

# Zhenhua Wang

## Curriculum Vitae

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### Employment

- 08/2023– **Assistant Professor/Tenure-Track**, *Alabama A&M University*, Huntsville, Alabama.  
08/2022– **Limited Term Lecturer**, *The University of Georgia*, Athens, Georgia.  
07/2023  
08/2019– **Limited Term Assistant Professor**, *The University of Georgia*, Athens, Georgia.  
07/2022

### Education

- 09/2013– **Ph.D. in Mathematics**, *The University of Houston*, Houston, Texas.  
05/2019 Under supervision of David Blecher  
09/2010– **M.S. in Mathematics**, *Jilin University*, Changchun, China.  
06/2013  
09/2006– **B.S. in Mathematics and Applied Mathematics**, *Jilin University*, Changchun, China.  
07/2010

### Research Interest

Jordan operator algebra, operator algebra, operator theory, functional analysis, quantum information theory and quantum computing.

### Refereed Journal Publications

1. **Relative operator entropies and Tsallis relative operator entropies in JB-algebras** (with S. Wang), *Rocky Mountain Journal of Mathematics*, **52(3)** (2022) 1073–1087.
2. **Refined operator inequalities for relative operator entropies** (with S. Wang), *Analysis Mathematica*, **48(1)** (2022) 185–198.
3. **Operator means in JB-algebras** (with S. Wang), *Reports on Mathematical Physics*, **88** (2021) 383–398.
4. **Involutive operator algebras** (with D. P. Blecher), *Positivity*, **24** (2020) 13–53.
5. **Jordan operator algebras revisited** (with D. P. Blecher), *Math. Nachr.* **292** (2019), 2129–2136.
6. **Breathers of discrete one-dimensional nonlinear Schrödinger equations in inhomogeneous media** (with S. Ji), *Taiwanese J. Math.* **23** (2019), no. 3, 675–690.
7. **Jordan operator algebras: basic theory** (with D. P. Blecher), *Math. Nachr.* **291** (2018), 1629–1654.
8. **Roots in Banach and operator algebras** (with D. P. Blecher), *J. Integral Equations Operator Theory* **85** (2016), 63–90.

### Submitted Journal Publications

1. **Suzuki Type Estimates for Exponentiated Sums and Generalized Lie-Trotter Formulas in Banach Algebras** Preprint, <https://doi.org/10.48550/arXiv.2306.13791>.
2. **Suzuki Type Estimates for Exponentiated Sums and Generalized Lie-Trotter Formulas in Banach Algebras** (with S. Chahade and S. Wang) Preprint, <https://doi.org/10.48550/arXiv.2306.13168>.

## Presentations and Talks

- 10/2022 **Relative operator entropies in Jordan algebras**, *University of Houston*, Houston, TX.  
Analysis Seminar
- 08/2022 **Jordan operator algebras and quantum information theory**, *Jilin University*, Changchun, China.  
Workshop in Frontier Problems in Mathematics
- 04/2022 **Relative operator entropies in Jordan algebras**, *Minnesota State University at Mankato*, Mankato, MN.  
Virtual Departmental Colloquium
- 04/2022 **Relative operator entropies in Jordan algebras**, *Alabama A&M University*, Huntsville, AL.  
Virtual Departmental Colloquium
- 04/2022 **Relative operator entropies in Jordan algebras**, *Savannah State University*, Savannah, GA.  
Virtual Departmental Colloquium
- 01/2022 **Relative operator entropies in Jordan algebras**, *Sam Houston State University*, Huntsville, TX.  
Departmental Colloquium
- 05/2021 **Relative operator entropies in Jordan operator algebras**, *Washington University in St. Louis*, St. Louis, MI.  
Great Plains Operator Theory Symposium
- 7/2019 **Dimension theory and Jordan operator algebra**, *Texas A& M University*, College Station, TX.  
Workshop in Analysis and Probability
- 5/2019 **Dimension theory**, *University of Houston*, Houston, TX.  
Analysis Seminar
- 10/2018 **Noncommuative topology and operator  $*$ -algebra**, *Texas A&M University*, College Station, TX.  
Noncommutative geometry seminar
- 10/2018 **Noncommuative topology and operator  $*$ -algebra**, *Baylor University*, Waco, TX.  
The Texas Analysis and Mathematical Physics Symposium
- 07/2018 **Real positivity in Jordan operator algebras**, *East China Normal University*, Shanghai, China.  
International Workshop on Operator Theory and its Applications
- 05/2018 **Introduction to operator  $*$ -algebras**, *Miami University*, Oxford, OH.  
Great Plains Operator Theory Symposium
- 03/2018 **Introduction to Jordan operator algebras**, *Baylor University*, Waco, TX.  
Brazos Analysis Seminar
- 10/2017 **Introduction to Jordan operator algebras**, *University of Houston*, Houston, TX.  
Analysis Seminar
- 04/2017 **Jordan operator algebras with contractive approximate identities**, *University of Houston*, Houston, TX.  
Graduate Students Paper Presentations

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## Journal Referee

- Contemporary Mathematics
- Communications of the Korean Mathematical Society
- Extracta Mathematicae
- Houston Journal of Mathematics
- International Mathematics Research Notices
- Journal of Mathematical Analysis and Applications
- Journal of Mathematical Physics

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## Teaching Experience

### Alabama A&M University

8/23–now **Instructor for Calculus I, Calculus II and Calculus III.**  
Carried full responsibility of teaching face to face Calculus I, Calculus II and Calculus III.

### University of Georgia

8/19–7/23 **Instructor for Calculus I, Calculus III and Pre-Calculus.**  
Carried full responsibility of teaching fully online Calculus I, face to face Calculus I, Calculus III and Pre-Calculus courses.

### University of Houston

01/19–05/19 **Temporary Teaching Assistant for graduate level of functional analysis course.**  
Taught some special topics in functional analysis class.

01/19–05/19 **Teaching Assistant for graduate level of real analysis.**  
Took full responsibility of teaching graduate level of real analysis problem session.

08/17–12/18 **Instructor of Record for Calculus for Business and the Life Sciences.**  
Carried full responsibility of teaching Calculus for Business and the Life Sciences.

09/13–05/17 **Teaching Assistant for Calculus I, II and III, Differential Equations, Linear Algebra, Complex Analysis, Probability, and Statistics.**  
Held recitation sessions and provided one-on-one tutoring to students for the following entry-level to advanced math courses: Calculus I, II, III, Differential Equations, Linear Algebra, Complex Analysis, Probability, and Statistics.

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## Awards

- 2019–2022 Franklin College of Arts and Sciences at UGA Travel Grant
- 2019 Michael L. McLellan Scholarship
- 2013–2019 Doctoral Student Tuition Fellowship
- 2019 Travel Grant for International Workshop on Operator Theory and its Applications
- 2010–2013 Graduate Student Scholarship
- 2009 First Prize in Mathematical Contest in Modeling of Jilin University
- 2009 Outstanding Undergraduate Student Scholarship
- 2008 Outstanding Undergraduate Student Scholarship

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## Service

### University of Georgia

- 2022– **Volunteer for UGA High School Math Tournament.**
- 2020– **Undergraduate research mentor.**
- 2020– **Organizer of functional analysis seminar .**

2019– **Member of Mathematics Active Learning Team.**

Develop active learning techniques, Student Learning Outcomes, Assessment, Equity and Inclusion, Course mapping, etc.

[University of Houston](#)

2017–2019 **Treasurer of UH SIAM Graduate Student Chapter**, <http://www.math.uh.edu/uhsiam/>.

Monitor budget. Keep a record of all transactions. Construct industrial and academic seminars to students.

2015–2018 **President of Chinese Christian Fellowship at UH.**

Preside over meetings of the organization. Develop and organize events.

## Computing skills

R, Matlab, C++, Python(in progress)

## Languages

Mandarin **Mother tongue**

English **Fluent with high proficiency**

## References

David Blecher **Professor**, *University of Houston.*

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Shuzhou **Associate Professor**, *University of Georgia.*

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Jingzhi Tie **Professor**, *University of Georgia.*

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Mehrdad **Associate Professor**, *University of Houston.*

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