CADAVIOUS M. JONES, PH.D.

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PROFESSIONAL PROFILE

Accomplished leader in higher education with over 16 years of experience, specializing in developing and implementing impactful academic programs and program assessment in STEM disciplines. With 19 years in education overall, I have demonstrated a proven ability to secure funding, manage complex projects, and build collaborative relationships with diverse stakeholders to achieve institutional goals. I am passionate about fostering a diverse and inclusive academic environment, ensuring opportunities for students and faculty in STEM fields. Skilled in strategic planning, program management, budget development, communication, and community outreach, I bring a strong foundation for effective leadership in any setting.

EDUCATION

- Auburn University, Auburn, AL
  Doctorate of Philosophy in Mathematics 2014
- Alabama State University, Montgomery, AL
  Master's Degree in Mathematics 2008
- Alabama State University, Montgomery, AL
  Bachelor's of Science in Mathematics 2006

HONORS & AWARDS

- **L.A. Potts Award at 82nd Annual PAWC, Tuskegee University** 2024
- **UIDP HBCU Travel Award** 2024, 2025
- **All-Star Faculty Award, Alabama State Student Athlete Advisory Committee (SAAC)** 2014
- **Southern Regional Education Board Fellowship, Auburn University** 2011 – 2014
- **National Science Foundation Bridge-to-Doctorate Fellowship, Auburn University** 2009 – 2010

GRANTS

- **MCITy Workforce Development Project**
  (CISCO Corporation, The State of Mississippi & Rust College) 2025
  Role: Co-Principal Investigator| Funding Award: $\$4,515,711$
- **Dismantling the Failure Pipeline: Creating Equitable Pathways to STEM Education** Proposal completed awaiting submission (Proposal ID NSF 22-634) 2025
  Role: Principal Investigator|
- **Advancing STEM Education in Rural Communities: Integrating AI, Intellectual Property, and Mathematics Curriculum** Rust College Mini Grant 2024
  Role: Co-Principal Investigator| Funding Award: $\$10,000$
- **Enhancement of Capacity in STEM at Rust College MSEIP** US Department of Education
  (Proposal ID ED-GRANTS-033023-001) 2024
  Role: Principal Investigator| Funding Award: $\$893,442$
- **Improving Academic Laboratories** US Department of Education
  Role: Principal Investigator (Activity Director)| Funding Award: $\$234,754$ 2024
- **Agribusiness Development Plan** Delta Regional Authority
  (DRA MS 24181) 2024
  Role: Co-Principal Investigator| Funding Award: $\$150,000$
- **Nissan-RC Cybersecurity Simulation Lab** (Nissan Corporation) 2024
  Role: Principal Investigator| Funding Award: $\$35,000$
- **Rust College STEM & Shipbuilding Program** HII Newport News Shipbuilding & Huntington Ingalls Industries Grant Program. (Proposal ID 1051051) 2023
  Role: Principal Investigator| Funding Award: $\$30,000$
- **Rust College Rural AgriTech Program** Delta Regional Authority (DRA MS 23153) 2023
  Role: Principal Investigator/Director| Funding Award: $\$244,923$
- **STEM Engagement Program and Innovation Lab** (Nissan Corporation) 2022
  Role: Principal Investigator| Funding Award: $\$94,225$
- **Best Robotics Grant - Robotics**
  Department of Defense/Missile Defense Agency
  (Proposal ID DOD-MDA PKG00273517) 2022
  Role: Principal Investigator| Funding: $\$20,000$
- **Engineering and Robotics Outreach** (Honda Motor Corporation)
  Role: Principal Investigator| Funding Award: $\$60,000$
- **Combating vaccine-hesitant behaviors in communities of color through public health awareness and training**

in disease modeling NIH (Program Mini Award) 2022
Role: Principal Investigator| Funding Award: $\$5,000$

- **2021 Innovation Grant provided by The Center for the Study of Blockchain and Financial Technology at Morgan State University.**
  Morgan State University 2021
  Role: Co-Principal Investigator| Funding Award: $\$10,000$
- **ASU's NASA Human Exploration Rover Challenge Engineering Project**
  Alabama Space Grant Consortium 2016 - 2018
  Role: Principal Investigator| Funding Award: $\$55,050$

Total Grants & Contract Funding YTD _____ Over $6.3 million

FACULTY APPOINTMENTS

- Rust College, Holly Springs, MS
  Professor of Mathematics 2022 - PRESENT
- Alabama State University, Montgomery, AL
  Associate Professor of Mathematics 2016 - 2022
- Alabama State University, Montgomery, AL
  Assistant Professor of Mathematics 2012 - 2015
- Auburn University, Auburn, AL
  Instructor of Mathematics 2013 - 2016
- Alabama State University, Montgomery, AL
  Adjunct Professor of Mathematics 2010 - 2012
- Auburn University, Auburn, AL
  Graduate Teaching Assistant 2011 - 2012
- Resurrection Catholic School, Montgomery, AL
  Mathematics & CS Lead/Teacher – 5th through 8th Math and Computer Science 2004 - 2008

LEADERSHIP EXPERIENCE

- **DEAN OF THE DIVISION OF SCIENCE AND MATHEMATICS**,
  RUST COLLEGE 2022 - PRESENT
  - Secured millions in impactful funding, increased student participation by 20%, and revitalized faculty research activity.
  - Established industry partnerships with FedEx and FAA, increased alumni support through a STEM advisory board and magazine, and introduced new STEM programs (Cybersecurity, Health Science, Aviation) and international collaboration in math camps.
  - Achieved a 66.67% increase in viable STEM degree programs, aligning academic programs with industry needs, and led strategic planning efforts through committees to ensure diverse programming and divisional goals.
  - Managed budgetary operations as Dean, chaired the College's Faculty Handbook and Academic Programs Review Committee, and played a key role in general education oversight.
  - Served as the Authorized Organizational Representative (AOR) and Administrator on Research.gov, overseeing research compliance and grant submissions at Rust College.
- **ACTING INSTITUTIONAL REPRESENTATIVE**, 2024 SACSCOC ANNUAL MEETING
  RUST COLLEGE 2024
  - Selected to represent Rust College in place of the College President, where allowable, at the 2024 Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) conference.
  - Engaged in high-level discussions on accreditation, institutional effectiveness, and strategic planning.
  - Where allowable, served as the university's voice in accreditation-related initiatives and compliance matters.
- **ACCREDITATION OVERSIGHT AND LEADERSHIP EXPERIENCE** 2010 - 2018, 2022-2024
  - Played pivotal roles in accreditation processes at Rust College and Alabama State University, preparing documents and facilitating compliance with SACSCOC standards.
  - Served as a key contributor in preparing SACSCOC reports, site visit preparations, and focus reports, ensuring alignment with accreditation criteria and promoting institutional excellence.
  - Collaborated with various stakeholders to gather and analyze data, develop action plans, and implement strategies to address accreditation requirements and enhance institutional effectiveness.
  - Led efforts to publish goals and outcomes for student achievement, develop student learning outcomes for programs and general education competencies, and maintain program content and faculty standards.
  - Chaired committees responsible for educational policies, procedures, and practices, overseeing the development and implementation of policies to support educational quality and student success.
- **DIRECTOR OF AGRITECH PROGRAM**, RUST COLLEGE 2023 - PRESENT
  - Launching a STEM program focused on agriculture and UAV technology.
  - Building partnerships with local farms and agribusinesses, securing grants for related research.
  - Manage grant budgets for programs like AgriTech and secured sponsorship from local and global businesses
- **ASSOCIATE EDITOR, FOR THE JOURNAL OF GRAPHIC ERA UNIVERSITY (JGEU) - STEM** 2020 – PRESENT
  - Led the editorial review process, ensuring the publication of high-quality research.

- Provided mentorship to authors, fostering professional growth and scholarly excellence.
- Managed multiple editorial projects simultaneously, ensuring adherence to deadlines.
- Collaborated with a global network of researchers, enhancing professional connections and staying current with industry trends.
- Played a strategic role in shaping the research focus and academic standards of the journal.

- **BOARD MEMBER FOR COASTAL FAMILY PARTNERS** 2020 – 2022
  - Contributed to the development and execution of strategies to support and strengthen family-focused initiatives in Mobile, Alabama.
  - Partnered with fellow board members, community leaders, and organizations to identify and address challenges faced by traditionally disadvantaged populations, aligning with the organization's commitment to boosting family well-being.
  - Provided strategic input and guidance on programmatic activities, ensuring they remained consistent with Coastal Family Partners' mission, vision, and core values.

ADDITIONAL LEADERSHIP ROLES

- DIRECTOR OF OUTREACH,MATHEMATICAL PUZZLE PROGRAMS (MaPP) 2021 - PRESENT
- MGM BEST Hub Committee Chair and Robotics Competition Director 2020 – 2022
- CHAIR OF THE DEPARTMENT'S RECRUITMENT COMMITTEE (ASU) 2019 – 2022
- CHAIR OF THE ASU LYCEUM COMMITTEE 2019 – 2022
- PROJECT DIRECTOR OF ALABAMA STATE UNIVERSITY SPACE PROGRAM 2017 – 2022
- ORGANIZING COMMITTEE MATHS: INTERNATIONAL CAMPS USA (Alabama/Mississippi) Director 2015 – PRESENT
- CHAIR OF THE DEPARTMENT'S RESEARCH DEVELOPMENT COMMITTEE (ASU) 2016 – 2020
- DIRECTOR OF ASU'S UAV CENTER OF EXCELLENCE 2016 – 2022

PROFESSIONAL EXPERIENCE

NIH Reviewer
The National Institutes of Health USER Advocate *2024 - PRESENT*
- Provide critical feedback on end-user tools aimed at enhancing institutional processes, including those related to grant procurement and resource development.

Doctorate of Philosophy Examiner and Adjudicator
NIT Warangal, INDIA/University of the Western Cape, SA *2019 - PRESENT*
- Provide critical feedback and constructive criticism to candidates, guiding them in refining their research methodologies and theoretical frameworks.
- Make informed decisions regarding the acceptance or rejection of theses based on thorough assessment and scholarly judgment.
- Collaborate with academic institutions and faculty members to uphold the integrity of the examination process and contribute to the advancement of knowledge in the discipline.

Journal/Proposal Reviewer
Reviewer *2019 - PRESENT*
- Journal of Graphic Era University (JGEU)
- Journal of Applied Mathematics and Computing (JAMC)
- Bulletin of the Iranian Mathematical Society (BIMS)
- Various Springer Journals
- Frontiers in Science, Technology, Engineering and Mathematics (FSTEM)
- The book "Advances in Epidemiological modeling and Control of Viruses" for Centre Regional des Metiers de I'Educationet de la Formation
- Southern Regional Education Board (SREB)

MASAMU: Workshop and Research Group
Researcher *2013, 2015 – 2017, 2021-2023*
- Contributed as a researcher in the MASAMU workshop and research group, focusing on graph theory research topics.
- Collaborated with colleagues from several Southern African nations, Australia, France, and the US to produce publications in member countries and agencies.
- Participated in research projects aimed at advancing knowledge in graph theory and its applications, fostering international collaboration and interdisciplinary exchange.
- Engaged in discussions, presentations, and knowledge-sharing activities to facilitate the dissemination of research findings and promote academic dialogue among members of the research group.

Australian Maths Trust
Invited Contributor/ Reviewer *2018 - PRESENT*
- Develop and review Math Challenge competition booklets for lower to upper primary students across Australia for the Maths Trust's yearly publication.
- Provide expertise and guidance in the refinement of content and formatting to ensure the highest quality standards are met.
- Collaborate with a diverse team of contributors and reviewers to brainstorm ideas, exchange feedback, and address challenges.

- Participate in decision-making processes related to the selection of content and the improvement of publication materials.
- Maintain effective communication channels with Trust representatives to discuss project updates, resolve issues, and implement changes as needed.

MATHS: International Math Camps and Professional Development
Presenter/ USA Organizer/International Collaborator *2017 - PRESENT*
- Organize and present graduate-level math activities for middle and high school students globally - Australia, Japan, Wales, Germany and the United States.
- Lead workshops to train teachers in integrating advanced math concepts into their classrooms.
- Develop collaborative partnerships with school systems across multiple countries to facilitate events.

Research & Engineering Apprenticeship Program (REAP)
Research Mentor *2013 - 2022*
- Led high-school students from across the country in summer research as apprentices at Alabama State University for students historically undeserved in STEM.

Student Research Advisement
Research Mentor *2013 - PRESENT*
- Mentored diverse student research projects across various fields, fostering innovation and impactful results. Guided studies in public health awareness (2022), COVID-19 epidemiology (2021), big data applications (2020), and more.

PUBLICATIONS

- D. Jordan, S. Saldanha, K. Bibb, and **C. J. Jones**, **Technology in the General Biology Classroom: A Snapshot of how a Student Attitudinal Survey Shifts the Classroom to a more Active Learning Environment Pre- and Post Pandemic**. Frontiers in Science, Technology, Engineering and Mathematics (FSTEM) to be published 2024
- Y. Lee, B. Carrigan, S. Clontz, P. Couch, A. Owens, **C. Jones**, Y. Pang, **MaPP Challenge: Giving a Taste of Contemporary Mathematics Research to Secondary Students in a Puzzle-based Outreach Program**, Book International Perspectives on Mathematics Outreach to by be published by Information Age Publishing (IAP) 2024
- **Jones, C.**, Osaye, F., Susilowati, L., Somto, A. **Wiener index in graphs with prescribed girth given minimum and maximum degrees** Journal of Theory and Applications of Graphs, 2023
- Simelane, S., Dlamini, P., Osaye, F., Obaido, G., Ogbukiri, B., Aruleba, K., **Jones, C.**, Chukwu, W., Egbelowo, O. **Modeling the impact of public health education on tungiasis dynamics with saturated treatment: Insight through the Caputo fractional derivative** Mathematical Biosciences and Engineering, 20(5): 7696-7720 2023
- **Jones, C.**, Barnett, J., Blumenthal, A.,Devilbliss ,M., Fain , B., Kumwenda, K., Jones, E., and Matzke, R. **WORM coloring complete n-partite graphs.** Submitted. 2023
- Feng, C., **Jones, C.**, **Dynamic behavior in a three coupled Kaldor-Kalecki delayed model.** Journal of Mathematics and Modeling in Finance (JMMF), Vol. 2, No. 1, Pages:95– 105, 2022
- **Jones, C.M.**, Swamidurai, R., Dean, D.,& Prevo-Williams, R.,Barnett, J.,& Kannan, **U Active Learning in Physics and Engineering Through UAV and Data Analytics.** Paper presented at 2021 ASEE Virtual Annual Conference. Content Access, Virtual Online. 10.18260/1-2–36645 2021
- Swamidurai, R., & **Jones, C. M.**, & Pettis, C., & Kannan, U. (2020, June) **Applications of Linear Algebra Applied to Big Data Analytics.** Paper presented at 2020 ASEE Virtual Annual Conference Content Access, Virtual Online. 10.18260/1-2–34153. 2020
- **Jones, C.**, Kannan, U. , Pettis, C. and Swamiduari, R. **Big Data Analytics - With an Infusion of Statistics** for the Modern Student. The ASEE, American Society for Engineering Education, Paper ID #27519 2019
- **Jones, C.**, Barnett, J., Blumenthal, A., Johnson, P., Matzke, R. and Mujuni, E. 2014. **Connected minimum secure dominating sets in grids.** AKCE International Journal of Graphs and Combinatorics .Volume 14, Issue 3, Pages 216-223 2017
- Johnson, P. and **Jones, C.** 2014. **How to find a defense against an attack when there is one.** Congressus Numerantium 221 , pp. 105-109. 2014
- Johnson, P. and **Jones, C.** 2013. **Secure-dominating sets in graphs.** Advances in Domination Theory II, V.R. Kulli, edition, ISBN: 81-900205-6-0, Vishwa 2013

PRESENTATIONS

- **Combinatorial Analysis of Pyramid, Ponzi, and MLM Schemes: Structural Instabilities and Disproportionate Impacts on People of Color,**
  2025 Joint Mathematics Meetings
  AMS Special Session on Combinatorics and Graph Theory in Honor of Dr. Peter Johnson 2025
- **Building a Winning DWP Grant Application: Our Partnership-Focused Approach**
  2025 Pre-Award Technical Assistance Workshop (DRA). 2024
- **Appalachian Leadership Institute Session** Innovation in Workforce Development 2024
- **Department of Defense HBCU/MI Program Summer**, Presented on strategies for success in STEM: Virtual Event. 2023
- **Blockchain Development – Nodes and Configuration, APIs, Interfaces**, ASU Blockchain Think Tank 2021
- **Applications of Linear Algebra Applied to Big Data Analytics**, Paper presented at 2020 ASEE, Virtual Annual Conference 2020
- **Using Technology to Enhance and Improve Student Outcomes in General Biology Courses** 2020
- **Building a Culture of Engineering through Manufacturing and Active Learning**, Huang, H., Jones, C. and Dean, D., **Manufacturing USA, NSF, Washington, DC** 2019

- **Big Data Analytics: with an infusion of statistics for the modern student - initial findings**, SAMSA conference Arusha, Tanzania 2017
- **Connected minimum secure-dominating sets in grids**, SAMSA conference at the University of Pretoria, South Africa 2016

RESEARCH INTERESTS

DISCRETE MATHEMATICS: COMBINATORICS; SECURITY AND GRAPHS; WORM COLORINGS; DOMINATION THEORY: UNMANNED AERIAL VEHICLES: ROBOTICS: IMAGE & OBJECT RECOGNITION: BIG DATA ANALYTICS

TOPICS TAUGHT

NUMBER THEORY (330) , DISCRETE (238), ADVANCED CALCULUS I & II (433, 434), CALCULUS III AND DIFFERENTIAL EQUATIONS FOR ENGINEERS (350), INTRO TO COMPUTING FOR BIOMEDICAL ENGINEERING (210), FINITE MATHEMATICS, HONORS FINITE MATHEMATICS (136), PRE-CALCULUS (1150), CALCULUS I (265), CALCULUS II (266), LINEAR ALGEBRA (251), PROBABILITY AND STATISTICS I & II (472, 473), TRIGONOMETRY (AL-DOT), ACT WORKSHOPS (K-12), ALGEBRA (K-12), BASIC MATH (K-12)

PROFESSIONAL DEVELOPMENT AND CERTIFICATIONS

- **Institutional Review Board (IRB) Training (CITI Program):**
  - *Social & Behavioral - Basic/Refresher:* Maintained expertise in ethical research practices.
  - *Research - Basic/Refresher:* Demonstrated commitment to upholding high ethical standards in research.
- **Faculty Members and Regulatory Compliance Training:**
  - *FERPA, ADA, Section 504, and Title IX:* Equipped with a deep understanding of regulations governing student privacy, accessibility, and anti-discrimination measures.
  - *How to Use Fundamentals of Regulations:* Applied knowledge to identify and resolve potential issues related to regulatory compliance.
- **Quality Matters (QM) Certification:**
  - *Applying the QM Rubric (Virtual) (APPQMR):* Successfully completed training in applying the QM rubric, demonstrating a commitment to maintaining high-quality educational standards.
- **MATLAB Programming:**
  - Successfully completed training to acquire proficiency in MATLAB programming through the OnRamp training program.
- **FAA Commercial Drone Piloting:**
  - Successfully completed training as an FAA Commercial Drone Pilot at Alabama State University.
- **CCNA: Introduction to Networks:**
  - Currently enrolled the Cisco Certified Network Associate (CCNA) course providing fundamental networking knowledge as part of Cisco/Rust partnership.

MEMBERSHIPS

- Alpha Phi Alpha Fraternity, Inc.
- American Mathematical Society
- National Association of Mathematicians
- Phi Mu Alpha Sinfonia Fraternity of America
- Phi Mu Epsilon
- Southern Africa Mathematical Sciences Association