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Career Progression

Dec. 2016 – April 2019	**Senior Teaching/Research Assistant** Physics Department, Faculty of Science, Ain Shams University, Cairo, Egypt.
Mar. 2010 – Dec. 2016	**Junior Teaching/Research Assistant** Physics Department, Faculty of Science, Ain Shams University, Cairo, Egypt.v

Education

April 2019 – March 2022	**Ph.D., School of Life Science and Technology, Tokyo Institute of Technology** in Computational Biology. Thesis title: *Investigating Dissociation Process and Binding Free Energy of P53-DBD/DNA Complex by PaCS-MD and MSM.*
June 2012 – October 2016	**M.Sc.Faculty of Science, Ain Shams University** in Biophysics. Thesis title: *Genetic and Physiological Effects of Ultraviolet Radiation on Tomato Plant (solanum lycopersicum).*
September 2005 – June 2009	**B.Sc.Faculty of Science, Ain Shams University** in Biophysics.

Positions

April 2022 – present	**Postdoctoral researcher, Molecular Modeling and Simulation (MMS) Team**, National Institute for Quantum Science and Technology (QST), Chiba, Japan. Project title: *The Development of Basic Drug Discovery Technologies for the Production of Next-Generation Antibody Therapeutics.*

Research Publications

Journal Articles

1. **Sobeh**, **M. M.**, & Kitao, A. (2022). Dissociation pathways of the p53 DNA binding domain from DNA and critical roles of key residues elucidated by dPaCS-MD/MSM. *Journal of Chemical Information and Modeling, 62*(5), 1294–1307. 🔗 doi:10.1021/acs.jcim.1c01508

2. Hata, H., Tran, D. P., **Sobeh**, **M. M.**, & Kitao, A. (2021). Binding free energy of protein/ligand complexes calculated using dissociation parallel cascade selection molecular dynamics and markov state model. *Biophysics and Physicobiology, 18*(0), 305–316. 🔗 doi:10.2142/biophysico.bppb-v18.037

Conference Proceedings

1. **Sobeh**, **M. M.**, Sakuraba, S., & Kono, H. (2022.11.14). Predicting the Effect of Addition/Deletion Mutations on Protein Stability by REST/FEP. In *Proceedings of the Annual Meeting progress FY2022 of AMED Fundamental Drug Discovery Technology Development Project for Realising Next Generation Therapy and Diagnosis*, Poster, Kobe University Integrated Research Centre, Kobe University, Japan.

2 **Sobeh**, M. M. (2021.9.16). Investigating the dissociation process and binding free energy of the p53-DBD/DNA complex by PaCS-MD and MSM. In *Proceedings of The Third International Online Conference on Molecular Modeling and Spectroscopy*, Short presentation, Online Conference, Giza, Egypt. Retrieved from 🔗 https://www.youtube.com/watch?v=wroOofDsxos

3 **Sobeh**, M. M., & Kitao, A. (2021.4.28). Investigating the dissociation process and binding energy of the p53-DBD/DNA complex by PaCS-MD and MSM. In *Proceedings of WE-Heraeus-Seminar, Advanced Physical and Computational Techniques to Investigate Protein Dynamics*, Poster, Online Conference via MeetAnyway, Freie Universität Berlin, Germany. Retrieved from 🔗 https://shortest.link/2mnF

4 **Sobeh**, M. M., & Kitao, A. (2021.6.16). Investigating the dissociation process and binding free energy of the p53-DBD/DNA complex by PaCS-MD and MSM. In *Proceedings of the 21st Annual Meeting of the Protein Science Society of Japan*, Poster, Online Conference, Tokyo, Japan.

5 **Sobeh**, M. M., & Kitao, A. (2020.9.18). Investigating the dissociation process of the p53-DBD/DNA complex by PaCS-MD and MSM. In *Proceedings of The 58th Annual Meeting of Biophysical Society of Japan (BSJ)*, Poster, Online Conference, Tokyo, Japan.

Skills

Languages	🔖	Strong reading, writing and speaking competencies for English.
Coding	🔖	Python, C++, Bash scripting, Tcl, LaTeX, Git.
MD Simulation	🔖	AMBER, GROMACS, Autodock vina, Rosetta, PyRosetta.
MD Analysis	🔖	VMD, PyMOL, PLIP, PyEMMA, MSMbuilder, Mdtraj, MDAnalysis.
Image & Video editing	🔖	Illustrator, Photoshop, and Premiere Pro.
Interpersonal	🔖	Communication & Presentation skills, Ability to teach and mentor Strong administrative & organizational skills, Effective team member Like water can adapt any situation and make better environment
Teaching	🔖	Guiding students in performing the experiments and taking data Helping students to figure out assignment problems Leading discussion sessions, Grading lab reports Preparing/Grading exams and quizzes

Miscellaneous Experience

Professional Experiences

August, 2021	🔖	**Tokyo 2020 Paralympic Games**, Contribution as volunteer with Germany Media Team.
July, 2021	🔖	**Tokyo 2020 Olympic Games**, Contribution as volunteer with Austrian Media Team.

Awards and Achievements

2021 – 2022	🔖	**Cross the border**, Tokyo-Tech pioneering doctoral research program by Tokyo Institute of Technology.
2019 – 2021	🔖	**Tokyo Tech Tsubame Scholarship**, Tokyo Institute of Technology.
	🔖	**Ph.D. Scholarship**, The Egypt-Japan Education Partnership (EJEP).
2010	🔖	**Medal of Superiority**, Awarded by dean of Faculty of Science, Ain Shams University, Cairo, Egypt.

Miscellaneous Experience (continued)

2009   **Honor Certificate**, Awarded by Egyptian Syndicate of Scientific Professions. Cross the border! Tokyo-Tech pioneering doctoral research program" program

Workshops and Training

February, 2022   **Fundamentals of Deep Learning**, NVIDIA Deep Learning Institute.

June, 2021   **BioExcel Summer School on Biomolecular Simulations**, Centre of Excellence for Computational Biomolecular Research.

May, 2021   **Python Package Development Workshop**, MolSSI Workshops.

April, 2021   **Python Data and Scripting and Molecular Mechanics Tools**, MolSSI Workshops offered at MERCURY Conference 2021.

March, 2021   **Introduction to Simulation Environments for Life Sciences**, Online PATC@BSC Training Course.

December, 2017   **The Second Egyptian Bioinformatics Workshop**, Nile University, Giza, Egypt.

April, 2018   **Life science and IR Micro-Spectroscopy thematic School**, SESAME, Allan, Jordan.

May, 2013   **Practice in JINR Fields of Research Projects "Radiation Biology"**, JINR, Dubna, Russia.

References

Available on Request