development studies, and medical statistics.

#### Primary investigator: Dr. Chui Yin Wong

*Co-Primary investigators*: Associate Prof. Dr KOO Ah Choo (MMU); Dr Yvonne LEE (MMU); Dr LAI Wan Teng (USM); and Hazwan Mat Din (UPM)

Institute: Multimedia University (MMU), with

Universiti Sains Malaysia (USM) and Universiti Putra Malaysia (UPM)



#### The overall objective of the GDS program is:

To build capacity for research, design and dissemination of gendered innovations in Science, Technology, Engineering, the Arts and Mathematics (STEAM), addressing challenges predominantly faced by women in lowand middle-income countries (LMICs).

Twenty projects were awarded by Carleton University to receive a grant, funded by the International Development Research Centre (<u>IDRC</u>). Nine projects were awarded in Africa, eight projects across Latin America and three projects in Asia.

The teams work in a variety of fields that practice design processes, but they share a common goal: to identify and overcome gender bias and tackle issues especially affecting women in lower- and middleincome countries. All of the research teams have a strong female involvement. Driven by local interests, the awarded projects go beyond the common focus of gender innovations in health and agriculture by supporting advances in the fields of STEAM related to: transport, renewable energy, built environment and housing, manufacturing, infrastructure, and accessibility.

The GDS Program is led by principal investigators <u>Bjarki Hallgrimsson</u>, director of the School of Industrial Design, and <u>Dominique Marshall</u>, professor in the History Department. <u>Chiara Del Gaudio</u>, assistant professor in the School of Industrial Design, is the Program's investigator. Kerry Grace is the Program Coordinator. In this first edition, we reflect on the objectives, activities and feedback following LabOne of the GDS Program that took place over four days between October 21 and December 2, 2020.

#### Objectives

- To advance the research questions, structure of research proposals and methodologies of projects.
- To advance Stream 2 projects in innovating the design process and rethinking design approaches.
- To converge, share and exchange participants' and experts' knowledge, expertise and experience in gendered design.
- To create networking opportunities across the GDS network.



#### Activities

Day 1 - lectures and conversations on crucial topics for Gendered Design research and practice.

Day 2 - workshop activities aimed at exploring together the characteristics of research and knowledge production on Gendered Design (GD), and the relevance of situated knowledge and local perspective.

Day 3 - workshop activities aimed at discussing the methodological and research choices made, the design process envisioned and exploring together new possibilities. Day 4 - sharing reflections about the workshop activities and related achievements

The Regional Experts facilitated and supported the activities. Several questions were considered to help the projects reflect and analyze their proposal, and redesign as new understandings and discussions took place, including: what is GD; what is a research question on GD; what local knowledge should be taken into consideration.

<u>Miro</u> boards were used to support projects in selecting and organizing core information about their research, to promote reflections on the main issues and chosen methodologies, and to explore theoretical territory.

Technology - Language - Time zones - Too long - Too short -Using Miro - Interactions - Clarity of instructions Challenges The GDS Labs are regular events that gather the participants and experts of the GDS program for the collective exploration, knowledge building and advancement on Gendered Design (GD). They consist of activities for collectively producing knowledge on Gendered Design through the discussion and exchange of current understandings, research activities and theoretical perspectives on the topic.

#### Feedback and adapting

The agenda and objectives of LabOne was ambitious, especially with the complex nature of the Program, bringing together multiple projects, from multiple countries, from multiple sectors. This feature of the Program is one of its biggest challenges, yet also a key objective to connect, expand and enhance the community of experts and innovators in GD, particularly in LMICs.

Gender studies is commonly situated in the social sciences and many projects have a different background, such as engineering and technology.

> Using Miro - Learning about gender research & design - Hearing about other projects - Opportunities for collaboration - Sharing ideas - Generation of new ideas & Opportunities approaches

LabOne helped put the foundations in place and provide tools and questions to stimulate discussions and reflections, during the workshops and beyond.

Getting the balance right between project presentations and collective exploration, discussion and synthesis was challenging. Feedback received after each Lab day was used to help influence adapting the activities, but it was most helpful in the future planning of other Labs and exploring ways to bring further collaboration between projects, and across regions and sectors.

LabOne marked a key milestone in the commencement of the awarded projects and we look forward to their development as we advance gendered design in STEAM.

## A CLOSER LOOK

"The viability of technology, like democracy, depends in the end on the practice of justice and on the enforcement of limits to power." (Franklin, 1999:5)

Aming Mire reflects on designing technology for gender accessibility by returning to the ground-breaking work of the late Dr. Ursula Franklin. When Amina was a graduate student at University of Toronto, she had the honour of interviewing Dr. Franklin. Her ideas have informed Amina's own work and teaching practices ever since.

#### Practice

Dr. Franklin aptly suggested that the best way to think about technology is to see it as 'practice'. Seeing technology not just as specific gadgets and gears but also as practice, allows us to see its broader social and political implications. According to Franklin, as practice, technology 'has built a house we all live'. Imagining technology as a house has profound implications for it allows us to ask questions such as who designs the house, its accessibility, control, inclusion and exclusion. Furthermore, imagining technology as a house allows us to pay critical attention to the processes of designing new technologies or remodelling old ones.

#### Control

It also allows us to identify inbuilt hierarchical features that go beyond efficiency and functionality. The way interior spaces of civilian airplanes are designed so that first-class travellers have more space to sleep and relax, whereas those in the economic class are forced to sit on narrowly designed seats with limited opportunity to stretch and relax without encroaching on the next person's space. This is a very familiar example of a design that prioritizes hierarchical control of space.

If the experiences of ordinary air travellers were taken into account in the designing processes of airplanes, air travel would have been less harmful to travellers. It is not



accidental that while there is strong public concerns with how airline travel contributes carbon emission that exacerbates climate change, there is little public awareness of how designs of civilian airplanes incorporate oppressive features.

An example of how technological designs can enact and reinforce exclusion and marginalization is through urban gentrification of residential areas. This often depends on the privatization of previously publicly owned spaces. Common features of gentrification of spaces is the spatial demarcations that are inbuilt in the designing processes, such as the absence of public parks and placing sitting benches closer to upscaled and gentrified business centers or residential neighbourhoods.

#### Empower

While the planning and the spatial organization of urban gentrification, and designing modern civilian airliners seem incommensurable, in reality they share a number of inbuilt technological designs that prioritise control and minimize these technologies' capacity to promote justice, fairness and reciprocity.

Taking into account how technological designs can curtail accessibility, fairness and reciprocity could help us design new technologies that minimizes racial, class and gender based forms of exclusion by design. When we imagine Franklin's proposition that 'technologies as agents of change and social transformation', we can imagine how to design technologies that prioritizes values, demands and the needs of ordinary people. By ordinary people, I mean women, working people, immigrants, refugees, young people, ecologists, environmentalists, and educators, students in the decision-making, planning and use of new technologies.

The COVID-19 pandemic has further highlighted the urgent need for designing new technologies that prioritize, context, concrete experiences, justice, fairness, and accessibility, over maximizing private gains and control.

Amina Mire - GDS Gender Expert, Associate Professor, Sociology and Anthropology, Carleton University

### **Q&A WITH**

In our first edition, we talk to Claire Thompson, Program Officer from International Development Research centre (IDRC) who are funding the GDS Program.

#### 1. What does IDRC do?

IDRC invests in knowledge, innovation, and solutions to improve the lives of people in the developing world. We support research that builds evidence to break the cycle of poverty, reduce inequalities and vulnerabilities, and help people live healthier and more sustainable lives.

## 2. What is your role at IDRC and what do you like most about it?

I am a Program Officer in the Education and Science Division; this means I am responsible for a portfolio of IDRC-supported projects, including the Gendered Design in STEAM project. I most enjoy those opportunities where I can engage directly with researchers around the world. I learn so much!

## 3. How did the idea for the GDS Program come about?

My colleagues and I were particularly inspired by a workshop hosted by GenderInSITE and partners in 2017: "Gender and Innovation: Implications for Sustainable Development" (<u>read policy brief</u>). We had previously supported a small project with Carleton's School of Industrial Design but, even given IDRC's limited knowledge of the field of Design, we could see exciting possible synergies – and so we approached Carleton and the rest is history!

## 4. What do you hope the GDS Program will achieve?

We hope the GDS program will add to the growing literature and conversations on the importance and benefits to all of "gendering" innovation and design, and showcase concrete examples from the Global South.



Claire Thompson, Program Officer, IDRC

#### 5. What is gender-transformative research?

Not all IDRC-supported projects are or should be gendertransformative, but all are expected to be at minimum gender-sensitive. All transformative work takes time and, as you designers well understand, needs to be designed appropriately!

Gender-transformative research unpacks social inequalities, provides space for women, men, and nonbinary genders to learn, and engages with people across the socio-economic spectrum to change the norms that enable inequalities.

A research project is "gender-transformative" if these considerations are addressed in its rationale and methodology and if it includes a rigorous analysis of root causes, gender power relations, and intersectionality (multiple vulnerabilities experienced by individuals or groups, such as race, class, sexual orientation, abilities, and ethnicity, alongside gender). The goal are projects that lead to changes in social norms and social relations and gendered power dynamics at different levels. See report on <u>Transforming gender relations: Insights from IDRC</u> research.

## 6. Where can I learn more about the work of IDRC?

Website: www.idrc.ca Subscribe to the IDRC Bulletin Subscribe to the Funding Alerts Twitter: @IDRC\_CRDI Facebook: @IDRC.CRDI YouTube: https://www.youtube.com/user/IDRCCRDI

### **OPEN LEARNING**

Here is a selection of recommended readings from our expert network. Also included are a couple of videos from recent presentations and discussions that you may find of interest.

• Franklin, U. (1999) 'The real world of technology (revised edition)'. Toronto: House of Anansi Press Limited

• Schwittay, A. (2019). 'Designing urban women's safety: An empirical study of inclusive innovation through a gender transformation lens.' European Journal of Development Research, 31(4): 836-854

This article analyzes the use of human-centered design to make urban areas safer for marginalized women.

• Maharawal, M. & McElroy, E. (2018) 'The anti-eviction mapping project: Counter mapping and oral history toward Bay Area housing justice.' Annals of the American Association of Geographers, 108(2): 380-389

Explores the importance of community involvement in research, and for projects to directly benefit the communities it works with, and advance activism taking place on the ground.

• Vossenberg, S. (2018) 'Frugal innovation through a gender lens: Towards an analytical framework.' European Journal of Development Research 30(1): 34–48

This article analyzes the role of frugal innovation processes as a potential means to empowerment and enhanced wellbeing of marginalized women. The key focus is on exploring when frugal innovations are more likely to reproduce or transform institutionalized gender-related constraints that structure how men and women can access resources and opportunities.

January 19, 2021 - The Faculty of Arts and Sciences at Carleton University roundtable discussion on Imagining a Just City.

The panel discussed ideas, actions and practices related to: housing for people not profit, caring communities, and feminist, anti-colonial and antiracist planning and city-making in Ottawa in times of Covid-19 and beyond.

Watch the roundtable: <u>https://carleton.ca/fass/events/healthy-cities/</u> January 13, 2021 - Presentation hosted by Institute of African Studies (IAS) at Carelton University. Transport justice in South Africa – mapping the gendered impact of transport policy in Johannesburg by Trinish Padayachee. @TrinishP

How poverty, family responsibilities, gender and age count when it comes to the length, number and cost of essential journeys.

Watch the talk: <u>https://youtu.be/x--6ktUEeWU</u>

• Selvi Ünlü, T. (2019) 'Urban memory and planning: Investigating the use of oral history.' European Planning Studies 27(4): 802-817

Understanding how people experience and perceive space, and how it relates to identity, in order to conduct ethical and meaningful urban planning.

• Sunikka-Blank, M., Bardhan, R. & Nasra Haque, A. (2019) 'Gender, domestic energy and design of inclusive low-income habitats: A case of slum rehabilitation housing in Mumbai, India.' Energy Research & Social Science 49: 53–67

Women's involvement in decision-making in domestic energy remains under-researched. This research adopts a gendered perspective to explore women's household and working practices and uses a survey, a focus group discussion, interview narratives and systems analysis.

• Kallitsis, P., Soilemezi, D. & Maguire Elliott, A. (2018) 'Disabling spaces and spatial strategies: Feminist approaches to the home environment of family caregivers of people with dementia.' Home Cultures 15(3): 265–287

This is a good paper for looking at methods of investigating people's relationship with the home environment. Using a gender-based perspective, the authors analyzed thirteen interviews with family caregivers to understand how they perceived their home space. Given the gendered nature of caring, the findings are discussed drawing on the work of feminist architects regarding the home environment.



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