

Sara El-Sayed El-Metwally

(As of April 2021.)

EDUCATION

Faculty of Computers and Information, Mansoura University, Egypt; Computer Science; B.S., 2007.

Faculty of Computers and Information, Mansoura University, Egypt; Computer Science; M.Sc., 2011.

University of Southern California, USA; Waterman Lab, (visiting scholar); Computational Biology and Bioinformatics, 2014-2016.

Faculty of Computers and Information, Mansoura University, Egypt; Computer Science; PhD, 2016.

APPOINTMENTS

Assistant Professor, Computer Science Department, Faculty of Computers and Information, Mansoura University, Egypt, 2017-present.

Assistant Lecturer, Computer Science Department, Faculty of Computers and Information, Mansoura University, Egypt, 2011-2017.

Teaching Assistant, Computer Science Department, Faculty of Computers and Information, Mansoura University, Egypt, 2008-2011.

HONORS AND AWARDS

Top Outstanding Student at Mansoura University, Ranked Second, and Excellent grade with Honor (2007).

Microsoft Local Imagine Cup competition in Egypt and my team was qualified to the best 20 teams in the worldwide finals in Australia (2012).

Google Anita Borg Memorial Scholarship (2012).

Google EMEA Grace Hopper Travel Grant (2013).

Joint Supervision Mission from the Ministry of Higher Education, Egypt (2013).

GHC Faculty Scholarship (2018).

Scientific Publishing Grant award (2018).

Best Doctoral Dissertation Award (2019).

Scientific Publishing Grant award (2020).

Artificial Intelligence Analyst Mastery Award (2019-2021) - IBM Skills Academy.

Big Data Engineer on Cloud Mastery Award (2018-2020) - IBM Skills Academy.

TTT EPITA-ITI Program (2020-2021).

GRANTS

1. Ministry of Higher Education, Egypt, (Ref. JS-2844), \$34K; 1/2014-1/2016. "fast and memory-efficient assembly algorithm for high-throughput sequencing reads"
2. Google Anita Borg Memorial Scholarship, Switzerland, €7K; 6/2012-12/2013. "DNA sequence alignment using Genetic Algorithms and Rough Sets"

PEER REVIEWED PUBLICATIONS

Full publication list at:

<https://scholar.google.com.eg/citations?user=YUyHK4cAAAAJ>

October 2019: 219 citations total; h-index of 5, i10-index of 3.

A Roadmap to Sequence Assembly Evaluation Tools. **El-Metwally S**, Hamouda E, Tarek M. Current Bioinformatics. Submitted.

Ant Lion Optimization algorithm for kidney exchanges. Hamouda E, **El-Metwally S**, Tarek M. PLoS ONE 13(5): e0196707.
<https://doi.org/10.1371/journal.pone.0196707>, 2018. (3 cit.)

LightAssembler: fast and memory-efficient assembly algorithm for high-throughput sequencing reads. **El-Metwally S**, Zakaria M, Hamza T. Bioinformatics. 2016 Nov 1; 32(21): 3215–3223, <https://doi.org/10.1093/bioinformatics/btw470>. (9 cit.)

Next-Generation Sequence Assembly: Four Stages of Data Processing and Computational Challenges. **El-Metwally S**, Hamza T, Zakaria M, Helmy M. PLoS Comput Biol 9(12): e1003345. doi:10.1371/journal.pcbi.1003345, 2013. (117 cit.)

Rough Entropy as Global Criterion for Multiple DNA Sequence Alignment. **El-Metwally S**, Radwan E, Hamza T. International Journal of Computer Science and Information Security, IJCSIS 8(3): 111-118, 2010.

Multiple DNA Sequence Alignment using a Hybrid Model of GA and Rough Sets. **El-Metwally S**, Radwan E, Hamza T. Egyptian Computer Science Journal, ECSJ 34(3):46-60, 2010.

BOOKS

Next Generation Sequencing Technologies and Challenges in Sequence Assembly. **El-Metwally S**, Ouda O, Helmy M. Springer Briefs in Systems Biology, (7) ISBN: 978-1-4939-0714-4 (Print) 978-1-4939-0715-1 (Online), Springer, PA, USA. (34 cit.)

POSTERS

LightAssembler: fast and memory-efficient assembly algorithm for high-throughput sequencing reads. Poster presentation at the Nile University Bioinformatics Conference, Cairo, Egypt, September 12, 2017.

Proposed Model for DNA Sequence Alignment using Genetic Algorithm, Rough Sets and Rough Entropy. Poster presentation at Google-Anita Borg Scholars' Retreat, Google, Zurich, Switzerland, June 2012.

ONLINE COMMENTARIES AND BLOGS

Blogs at :
<http://sara-elmetwally.blogspot.com/eg/>
<https://saraelmetwally.wordpress.com/>

CodeProject.com articles:
<http://lamp.codeproject.com/KB/recipes/UninformedSrchStrategies.aspx>
<http://lamp.codeproject.com/KB/recipes/DNASequenceAlignment.aspx>

GitHub:
<https://github.com/SaraEl-Metwally>

INVITATIONS

April 2013 - Invited speaker at Al-Azhar University, Faculty of Agriculture, Biotechnology Department, Cairo, Egypt.

April 2017- Invited speaker at the seventh scientific symposium for young researchers at Mansoura University, Faculty of Science.

PROFISSIONAL ACTIVITIES

Supervising of many Graduation Projects in Computer Science Department.
Organizing of many Technical Sessions, Graduation Projects Exhibitions, and Social Events at Faculty of Computers and Information.
Member of Quality Assurance Team.
Contributing to the Faculty Curriculum Specifications.
Participating in the Examination Control Procedures and Auditing.
Contributing to Bioinformatics Credit-Hours Program by Preparing its Courses Specifications and writing its National Academic Reference Standards.

TEACHING AND WORKSHOPS

Artificial Intelligence (2010, 2011,2020).
Logic Design (2008).
Logic Programming and Expert Systems (2008).
Computer Architecture and Organization (2008-2013).
Software Engineering (2009).
Object Oriented Programming, C# (2009).
Rough Sets (2010).
Programming Language Concepts (2011).
Assembly Language and Microprocessors Programming (2012-2013, 2017-2019).
Bioinformatics (2017-2019).
Genomics (2019)
Real-Time Systems and Design (2019)
Bioinformatics, Biotechnology Department, Faculty of Agriculture (2017, 2019).
Lead instructor for Workshop on introduction to Bioinformatics, Biochemistry and Molecular Biology Department, Faculty of Medicine (2019).
Lead instructor for Workshop on introduction to Linux for Bioinformatics, Agricultural Genetic Engineering Research Institute (2017).
Lead instructor for Workshops on encouraging more women in tech at High Schools and Universities (2012-2013, and 2016).

COURSES

Communication Skills, Leadership and Development Center, Mansoura University, June 2009.
Research Ethics, Leadership and Development Center, Mansoura University, August 2009.
Effective Presentation Skills, Leadership and Development Center, Mansoura University, September 2009.
University Code of Ethics, Leadership and Development Center, Mansoura University, June 2010.
Use of Technology in Teaching, Leadership and Development Center, Mansoura University, December 2010.
Strategic Planning, Leadership and Development Center, Mansoura University, January 2011.
Quality Standards in Education Process, Leadership and Development Center, Mansoura University, December 2011.
Scientific Publishing, Leadership and Development Center, Mansoura University, December 2012.

Local and International Competitive Research Projects, Leadership and Development Center, Mansoura University, December 2013.

Preparation of the University teacher, Mansoura University, May 2016.

Organizing Scientific Conferences, Leadership and Development Center, Mansoura University, May 2016.

Credit Hours System, Leadership and Development Center, Mansoura University, July 2016.

Management of crises and disasters, Leadership and Development Center, Mansoura University, December 2016.

RESEARCH AREAS
OF INTEREST

Mining big data.
Artificial Intelligence.
Second-/Third-Generation Sequence Analysis.
Second-/Third-Generation Alignment and Assembly.
Metagenomic data analysis.
RNA-Seq data analysis.
Applications of Machine Learning in Bioinformatics.

REFERENCES

Available upon request.