



Alnour Altoum Abdallh Adam

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🌐 **Website:** <https://www.researchgate.net/profile/Alnour-Altoum>

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🔍 **Google Scholar:** <https://scholar.google.com/citations?user=2Hl0Zi0AAAAJ&hl=en>

Gender: Male **Date of birth:** 01/01/1988 **Nationality:** Sudanese

Primary position: Assistant Professor, University of Nyala, Sudan
(Faculty of Science; Department of Mathematics)

DATE UPDATED: October 19, 2025

MAJOR PROFESSIONAL INTERESTS

Algebra, Number theory, and Combinatorics

SPECIAL INTEREST

Enumerative combinatorics; Algebraic number theory

EDUCATION

Sep 2019 – Aug 2024	PhD in Mathematics Erciyes University, Kayseri, Turkey Advisors: Prof. Dr. Hüseyin Altındış, Dr. Hasan Arslan
Sep 2019 – Aug 2024	MSc in Mathematics University of Khartoum, Khartoum, Sudan Advisors: Dr. Mogtaba A.Y. Mohammed
2008 – 2014	BSc in Mathematics University of Zalingei, Zalingei, Sudan

SCHOLARSHIPS

2018 – 2024	PhD degree + Turkish Language: Turkish Scholarship Program, Turkey. Link: https://www.turkiyeburslari.gov.tr/
2023 – 2024	English Language Diploma: English Castle, Istanbul, Turkey. Awarding institution: Tawakul Karman Foundation. Link: https://tkif.org/en/

AWARDS AND HONORS

- 2017 Prize to the First Class in Master's degree:
School of Mathematical Science, University of Khartoum, Sudan.
- 2015 First Class Bachelor's Degree:
University of Zalingei, Zalingei, Sudan
- Jan 2014 Over all best student:
University of Zalingei, Zalingei, Sudan

SCORING MERITS:

- 2019– 2024 PhD degree: Faculty of Science, Erciyes University, Turkey.
- First semester: Mathematical Models and Applications -1, Cryptography – 1, Ring Theory – 1.
 - Second semester: Weyl Groups – II, Mathematical Models and Applications – II, Cryptography – II, Ring Theory – II.
- 2015 – 2017 Master's degree (1st Class): School of Mathematical Science, University of Khartoum, Khartoum, Sudan.
- Advanced Partial Differential Equations, Advanced Measure Theory, Rings and Modules, Fluid Dynamics, Advanced Mathematical Methods, and Functional Analysis.
- 2008 – 2014 BSc degree (1st Class): Faculty of Education, University of Zalingei, Sudan:
- 1st study year: Developmental Psychology, Syntax-1, Calculus-1, English Proficiency-1, General Physics-1, Philosophy of Education, Fundamentals of Computer Science, Algebra and analytical Geometry, and Mechanics & Vectors.
 - 2nd study year: Linear Algebra-1, Calculus-2, Statistics & Probabilities, Vibrations & Waves, Electricity & Magnetism, Differential Equations, Transformations Geometry, Real Analysis, Computer Programing (Pascal), The Special Relativity Physics, Modern Physics.
 - 3rd study year: Management and Educational Planning, Physical Mathematics, Numerical Analysis, Vector Analysis, Computer Programing (C++), Thermodynamics, Measurement & Evaluation Educational, Educational Counseling & Guidance, and Digital Electronics.
 - 4th study year: Complex Analysis, Quantum Mechanics.
 - 5th study year: Complex Variables, Vector Analysis & Tensors, Numerical Analysis (MATLAB), Partial Differential Equations, Functional Analysis, Dynamical Systems, Fluid Dynamics, and Dissertation.

EMPLOYMENT:

Aug 2024 – Current	Assistant Professor. Department of Mathematics, Faculty of Science, University of Nyala, Nyala, Sudan.
My responsibilities:	<ol style="list-style-type: none">1. Teach both foundation and advanced mathematics courses.2. Provide academic guidance to students for academic and professional planning.3. Conduct and publish scientific research in mathematics.4. Participate in department and college council meetings.5. Collaborate with the head of the department and the coordinators of Math courses in all assigned duties.
Apr 2017 – 2024	Lecturer. Department of Mathematics, Faculty of Science, University of Nyala, Nyala, Sudan.
My responsibilities:	<ol style="list-style-type: none">1. Teach foundation and post-foundation math courses.2. Collaborating with department colleagues in curriculum development and teaching methodology improvements.3. Participate actively and contribute effectively in committees assigned at the Math Department.4. Supervising undergraduate students and participating in examination committees.5. Holding office hours to mentor students
Nov 2016 – 2019	Teaching Assistant. Department of Mathematics, Faculty of Science, University of Nyala, Nyala, Sudan.
My responsibilities:	<ol style="list-style-type: none">1. Assisting professors with delivering mathematics lectures, leading discussion sections and conducting review sessions.2. Grading assignments, exams, and quizzes, and providing feedback to students.3. Holding office hours to help students with course material, answer questions, and provide additional support.4. Managing classroom activities, such as taking attendance.
Jul 2014 – 2015	Mathematics Teacher

Alsamar Aldany Secondary School, Nyala, Sudan.

My responsibilities:

1. Developing lesson plans and teaching mathematics concepts to students in a clear, engaging manner that meets curriculum standards.
2. Creating and grading assignments, quizzes, and exams to evaluate students understanding and progress.
3. Providing additional help to students who struggle with the material, either through one-on-one tutoring or extra study sessions.

PUBLICATIONS:

1. Dissertations:

- PhD (2024): Alnour Altoum

Title: MOR Cryptosystem over Classical Weyl Groups.

Erciyes University, Kayseri, Turkey.

Link: <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>

- Master (2017): Alnour Altoum

Title: Existence and Uniqueness for Nonlinear Hyperbolic PDEs

School of Mathematical Science, University of Khartoum, Sudan.

Hardcopy at University of Khartoum Library.

II. Articles with Peer-Review:

- Arslan, H., Altoum, A., Alemdar, N., & Altındış, H. (2025). A combinatorial interpretation of Mahonian numbers of types B and D. *The Ramanujan Journal*, 67(4), 86. DIO: <https://doi.org/10.1007/s11139-025-01130-6>
- Arslan, H., Altoum, A., & Zaarour, M. (2024). An inversion statistic on the generalized symmetric groups. *Advances in Applied Mathematics*, 154, 102655.
DIO: <https://doi.org/10.1016/j.aam.2023.102655>
- Arslan, H., Altoum, A., & Zaarour, M. (2024). Integer representations of classical Weyl groups. *Turkish Journal of Mathematics*, 48(3), 377-390.
DIO: <https://doi.org/10.55730/1300-0098.3513>

III. Non-peer-reviewed journal articles (Preprint/under review)

- Altoum, A., Arslan, H., & Zaarour, M. (2023). Cauchy numbers in type B_n . *arXiv preprint arXiv:2312.14652*. DIO: <https://doi.org/10.48550/arXiv.2312.14652>
- Arslan, H., Altoum, A., & Arslan, H. K. (2023). An Inversion Statistic on the Hyperoctahedral Group. *arXiv preprint arXiv:2307.05198*.
DIO: <https://doi.org/10.48550/arXiv.2307.05198>
- Altoum, A., Arslan, H., & Altındış, H. A Digital Signature on the Conjugate Twisted Discrete Logarithm Problem. *Available at SSRN 4832895*.

Link: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4832895

- Bell numbers of types B and D – Preprint.

IV. CONFERENCES AND SEMINARS:

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| Aug 2024 | International Conference on Enumerative Combinatorics and Applications.
Link: https://ecajournal.haifa.ac.il/Conference/ICECA2024.html |
| Jun 2024 | The MOR cryptosystem over non-commutative groups. Seminar
Faculty of Science, Erciyes University. |
| Sep 2023 | On the Set Partitions of type B, İzmir Matematik Günleri,
İzmir Democracy University. Link: https://img.idu.edu.tr/ |
| Oct 2022 | Public-key authentication schemes on finite Coxeter groups,
1 st International E- Conference on Mathematical and Statistical Sciences
Selçuk Üniversitesi, Konya – Turkey.
Link: https://selcuk.edu.tr/Birim/Bolum/fen-matematik/15190 |
| Jun 2020 | Focusing on Mathematical Models and Analysis of COVID19 Crises.
The Maharaja Sayajirao University of Baroda, Vadodara, Gujarat – India.
Link: https://msubaroda.ac.in/ |
| Nov 2022 | On the integer representation of Weyl groups and its applications in
cryptography. Seminar at Faculty of Science, Erciyes University. |

PROFESSIONAL AFFILIATIONS AND SERVICE

Membership in Professional Societies:

- African Enumerative Combinatorics Community (2024 – Current)
- Erciyes University Mathematics Club (2020 – Current)
- Sudanese Researchers Foundation (2019 – Current)
- Sudanese Mathematical Society (2017 – Current)

TEACHING AND ADVISING

Undergraduate Teaching

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| 2024 – Current | Number Theory, Measure Theory, Universities of Nyala, Sudan. |
| 2017 – 2018 | Linear Algebra, Real Analysis-2, Complex Analysis, Differential
Equations-2, Partial Differential Equations, and Number Theory. |
| 2016 – 2017 | Calculus-1, Mathematics-1, Linear Algebra, Real Analysis-1,
Differential Equations-1, Basic Mathematics, and Graph theory-1. |

Undergraduate Student Advising

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| 2018 | BSc level – Three students |
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WORKSHOP AND TRAINING COURSE

Dec 2024	English Language, English Castle, Turkey.
Jun 2024	Youth Course for the Labor Market, Tawakkol Karman Foundation, Istanbul, Turkey.
Feb 2023	Python Programming course, YTB course program, Kayseri, Turkey.
Jul 2019	Turkish Language, ERSEM, Erciyes University, Kayseri, Turkey.
May 2013	Planning and implementing peace-building activities and library management, Zalingei University in collaboration with UNAMID Zalingei, Sudan.
Jul 2012	Training course in Physics, Misr University of Science and Technology, Cairo, Egypt.

LANGUAGE SKILLS

- Mother tongue(s): Arabic
- English Language: Advanced
- Turkish Language: Advanced

DIFITAL SKILLS:

- Microsoft Office | Python | MATLAB | C++ | LaTeX

OTHER SKILLS

- Strong interpersonal skills and the ability to work collaboratively in a multidisciplinary academic environment.
- Research and teaching skills.
- Strong interpersonal and organizational skills.
- Problem-solving skills.

REFEREES

- Prof. Dr. Hüseyin ALTINDIŞ, Faculty of Science, Erciyes University.
Email: altindis@erciyes.edu.tr Phone number: (+90) 5366617288
- Dr. Hasan Arslan, Faculty of Science, Erciyes University.
Email: hasanarslan@erciyes.edu.tr Phone number: (+90) 5435167821
- Dr. Jamal Shaibo, Dean of Faculty of Science, University of Nyala
Email: jimmyshaibo@gmail.com Phone number: +249907546251