

SOFIAT OLAOSEBIKAN

Email: s.olaosebikan.1@research.gla.ac.uk
Github: <https://github.com/sofiatolaosebikan>
Website: www.sofiatolaosebikan.com

EDUCATION

- 2016 - present **Ph.D. in Computing Science**, University of Glasgow.
Expected end date: March 2020.
Supervisor: Professor David Manlove.
Thesis Title: The Student-Project Allocation Problem: Structure and Algorithms.
Research interests: Computational complexity; graph theory and algorithms; integer programming; hardness reduction; parameterised complexity; stable matchings.
- 2014 - 2015 **M.Sc. in Mathematical Sciences (Distinction)**, African Institute for Mathematical Sciences, Ghana.
Best Graduating Student (out of 40 students).
Thesis Title: Edge-decomposition by persistency and maximum matching in bipartite graphs.
Contribution: A **Python implementation of the Hopcroft-Karp Algorithm on the Python Package Index** (PyPI) <https://pypi.python.org/pypi/hopcroftkarp/1.2.4>.
- 2008 - 2012 **B.Sc. in Mathematics (First Class Honours)**, University of Ibadan, Nigeria.
Thesis Title: The Kermack-McKendrick model of epidemic diseases.

PUBLICATIONS

- Conference papers
- [1] **S. Olaosebikan** and D. Manlove. An algorithm for strong stability in the Student-Project Allocation problem with Ties. *Accepted for MATCH-UP 2019: International Conference on Matching Under Preferences. To appear in Proceedings of CALDAM 2020: International Conference on Algorithms and Discrete Applied Mathematics.*
 - [2] **S. Olaosebikan**, and D. Manlove. Super-stability in the Student-Project Allocation Problem with Ties. In proceedings of COCOA 2018: volume 11346 of Lecture Notes in Computer Science, pages 357 - 371, Springer, 2018.
 - [3] D. Manlove, D. Milne, and **S. Olaosebikan**. An Integer Programming Approach to the Student-Project Allocation Problem with Preferences over Projects. In proceedings of ISCO 2018, volume 10856 of Lecture Notes in Computer Science, pages 313 - 325, Springer, 2018.
- Others – not yet published
- [4] **S. Olaosebikan**, and D. Manlove. Super-stability in the Student-Project Allocation Problem with Ties. Submitted to *Journal of Combinatorial Optimization*.
 - [5] D. Manlove, D. Milne, and **S. Olaosebikan**. Student-Project Allocation with Preferences over Projects: Algorithmic and Experimental Results. Submitted to *Discrete Applied Mathematics*.
 - [6] **S. Olaosebikan** and D. Manlove. The structure of stable matchings in the Student-Project Allocation problem. *In preparation*.

RESEARCH PRESENTATIONS

- Feb. 2020 [*upcoming*] **Paper Presentation**. International Conference on Algorithms and Discrete Applied Mathematics (CALDAM 2020) – IIT Hyderabad, India.
- Sep. 2019 **Invited speaker** at the Numerical Analysis & Scientific Computing seminar series, University of Strathclyde, UK.
- Jun. 2019 The Scottish Informatics & Computer Science Alliance (SICSA PhD Conference 2019) – University of Stirling, UK. **Poster Presentation – won the third year best poster award**.
- May. 2019 **Paper Presentation**. International Conference on Matching Under Preferences (MATCH-UP 2019) – Switzerland. "*An algorithm for strong stability in the Student-Project Allocation problem with Ties*".
- Apr. 2019 British Colloquium for Theoretical Computer Science (BCTCS 2019) – Durham University, UK. "*An algorithm for strong stability in the Student-Project Allocation problem with Ties*".
- Dec. 2018 **Paper Presentation**. Conference on Combinatorial Optimization and Applications (COCO A 2018) – Atlanta, Georgia, USA. "*Super-stability in the Student-Project Allocation Problem with Ties*".
- Apr. 2018 **Paper Presentation**. International Symposium on Combinatorial Optimisation (ISCO 2018) – Marrakech, Morocco. "*An Integer Programming Approach to the Student-Project Allocation Problem with Preferences over Projects*".
- Mar. 2018 British Colloquium for Theoretical Computer Science (BCTCS 2018) – Royal Holloway, University of London, UK. "*An Integer Programming formulation for a matching problem*".
- Jan. 2018 **Invited Speaker** at the African Women in Discrete Mathematics Workshop – Muizenberg, South Africa.
- Jun. 2017 The Scottish Informatics & Computer Science Alliance (SICSA PhD Conference 2017) – University of Dundee, UK. **Poster Presentation – won the first year best poster award**.
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COMPUTING SKILLS

Programming: Python, Java, SAGE, R
Web: HTML5, CSS3, Jekyll, T4
Design: Canva, GIMP, CorelDraw, AdobePhotoshop
Others: L^AT_EX, Git

OUTREACH

since 2018 **Founder and Lead Coordinator at PWSAfrica** - an initiative focused on empowering young scientists in Africa with basic computer programming skills.
Overview: The first workshop took place in August 2018 at the University of Ibadan in Nigeria, while the second workshop took place in August 2019 at the University of Rwanda in Kigali. Since the initiative started, my team and I have trained approximately 200 students and staff from various STEM departments on the fundamentals of Python programming and how it can be used as a tool for scientific computing.
Grants: Global Challenges Research Fund (£35,000), University of Glasgow's Chancellors Fund (£5,000).
since 2017 **STEM Ambassador** volunteering for the Science Connects Hub at the University of Glasgow. In 2018, I was involved in the Glasgow Science Festival. In 2019, I visited Springfield primary school in Linlithgow.
2014 - 2016 **Outreach program to promote Mathematics** - I volunteer for school visit twice a month to the community schools around the vicinity of Biriwa, Ghana.

PUBLIC ENGAGEMENTS

17/04/2020 [*upcoming*] Invited panelist at the [Africans in STEM symposium](#), University of Cambridge.
20/09/2019 Invited panelist at the [Standing up for Science workshop](#). My talk was centred around PWSAfrica and why it is important for early career researchers to engage with the public, media and policy makers.
22/05/2019 Invited speaker at [Glasgow Pint of Science Festival](#).

AWARDS & SCHOLARSHIPS

2018 - 2020 **Future World Changer Award**, University of Glasgow, on the PWSAfrica initiative.
Jul. 2018 **Second runner-up** at the Science Slam competition, University of Glasgow. (£200)
2016 - 2020 **3.5 years Doctoral Research Scholarship**, University of Glasgow. (~£122,000)
2015 **F.K.A. Allotey Meritorious Award (Best Graduating Student)**, AIMS-Ghana.
2014 **Fully-funded Masters Scholarship**, AIMS-Ghana. (~\$10,000)
2012 **Bronze Medallist**, National Mathematical Competition for University Students, Abuja, Nigeria.
2011 & 2012 **Dean's Roll of Honour**, Faculty of Science, University of Ibadan, Nigeria.
2010 - 2012 **Total E & P Scholarship**. (150,000 Naira).
2012 **Lagos State Government Scholarship** (200,000 Naira).
2012 **Crescent Bearers Scholarship** (50,000 Naira).

LEADERSHIP EXPERIENCE

since 2018 **Founder and Lead Coordinator**, PWSAfrica.
2018/19 **Member of organising committee**, SICSA PhD Conference 2019.
2018/19 **Postgraduate student representative** on the BCTCS organising committee.
2017 - 2019 **Founder and President**, NSSUofG - Nigerian Students' Society, University of Glasgow.
2017 **Member of the student organising committee** - Postgraduate 60th Anniversary event (School of Computing Science, University of Glasgow).
2011 - 2012 **President**, National Union of Lagos State Students (University of Ibadan, Nigeria).
2010 - 2011 **Vice president**, Faculty of Science Students' Association (University of Ibadan, Nigeria).

TEACHING EXPERIENCE

2016 - 2020 **Graduate Teaching Assistant** - School of Computing Science, University of Glasgow. The following are the courses I have been involved in:
- Algorithmic Foundations: Level 2 (2017/18, 2019/20);
- Algorithms and Data Structures: Level 2 (2018/19, 2019/20);
- Introductory Programming in Python: Level 1 (2016/17, 2017/18, 2018/19, 2019/20);
- Java Programming: Level 1 (2017/18, 2018/19);
- Object-Oriented Software Engineering: Level 2 (2017/18, 2018/19).
Responsibilities: Assist students during labs and tutorials. Feedback on students' performance to the lecturer involved. Grade assignments and examinations.
2015 - 2016 **Teaching Assistant** - African Institute for Mathematical Sciences, Ghana.
Responsibilities: Graded assignments. Taught Python programming. Co-supervised six M.Sc projects.

LANGUAGE

Arabic - Intermediate
English - Fluent
Yoruba - Mother Tongue