

# Tshui Mum (Summer) Ha

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## Education

**The Ohio State University**, Columbus, OH, USA

Ph.D., Geography; Advisor: Dr. Harvey Miller

SEPTEMBER 2024 - May 2028(Anticipated)

**Vrije Universiteit Amsterdam**, Amsterdam, The Netherlands

DIP Geographical Information Science

SEPTEMBER 2022 - JULY 2024; CGPA: 8.90/10.00

**University of Nebraska-Lincoln**, Lincoln, NE, USA

MS Architecture; Advisor: Dr. Rumiko Handa

AUGUST 2013 - MAY 2015; CGPA: 3.92/4.00

**LASALLE College of the Arts**, Singapore

BA (Hons) Interior Design

AUGUST 2009 - MAY 2012

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## Academic / Professional Positions

**Graduate Research Associate (Geography)**

Center for Urban and Regional Analysis, The Ohio State University, Columbus, OH, USA

AUGUST 2024 - PRESENT

**Senior Researcher (Geoinformatics)**

Pomeroy Academy, Singapore (Remote Work)

JULY 2022 - SEPTEMBER 2023

**Research Associate & Project Coordinator (Architecture & Sustainable Design)**

Social Urban Research Groupe (SURGe), Singapore University of Technology and Design (SUTD), Singapore

FEBRUARY 2016 - SEPTEMBER 2021

**Project Lead (Sustainable Child-friendly Environmental Design)**

Singapore University of Technology and Design (SUTD), Singapore and Tiên Lữ, Hanoi, Vietnam

DECEMBER 2017 - DECEMBER 2018

**Teaching Assistant (Architecture & Sustainable Design)**

Singapore University of Technology and Design (SUTD), Singapore

JANUARY 2017 - APRIL 2017

**Interior Design Intern**

OPN Architects, Cedar Rapids, IA, USA

JUNE - OCTOBER 2015, CEDAR RAPIDS, IA, USA

**Teaching Assistant (Architecture)**

University of Nebraska-Lincoln, Lincoln, NE, USA

JANUARY - DECEMBER 2014

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## Publications

Ha, T.M., Kato, Y. & Chong, K.H. Data analytics for community and planning. In K. H. Chong (Ed.), *Data-driven smart community design*. London: Routledge. (Manuscript in typesetting and proofreading, to be published by the end of 2024 or early 2025)

Chong, K.H., Ha, T.M., To, K. & Yuen, C. (2022). Inclusive smart community: Towards a socially integrated and enabling community. In O. Heckman (Ed.), *Future urban habitation: Transdisciplinary perspectives, conceptions, and designs* (pp. 49-66). Chichester: Wiley

Blackwell. Retrieved from: <https://doi.org/10.1002/9781119734895.ch3>

Cho, M., **Ha, T.M.**, Lim, Z.M.T. & Chong, K.H. (2018). "Small places" of aging in a high-rise housing neighborhood. *Journal of Aging Studies*, 47, 57-65. doi: <https://doi.org/10.1016/j.jaging.2018.10.003>

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## Conference Presentations

Neo, S.M., **Ha, T.M.**, Chan, C.G.H., Chong, K.H. & Yow, W.Q. (2021, December). *The impact of relational variables on neighborliness and civic engagement in public housing in Singapore*. Presented at the Singapore Conference on Applied Psychology (SCAP) [Virtual Conference session], Singapore.

**Ha, T.M.**, Kato, Y., Cheng, Q.Q., Chong, K.H., Poorthuis, A. & Tan, A.T.T. (2020, June). *Tracing precinct typology and their relationship with community interactions, participation, and sense of place in high-rise, high-density public housing*. Presented at the 26th Virtual Conference on International Association People-Environment Studies (IAPS) [Virtual Conference session], monitored from Quebec City, Canada due to the Covid-19 pandemic.

Chong, K.H., **Ha, T.M.**, He, X. and Tuncer, B. (2019, May). *When big data meets thick data: Deriving evidence-based urban design principles for high-density neighborhood public spaces*. Presented at the Environmental Design Research Association (EDRA), Brooklyn, New York, USA.

Chong, K.H., **Ha, T.M.** & Tan, A.T.C. (2019, May). *The role of precinct typology in community building and placemaking: An evidence-based study in Singapore's public housing*. Presented at the Environmental Design Research Association (EDRA), Brooklyn, New York, USA.

Chong, K.H. & **Ha, T.M.** (2016, December). *Building interest-based public spaces: bird-singing corners*. Paper presented to the Great Asian Street Symposium (GASS), Singapore.

To, K., Chong, K.H. & **Ha, T.M.** (2016, December). *Livability of ground-level circulation space in public housing neighborhoods: An evidence-based study*. Paper presented to the Great Asian Street Symposium (GASS), Singapore.

**Ha, T.M.** (2015, November). *Reuse, recycling, and reintroduction of history with contemporary eyes through adaptive reuse*. Paper presented to East Asian Architectural Culture (EAAC), Gwangju, South Korea.

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## Contributions / Acknowledgments / Volunteering

**Geography Graduate Organization (GGO) — Speakers Committee Representative**, The Ohio State University

SEPTEMBER 2024 - PRESENT

- Provide logistical planning and technical support for the [Speaker Series](#) held by the Department of Geography
- Curate the speakers for the upcoming Speaker Series
- Prepare promotional materials for the Speaker Series
- Meet monthly with the Geography Graduate Organization (GGO) to discuss current initiatives and key issues affecting graduate students in the department.

**Pomeroy, J. (2023). *Hardware, software, heartware: Digital twinning for more sustainable built environments*. Abingdon: Taylor & Francis.**

JULY 2022 - SEPTEMBER 2023

- Contributed to the empirical analysis of urban-scale digital twin case studies, as well as research on information management framework for improved data interoperability and data exchange

**The Haven's Children Home by The Salvation Army**, Singapore

MARCH - SEPTEMBER 2021

- Volunteered as a mathematics tutor for youth dealing with challenging or dysfunctional home environments

**Denise Nicole Lim, Keng Hua Chong (2020, October). *Rise of virtual community initiatives and O2O community development framework*. Paper presented at the 13th Conference of the International Forum on Urbanism (IFoU), Nanjing, China.**

OCTOBER 2020

- Provided guidance and insights into the design of a community development framework, enabling the quantification and objective assessment of community initiatives that emerged during the COVID-19 pandemic

**Architecture Saving OUR World, SIA Virtual Conference**, Singapore

SEPTEMBER - OCTOBER 2020

- Planned for conference programs and schedules
- Coordinated with conference speakers, moderators, emcee, and different parties involved to ensure the smooth planning
- Prepared and curated promotional content for the ticketing platform
- Provided logistical planning and technical support to host the 3-day conference

#### **Pecha Kucha Penang Night x Singapore Archifest 2020: Let's Go-Ro!** Singapore

SEPTEMBER 2020

- Co-moderated the session

#### **I-together Initiative, June-December 2020**, Singapore

JUNE - DECEMBER 2020

- Initiated this initiative to empower seniors with the skills needed to use Zoom, enabling them to remain engaged with online communities and virtual activities during the COVID-19 pandemic when physical activities were restricted and cordon sanitaire was imposed

#### **Chong, K.H. & Cho, M. (eds.) (2018). *Creative aging cities: Place design with older people in Asian cities*. UK: Routledge.**

- Coordinated with contributors (from Tokyo, Shanghai, Taipei, Hong Kong, and Seoul) and Routledge publisher in the editing and compilation of manuscripts

### **Awards / Research Grants / Scholarships**

- **Jyoti and Aditya Mathur Student Achievement Awards: Humanitarian Award** (awarded for the research project: *Sustainable Child-friendly Environmental Design: A Participatory Action Research Approach*), Singapore University of Technology and Design (SUTD)  
MARCH 2019, SINGAPORE
- **SUTD-MIT International Design Centre (IDC) US\$18,407.43 Research Grant** (awarded for the research project: *Sustainable Child-friendly Environmental Design: A Participatory Action Research Approach*), Singapore University of Technology and Design (SUTD)  
DECEMBER 2017 - DECEMBER 2018, SINGAPORE
- **International Student Scholarship** (US\$2,000 awarded to international students who demonstrated community involvement in their home country and/or extra-curricular activities in Lincoln/UNL), University of Nebraska-Lincoln  
FEBRUARY 2015, LINCOLN, NE, USA
- **Teaching Assistantship** (US\$4,500 per semester), University of Nebraska-Lincoln  
JANUARY - DECEMBER 2014, LINCOLN, NE, USA
- **Most Professional Student Award** (awarded to the top student in the cohort who demonstrated exceptional professional knowledge in the field of interior design), LASALLE College of the Arts  
NOVEMBER 2011, SINGAPORE
- **Top of the Class Award** (awarded to students who ranked in the top 3 of the cohort), LASALLE College of the Arts  
NOVEMBER 2009, SINGAPORE

### **Teaching Experiences / Talk**

Invited speaker:

- **Year 3 & 4 Public Space Design, "Typological Groupings and Strategies of Adaptive Reuse"** / Class of ~20 students  
JANUARY 2020, Srishti Manipal Institute of Art, Design and Technology, Bangalore, India

Marked coursework; provided mentorships and feedback on students' assignments on the following subjects:

- **Year 3 & 4 Architectural Design Studio (Rethinking Public Space & Connectivity)** / Class of ~12 students  
JANUARY - APRIL 2017, Singapore University of Technology and Design, Singapore
- **Year 3 & 4 Architectural History & Theory** / Class of ~60 students  
AUGUST - DECEMBER 2014, University of Nebraska-Lincoln, Lincoln, NE, USA
- **Year 1 History of Design** / Class of ~130 students  
JANUARY - MAY 2014, University of Nebraska-Lincoln, Lincoln, NE, USA

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## Research Experience (Selected)

### Pomeroy Academy / Senior Researcher (Geoinformatics)

JULY 2022 - SEPTEMBER 2023, REMOTE WORK

*Developing a digital twin strategy to align with the Slovak government's goal of modernizing planning and construction laws in line with the country's digital transformation.*

- Developed a comparative analytical framework, through a literature review, to facilitate empirical analysis of urban-scale digital twin case studies, enabling gap analysis and theoretical understanding of existing practices
  - Identified and engaged key stakeholders to solicit feedback on digital transformation and (national) digital twin implementation
  - Specified standards of data collection (e.g. update frequency, scale, stakeholders involved) based on user requirements
  - Translated stakeholders' feedback into a *Digital Twin Strategy Playbook* for clients, encompassing data layers & indicators, theory of change, information management framework, and scenario planning
  - Contributed to publications relating to digital twins in an academic book and educational videos
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### Social Urban Research Groupe (SURGe) / Research Associate & Project Coordinator in Architecture & Sustainable Design

FEBRUARY 2016 - SEPTEMBER 2021, SINGAPORE

*Developed town planning strategies to meet the diverse needs of current and future residents, improving neighborhood quality of life and fostering self-sustaining communities. An urban analytics tool was created to assess trade-offs in scenario planning through simulations.*

- Engaged in a micro-local mobility simulation study to investigate travel behavior within 3 high-rise, high-density residential towns of different socio-demographics
  - Spearheaded the integration of multi-modal, multi-source data to develop an urban analytics tool, encompassing Accessibility model, Virtual Population model, Quality of Life framework, and Ecosystem Services model
  - Led a series of participatory action research (e.g. interviews, focus groups, surveys) and developed frameworks for community capacity building and community-based sharing system
  - Conducted geospatial and statistical data analysis to examine socio-spatial trends and quality of life in urban environment
  - Translated analysis results into sustainable, people-centered urban planning principles
  - Synthesised and co-authored research findings for publications and presentations focusing on quality of life and precinct typologies
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### Social Urban Research Groupe (SURGe) / Project Lead for Sustainable Child-friendly Environmental Design [Voluntary Project]

DECEMBER 2017 - DECEMBER 2018, TIÊN LŨ, HANOI, VIETNAM

*Designed and constructed a kindergarten playground and courtyard in a suburb near Hanoi, Vietnam by adopting Participatory Action Research (PAR) methodology*

- Planned and oversaw research grant application
  - Designed research framework and methodology for data collection and context-based needs finding through socio-spatial and environmental analysis
  - Led a series of community engagements to understand the local dynamics for designing an inclusive learning environment for children
  - Performed project management and liaised with both local and overseas project stakeholders
  - Developed a collaborative construction plan and strategy to jointly create the design alongside project stakeholders, construction partners, and local communities
  - Designed evaluation framework and analyzed data from post-occupancy evaluation (POE) to provide insights into sustainable community design in developing regions
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## Relevant Coursework

- **Programming:**
  - **The Ohio State University** / GEOG5222 GIS Programming
  - **HarvardX CS50W (edX)** / [Web Programming with Python and JavaScript](#)
  - **Vrije Universiteit Amsterdam** / EQ\_GIS\_PFG Programming for GIS
  - **Vrije Universiteit Amsterdam** / EQ\_GIS\_GDB Geodatabases
  - **MITx (edX)** / [Introduction to Computer Science and Programming using Python](#), view certificate [here](#)
  - **Singapore University of Technology and Design (SUTD)** / [Urban Data & Methods 1 & 2: Computational Urban Analysis](#)

- **Geographic Information Science:**
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_GVZN Geovisualization
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_GP Geoprocessing
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_GCSQ Geodata Capture, Standards, and Quality
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_WOS1 Workshop - Spatial Analysis and Decision Support: GIS and Risk Management
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_DT Digital Twin
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_ARS Advanced Remote Sensing
    - **Vrije Universiteit Amsterdam** / EQ\_GIS\_WO2 Workshop - Internet GIS
  - **Other courses:**
    - **The Ohio State University** / ACCAD7104 Procedural Animation
    - **University of Pennsylvania (Coursera)** / [Network Dynamics of Social Behavior](#), view certificate [here](#)
    - **SDGAcademyX (edX)** / [How to Achieve the Sustainable Development Goals](#), view certificate [here](#)
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## Skills

- **Technical Skills:** Python, CityEngine, Houdini, RStudio, Javascript, HTML, CSS, Google Earth Engine, QGIS, ArcGIS Pro, ArcGIS Online, ArcGIS Experience Builder, Netlogo, ArcGIS Insights, PostgreSQL, PostGIS, Atlas.ti, AutoCAD, SketchUp, Adobe Suite
- **Analytical Skills:**
  - **Spatial:** Spatial analysis and modeling, Web mapping and Web App development (OpenLayers), geodatabase schemas, spatial interpolation, remote sensing, digital image classification (pixel-based, object-based), change detection, agent-based modeling
  - **Statistical:** multidimensional scaling, cluster analysis, principal component analysis, analysis of variance