Curriculum Vitae (C.V.)

Hanan Magdy Darwish Shabana

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PERSONAL DATA

- **Gender:** Female
- **Date of birth**: June 13th, 1986.
- **Place of birth**: Menof, Menofia, Egypt
- **Marital status**: Married.
- **Complete mailing address.** Physics and Engineering Mathematics Department – Faculty of Electronic Engineering- Menofia University - Menof - Egypt.

ACADEMIC ACTIVITY

- **Demonstrator of Engineering Mathematics -** Faculty of Electronic Engineering- Menofia University- Egypt from -February-2009 to November-2014.
- **Assistant Lecturer of Engineering Mathematics -** Faculty of Electronic Engineering-Menofia University- Egypt from November -2014 to October 2020.
- **PhD- Student in Mathematical Physics -** Institute of Natural Science and Mathematics- Ural Federal University- Ekaterinburg – Russia from 2015 to 2020.
- **Junior Researcher of Mathematical Physics – laboratory of Algebra and combinatorics -** Institute of Natural Science and Mathematics- Ural Federal University- Ekaterinburg – Russia from 2016 to 2020.
- **Lecturer of Engineering Mathematics -** Faculty of Electronic Engineering -Menofia University- Egypt from October 2020 till now.

EDUCATION

Menofia University, Faculty of Electronic Engineering, Egypt

2003-2008   **B.Sc.** OF Electronic Engineering - **DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING. Excellent with honor** grade.

2010-2012   **PRE COURSES FOR M. SC** in Engineering Mathematics Dept.

2012 -2014   **M. SC IN Basic science of engineering (PHYSICS** and **ENGINEERING MATHEMATICS) .**

Ural Federal University-Russia,

2015-2020 **PhD (Doctor of Philosophy in Physical and Mathematical Science on specialty 05.13.17 – «Theoretical Foundations of Computer Science»).**

PUBLICATIONS

1. **Orthogonal double covers of a complete bipartite graph by a complete bipartite graph".** International Conference on Mathematics, Trends and Development ICMTD12. Organized by The Egyptian Mathematical Society, Cairo, Egypt, 2012. 73-84

2. **Orthogonal double covers of complete bipartite graphs by a special class of disjoint union of path and a complete bipartite graph.** British Journal of Mathematics & Computer Science, 3:390-396**,** 2013

3. **General cyclic orthogonal double covers of finite regular circulant graphs.** Open journal of discrete mathematics, 4:17-29**,** 2014.

4. **On orthogonal double covers of circulant graphs.** British Journal of Mathematics & Computer Science, 4:394-401, 2014.

5. **Orthogonal double covers of complete bipartite graph by complete bipartite graph-Path.** Journal of Advances in Mathematics, 7:1128-1134**,** 2014**.**

6. **Cartesian Product of Two Symmetric Starter Vectors of Orthogonal Double Covers.** AKCE International Journal of Graphs and Combinatorics. 12:59-63, 2015.

7. **Orthogonal Double Cover of Complete Bipartite Graph by Disjoint Union of Complete Bipartite Graphs.** Ain Shams Engineering Journal. 6:657-660. 2015.

8. **D2-synchronization in nondeterministic automata.** Ural Math. J., 4:99‑110, 2018.

9. **Using Sat solvers for synchronization issues in nondeterministic automata.** Siberian Electronic Math. Reports, 15:1426‑1442, 2018.

10. **Using Sat solvers for synchronization issues in partial deterministic automata.** Communications in Computer and Information Science, 1090:103‑118. 2019.

11. **Exact synchronization in partial deterministic automata.** J. Phys. conf.ser. 1352:1‑8, 2019.

CONFERENCES

1. International Conference on Mathematics, Trends and Development ICMTD12. Organized by The Egyptian Mathematical Society, Cairo, Egypt, 27 - 29 Dec. 2012.

2. International Conference and PhD-Master Summer School "Groups and Graphs, Metrics and Manifolds", Yekaterinburg, Russia, 2017.

3. International conference (50-th) Youth School-Conference of Modern problems in mathematics and its applications, Yekaterinburg, Russia, 2018.

4. International conference of Mathematical Optimization Theory and Operations Research (MOTOR). Obukhovskoe, Russia, 2019

5. International (51-st) Youth School-Conference of Modern problems in mathematics and its applications, Yekaterinburg, Russia, 2019.

6. International Scientific and Practical Conference on Mathematical Modeling, Programming and Applied Mathematics (MMPAM), Veliky Novgorod, Russia 2019.

7. International (52-nd) Youth School-Conference of Modern problems in mathematics and its applications, Yekaterinburg, Russia, 2020.

BOOKS

Book titled: On Orthogonal Double Covers of Graph by Graph-Path and Graph-Cycle.

Authors: R. Elshanawany, H, Shabana and A. Elmasdy.

Publisher: Lambert Academic Publishing, Germany

Year: 2015

PATENTS AND INVENTATIONS - (СВИДЕТЕЛЬСТВО О РЕГИСТРАЦИИ ПРОГРАММ (REGISTERATION CERTIFICATE OF SOFTWARE PROGRAM)

- Certificate of Official registration No. 2018616560, (Complex programming for Computing the synchronization threshold for nondeterministic automata. Russia, 2018)

- Certificate of Official registration No. 2019661853, (program searching for the optimal synchronizing word for partial deterministic automata. Russia, 2019)

OTHER PUBLICATIONS

A study on the orthogonal double covers of cayley graphs. Master Dissertation, Menofia University, Menofia, Egypt, 2014.

Synchronization of partial and non-deterministic automata: a SAT-based approach. PhD Dissertation, Ural Federal University, Ekaterinburg, Russia, 2020

PROFESSIONAL TRAINING

- Attended some training programs in "Faculty and Leadership Development Project (FLDP)", Menofia University according to following syllabus

- June -2013 OCCUPATION ETHICS AND LITERATURE PROGRAM

- June-2013 EFFECTIVE COMMUNICATION SKILLS" PROGRAM

- July -2013 USING TECHNOLOGY IN TEACHING" PROGRAM

- July -2013 LEARNING FOR TIME" PROGRAM

- February -2014 **ORGANIZATION OF SCIENTIFIC CONFERENCES" PROGRAM**
- February -2014 **EFFECTIVE PRESENTATION SKILLS" PROGRAM**
- September -2020 **MAKE DECISIONS AND SOLVE PROBLEMS**
- September -2020 **USE OF GLOBAL DATABASES**
- September -2020 **SKILLS OF USING MIND MAPS**
- September -2020 **UNIVERSITY AND COMMUNITY**
- September -2020 **CREDIT HOURS**
- September -2020 **SELF-STUDY FOR HIGHER EDUCATION INSTITUTIONS**

SKILLS

LANGUAGE SKILLS
- Fluent in Arabic (mother tongue)
- Good command of English
- Good command of Russian

COMPUTER SKILLS
- **ICTP CERTIFICATE** from Menofia University
- Good in Microsoft Office Programs and LaTex.
- Good in Scientific Work Place.

TECHNICAL SKILLS
- Good User of Matlab Program
- Good User of C++ Program
- Good User of SAT-solvers