

# GESANGYANGJI

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## RESEARCH INTERESTS

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Climate change, building energy demand, energy efficiency, climate modeling, climate extremes.

## EDUCATION

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### University of Wisconsin-Madison (UW-Madison), USA.

*Doctor of Philosophy*, Nelson Institute Environment and Resources Program. Expected August 2023

*Minor: Science Communication.*

*Master of Science*, Atmospheric & Oceanic Sciences.

January 2018 – May 2020

*Graduate Certificate: Energy Analysis and Policy.*

### Nanjing University of Information Science & Technology (NUIST), China.

*Bachelor of Science*, Atmospheric Sciences.

September 2013 – June 2017

## RESEARCH EXPERIENCE

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### Graduate Research Assistant

*Center for Sustainability and the Global Environment (SAGE). UW-Madison, Madison, WI, USA.*

Project 1 (Advisor: Dr. Tracey Holloway)

January 2018 – March 2019

- Used satellite data to characterize aerosol distribution and variations over the Tibetan Plateau.

Project 2 (Advisor: Dr. Tracey Holloway and Dr. Daniel Vimont)

March 2019 – Present

- Produce high resolution (hourly) climate data that can be used to support building design.
- Use climate projections to evaluate changes in building heating and cooling demand in the Eastern U.S.

### Undergraduate Researcher

2016 – 2017

*Nanjing University of Information Science & Technology, Nanjing, China.*

- *Analyzed spatial and temporal variations of temperature and precipitation in the last 55 years in seven Tibetan cities.*

## INTERN EXPERIENCE

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### Meteorological Data Analyst

June 2019 – August 2019

*GAGO BIG DATA Company, Beijing, China.*

- Analyzed and evaluate meteorological data predicted from different platforms
- Created an Application Programming Interface (API) for daily weather prediction from NCEP Global Forecast System (GFS).

## Weather Forecaster

November 2015 – February 2016

*Meteorological Administration of Tibet, China*

- Assessed weather forecast accuracy at weekly Weather Watch.
- Communicated weather forecasting process during local school visits.

## PUBLICATIONS

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[1] **Gesangyangji**, Daniel J. Vimont, T. Holloway (2021). Temporal and spatial changes in the building energy demand across the Eastern United States, in preparation for submission to *Environmental Research Letters*.

[2] **Gesangyangji**, Daniel J. Vimont, T. Holloway, and D. Lorenz (2021). A Methodology for Evaluating Future Climate Impact on Building Design Conditions, in review.

## PRESENTATIONS

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1. “Building design for a changing climate”, Oral presentation. The Upper Midwest Association for Campus Sustainability (UMACS) Conference, October 2021.
2. “Studying the Impacts of Climate Change on Building Specifications”, Poster presentation. 100th American Meteorological Society Annual Meeting (AMS), Boston, MA, January 2020.
3. “The Transition of Wisconsin from Coal to Clean Energy”, Oral presentation. Energy Analysis and Policy (EAP) Capstone Project, UW- Madison, WI, May 2019.
4. “Characterizing the Aerosols over the Tibetan Plateau”. Poster presentation. 4th NASA Health and Air Quality Applied Sciences Team (HAQAST) meeting, UW-Madison, WI, July 2018.

## HONORS AND AWARDS

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January 2020	100 <sup>th</sup> American Meteorological Society Outstanding Student Poster Award.
October 2019	Department of Atmospheric & Oceanic Sciences Travel Awards, UW-Madison.
April 2019	Professional Development Grant by Nelson Institute, UW-Madison.
2016 – 2017	The Third Prize Scholarship, NUIST.
2014 – 2016	The Second Prize Scholarship, NUIST.
2014-2016	Merit Student, NUIST.

## OTHER EXPERIENCE

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### Volunteer, Edge of Africa, South Africa

July 2016

*Dolphin & Whale Research and Coastal Conservation Program.*

- Assisted with intertidal zone surveys and coastal bird surveys to improve a national database.
- Planned and facilitated marine education workshops for local children.

## SKILLS

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Programming: Python, MATLAB, NCAR Command Language (NCL), HTML, CSS.

Language: Fluent in Mandarin, Tibetan and English.