Ahmed Moustafa

Professor of Bioinformatics and Genomic Data Science

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Appointments

2026 – Present	**Group Leader**, African Bioinformatics Institute (ABI)
2023 – Present	**Member, Scientific Committee**, Egypt Genome Project
2020 – Present	**Bioinformatics Consultant**, Egypt Center for Research and Regenerative Medicine (ECRRM), Ministry of Defense
2019 – Present	**Professor (tenured)**, American University in Cairo (AUC)
2014 – 2019	**Associate Professor (tenured)**, American University in Cairo (AUC)
2010 – 2014	**Assistant Professor**, American University in Cairo (AUC)
2010 – Present	**Adjunct Scientist**, J. Craig Venter Institute (JCVI)
2015 – 2017	**Senior Bioinformatics Research Scientist**, Human Longevity, Inc. (HLI)
2009 – 2010	**Postdoctoral Research Fellow**, J. Craig Venter Institute (JCVI)
2008 – 2009	**Pre-Doctoral Research Fellow**, University of Iowa
2005 – 2008	**Graduate Research Assistant**, University of Iowa
2000 – 2005	**Senior Software Engineer**, Kaiser Permanente
1998 – 2000	**Software Engineer**, Arab Academy for Science and Technology (AAST)

Education

2005 – 2009	**PhD, Computational Genetics**, University of Iowa
1993 – 1998	**BSc, Computer Science**, Alexandria University

Administrative Leadership

2024 – 2025	Chair, Institute of Global Health and Human Ecology, American University in Cairo (AUC)
2021 – 2024	Chair, Department of Biology, American University in Cairo (AUC)
2012 – 2015	Director, Biotechnology Graduate Program, American University in Cairo (AUC)

Leadership & Service

2025 – Present	Egypt's Delegate (Nominated), G20 Research & Innovation Working Group
2024 – Present	Co-Founder & Executive Committee Member, Egyptian National Bioinformatics Network

Honors & Awards

- Fellow, African Academy of Sciences (2022)
- Editor's Pick, *PLOS Pathogens* (2017)
- NIH NRSA Predoctoral Fellowship (2005 – 2009)

Teaching

- Biostatistics
- Molecular Evolution & Population Genetics

- Bioinformatics
- Systems Biology
- Computational Genomics & Transcriptomics

Professional Memberships

- Genetics Society of America (*GSA*)
- American Society of Microbiology (*ASM*)
- American Society of Human Genetics (*ASHG*)
- International Society for Computational Biology (*ISCB*)
- American Association for the Advancement of Science (*AAAS*)

Software & Tools

- **DeepTaxa**: hybrid CNN–BERT deep-learning framework for 16S rRNA taxonomic classification (paper)
- **JAligner**: Smith–Waterman sequence alignment tool recognized by NIST (20,000+ downloads)
- **PhyloSort**: phylogenetic sorting tool for genome-scale phylogenomics
- **iTree**: high-throughput phylogenomic analysis pipeline

Publications

Population Genomics and Precision Medicine

1. Khaled Amer, **Ahmed Moustafa**, Wael A. Hassan, et al. EGP1K: Whole-Genome Sequencing of 1,024 Egyptians Characterizes Population Structure and Genetic Diversity. *bioRxiv*, 2 April 2026. doi:10.64898/2026.04.02.715521.
2. Neveen A Soliman, Mohamed A Elmonem, Ahmed F El-Sayed, Eman Ramadan, Ahmed M Badr, Fatma M Atia, Rasha Helmy, May O Amer, Ahmed Abd El-Raouf, Fadya M El-Garhy, Omnia M Abdel-Haseb, Tokka M Hassan, Yasmeen K Farouk, Ahmed El-Hosseiny, Usama Bakry, Asmaa Ali, Sheri Saleeb, Tasnim A Ghanim, Mahynour Albarbary, Ahmed Elmahy, Tarek Elnagdy, Amira Ragheb, Wael A Hassan, **Ahmed Moustafa**, Khaled Amer. Whole genome sequencing identifies monogenic disease in 56.1% of families with early-onset steroid-resistant nephrotic syndrome. *Human Genetics*, 22 May 2025. doi:10.1007/s00439-025-02752-y.
3. Khaled Amer, Neveen A Soliman, Sameh Soror, Yehia Z Gad, **Ahmed Moustafa**, Mohamed A Elmonem, May Amer, Ameera Ragheb, Amira Kotb, Tarek Taha, Wael Ali, Mahmoud Sakr, Khaled Abdel Ghaffar; Scientific Committee Consortium. Egypt Genome: Towards an African new genomic era. *Journal of Advanced Research*, 4 June 2024. doi:10.1016/j.jare.2024.06.003.
4. Mohamed A Elmonem, Neveen A Soliman, **Ahmed Moustafa**, Yehia Z Gad, Wael A Hassan, Tarek Taha, Gina El-Feky, Mahmoud Sakr, Khaled Amer. The Egypt Genome Project. *Nature Genetics*, 29 April 2024. doi:10.1038/s41588-024-01739-1.
5. Yasmine Aguib, Mona Allouba, Roddy Walsh, Ayman M. Ibrahim, Sarah Halawa, Alaa Afify, Mohammed Hosny, Pantazis I. Theotokis, Aya Galal, Sara Elshorbagy, Mohamed Roshdy, Heba S. Kassem, Amany Ellithy, Rachel Buchan, Nicola Whiffin, Shehab Anwer, Stuart A. Cook, **Ahmed Moustafa**, Ahmed ElGuindy, James S. Ware, Paul J.R. Barton, Magdi H. Yacoub. New Variant With a Previously Unrecognized Mechanism of Pathogenicity in Hypertrophic Cardiomyopathy. *Circulation*, 30 August 2021. doi:10.1161/CIRCULATIONAHA.120.048295.
6. Amany I. Abdel-Motaleb, Hassan M. Azzazy, **Ahmed Moustafa**. Toward Colorectal Cancer Biomarkers: The Role of Genetic Variation, Wnt Pathway, and Long Noncoding RNAs. *OMICS: A Journal of Integrative Biology*, 22 April 2021. doi:10.1089/omi.2020.0231.
7. Amira Youssef, Mohamed A. Abdel-Fattah, Ahmed O. Touny, Zeinab K. Hassan, Auhood Nassar, Mai M. Lotfy, **Ahmed Moustafa**, Mohammed Mohey Eldin, Abeer Bahnassy, Abdel-Rahman N.

Zekri. Deep Next Generation Sequencing Identifies Somatic Mutational Signature in Egyptian Colorectal Cancer Patients. *Research Square*, 18 December 2020. doi:10.21203/rs.3.rs-125305/v1.

8. Amalio Telenti, Levi T Pierce, William H Biggs, Julia di Iulio, Emily H.M. Wong, Martin M Fabani, Ewen F Kirkness, **Ahmed Moustafa**, Naisha Shah, Chao Xie, Suzanne C Brewerton, Nadeem Bulsara, Chad Garner, Gary Metzker, Efren Sandoval, Brad A Perkins, Franz J Och, Yaron Turpaz, J. Craig Venter. Deep Sequencing of 10,000 Human Genomes. *Proceedings of the National Academy of Sciences*, 4 October 2016. doi:10.1073/pnas.1613365113.

Human Microbiome, Metagenomics, and Viromes

1. Shereen A. El Sobky, Nada El-Ekiaby, Injie O. Fawzy, Amira Khaled Abdelhamid, Heba Attia, Ibrahim H. Fayed, Yasser Badr, Mohammed Emadeldeen, Ahmed Nagy, Mohamed Negm, Mohamed Sherif Negm, **Ahmed Moustafa**, Mohamed El-Kassas, Mohamed A. Farag, Ramy K. Aziz, Ahmed I. Abdelaziz. Association between the subcellular localization of host proteins and gut microbiome and metabolome in metabolic dysfunction-associated steatotic liver disease: a pilot study. *Frontiers in Molecular Biosciences*, 2 July 2026. doi:10.3389/fmolb.2026.1703547.
2. Marwa Zahra, Amged Ouf, Hassan M. E. Azzazy, **Ahmed Moustafa**. Metagenomic profiling of gut microbiome signatures across liver disease stages and HCV-related hepatocellular carcinoma in Egyptian patients. *Frontiers in Microbiology*, 28 April 2026. doi:10.3389/fmicb.2026.1758563.
3. Ali Shalash, Shahd Ezzeldin, Sara Hashish, Yara Salah, Noha L. Dawood, **Ahmed Moustafa**, Mohamed Salama. Gut microbial shifts toward inflammation in Parkinson's disease: Insights from pilot shotgun metagenomics Egyptian cohort. *Journal of Parkinson's Disease*, 17 September 2025. doi:10.1177/1877718x251370156.
4. **Ahmed Moustafa**, Rana Salah Khalel, Ramy K. Aziz. Traces of SARS-CoV-2 RNA in Peripheral Blood Cells of Patients with COVID-19. *OMICS: A Journal of Integrative Biology*, 19 July 2021. doi:10.1089/omi.2021.0068.
5. Vicki S. Hertzberg, Harinder Singh, Christina N. Fournier, **Ahmed Moustafa**, Meraida Polak,Claire A. Kuelbs, Manolito G. Torralba, Malú G. Tansey, Karen E. Nelson, Jonathan D. Glass. Gut microbiome differences between amyotrophic lateral sclerosis patients and spouse controls. *Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration*, 5 April 2021. doi:10.1080/21678421.2021.1904994.
6. **Ahmed Moustafa**, Ramy K Aziz. Traces of SARS-CoV-2 RNA in the Blood of COVID-19 Patients. *medRxiv*, 18 May 2020. doi:10.1101/2020.05.10.20097055.
7. Marcelo Freire, **Ahmed Moustafa**, Derek M. Harkins, Manolito G. Torralba, Yun Zhang, Pamela Leong, Richard Saffery, Michelle Bockmann, Claire Kuelbs, Toby Hughes, Jeffrey M. Craig, Karen E. Nelson. Longitudinal Study of Oral Microbiome Variation in Twins. *Scientific Reports*, 14 May 2020. doi:10.1038/s41598-020-64747-1.
8. Nourhan Sahly, **Ahmed Moustafa**, Mohamed Zaghloul, Tamer Z Salem. Effect of Radiotherapy on the Gut Microbiome in Pediatric Cancer Patients: A Pilot Study. *PeerJ*, 23 September 2019. doi:10.7717/peerj.7683.
9. Reisha Rafeek, Christine V. F. Carrington, Andres Gomez, Derek Harkins, Manolito Torralba, Claire Kuelbs, Jonas Addae, **Ahmed Moustafa**, Karen E. Nelson. Xylitol and Sorbitol effects on the microbiome of saliva and plaque. *Journal of Oral Microbiology*, 23 October 2018. doi:10.1080/20002297.2018.1536181.
10. **Ahmed Moustafa**, Weizhong Li, Harinder Singh, Kelvin J. Moncera, Manolito G. Torralba, Yanbao Yu, Oriol Manuel, William Biggs, J. Craig Venter, Karen E. Nelson, Rembert Pieper, Amalio Telenti. Microbial metagenome of urinary tract infection. *Scientific Reports*, 12 March 2018. doi:10.1038/s41598-018-22660-8.
11. **Ahmed Moustafa**, Brigid S. Boland, Weizhong Li, Ericka L. Anderson, Emily H. M. Wong, Parambir S. Dulai, William J. Sandborn, William Biggs, J. Craig Venter, Karen E. Nelson, Amalio Telenti, John T. Chang. Genetic risk, dysbiosis, and treatment stratification using

host genome and gut microbiome in inflammatory bowel disease. *Clinical and Translational Gastroenterology*, 18 January 2018. doi:10.1038/ctg.2017.58.

12. **Ahmed Moustafa**, Harinder Singh, Weizhong Li, Kelvin Moncera, Manolito Torralba, Yanbao Yu, Oriol Manuel, William Biggs, J. Craig Venter, Karen Nelson, Rembert Pieper, Amalio Telenti. Microbial Metagenome Of Urinary Tract Infection. *bioRxiv*, 4 May 2017. doi:10.1101/134320.
13. **Ahmed Moustafa**, Chao Xie, Ewen Kirkness, William Biggs, Emily Wong, Yaron Turpaz, Kenneth Bloom, Eric Delwart, Karen E. Nelson, J. Craig Venter, Amalio Telenti. The blood DNA virome in 8,000 humans. *PLOS Pathogens*, 22 March 2017. doi:10.1371/journal.ppat.1006292.

Microbial, Environmental, and Marine Genomics

1. Luisa Mayumi Arake de Tacca, Rayane Nunes Lima, Patrícia Verdugo Pascoal, Deborah Bambil, Marco Antônio de Oliveira, **Ahmed Moustafa**, Helena Ipê Pinheiro Guimarães, Carlos Alexandre Azevedo, Paula Mizote, Grácia Maria Soares Rosinha, Daniela Carvalho Bittencourt, Diana Signor, Magna Soelma Beserra de Moura, José Pedro Pereira Trindade, Leandro Bochi da Silva Volk, Fernando Antônio Fernandes, Ricardo Lopes, Jean Luiz Simões-Araújo, Marcelo Freire, Elibio Rech. A Pan-Biome Metagenomic Atlas of the Brazilian Rhizosphere, Root, and Soil Microbiomes. *Research Square*, 9 March 2026. doi:10.21203/rs.3.rs-8948634/v1.
2. Amin Mohamed, Michael Ochsenkuhn, Ahmed Kazlak, **Ahmed Moustafa**, Shady Amin. The coral microbiome: Towards an understanding of the molecular mechanisms of coral-microbiota interactions. *FEMS Microbiology Reviews*, 7 March 2023. doi:10.1093/femsre/fuad005.
3. Eman K. Abdelwahed, Nahla A. Hussein, **Ahmed Moustafa**, Nayera A. Moneib, Ramy K. Aziz. Gene Networks and Pathways Involved in Escherichia coli Response to Multiple Stressors. *Microorganisms*, 6 September 2022. doi:10.3390/microorganisms10091793.
4. B C Kolody, S R Smith, L Zeigler Allen, J P McCrow, **Ahmed Moustafa**, D Shi, B M Hopkinson, F M M Morel, B B Ward, A E Allen. Nitrogen and Iron Availability Drive Metabolic Remodeling and Natural Selection of Diverse Phytoplankton during Experimental Upwelling. *mSystems*, 29 August 2022. doi:10.1128/msystems.00729-22.
5. Innocent Afeke, **Ahmed Moustafa**, Misa Hirose, Mareike Becker, Hauke Busch, Axel Kuenstner, Anke Faehnrich, Anthony S. Ablordey, Christoph Haertel, Kokou Hefoume Amega-Aho, Mohamed Tarek Badr, Jan Rupp, Saleh Ibrahim. Draft Genome Sequences and Antimicrobial Profiles of Three Staphylococcus epidermidis Strains from Neonatal Blood Samples. *Microbiology Resource Announcements*, 1 April 2021. doi:10.1128/MRA.00170-21.
6. B. C. Kolody, J. P. McCrow, L. Zeigler Allen, F. O. Aylward, K. M. Fontanez, **A. Moustafa**, M. Moniruzzaman, F. P. Chavez, C. A. Scholin, E. E. Allen, A. Z. Worden, E. F. Delong & A. E. Allen. Diel transcriptional response of a California Current plankton microbiome to light, low iron, and enduring viral infection. *The ISME Journal*, 18 July 2019. doi:10.1038/s41396-019-0472-2.
7. Zarraz M. Lee, Amisha T. Poret-Peterson, Janet L. Siefert, Drishti Kaul, **Ahmed Moustafa**, Andrew E. Allen, Chris L. Dupont, Luis E. Eguiarte, Valeria Souza, James J. Elser. Nutrient stoichiometry shapes microbial community structure in a shallow evaporitic pond. *Frontiers in Microbiology*, 30 May 2017. doi:10.3389/fmicb.2017.00949.
8. Jenan J Kharbush, Andrew E Allen, **Ahmed Moustafa**, Pieter C Dorrestein, Lihini I Aluwihare. Intact polar diacylglycerol biomarker lipids isolated from suspended particulate organic matter accumulating in an ultraoligotrophic water column. *Organic Geochemistry*, 31 October 2016. doi:10.1016/j.orggeochem.2016.07.008.
9. Brian L Zielinski, Andrew E Allen, Edward J Carpenter, Victoria J Coles, Byron C Crump, Mary Doherty, Rachel A Foster, Joaquim I Goes, Helga R Gomes, Raleigh R Hood, John P McCrow, Joseph P Montoya, **Ahmed Moustafa**, Brandon M Satinsky, Shalabh Sharma, Christa B Smith, Patricia L Yager, John H Paul. Patterns of Transcript Abundance of Eukaryotic Biogeochemically-Relevant Genes in the Amazon River Plume. *PloS one*, 6 September 2016. doi:10.1371/journal.pone.0160929.

10. Erin M Bertrand, John P McCrow, **Ahmed Moustafa**, Hong Zheng, Jeffrey B McQuaid, Tom O Delmont, Anton F Post, Rachel E Sipler, Jenna L Spackeen, Kai Xu, Deborah A Bronk, David A Hutchins, Andrew E Allen. Phytoplankton–bacterial interactions mediate micronutrient colimitation at the coastal Antarctic sea ice edge. *Proceedings of the National Academy of Sciences*, 28 July 2015. doi:10.1073/pnas.1501615112.
11. Joe Morrissey, Robert Sutak, Javier Paz-Yepes, Atsuko Tanaka, **Ahmed Moustafa**, Alaguraj Veluchamy, Yann Thomas, Hugo Botebol, François-Yves Bouget, Jeffrey B. McQuaid, Leila Tirichine, Andrew E Allen, Emmanuel Lesuisse, Chris Bowler. A Novel Protein, Ubiquitous in Marine Phytoplankton, Concentrates Iron at the Cell Surface and Facilitates Uptake. *Current Biology*, 31 December 2014. doi:10.1016/j.cub.2014.12.004.
12. Chris L Dupont, John P McCrow, Ruben Valas, **Ahmed Moustafa**, Nathan Walworth, Ursula Goodenough, Robyn Roth, Shane L Hogle, Jing Bai, Zackary I Johnson, Elizabeth Mann, Brian Palenik, Katherine A Barbeau, J Craig Venter, Andrew E Allen. Genomes and gene expression across light and productivity gradients in eastern subtropical Pacific microbial communities. *The ISME Journal*, 21 October 2014. doi:10.1038/ismej.2014.198.
13. Ari J. S. Ferreira, Rania Siam, João C. Setubal, **Ahmed Moustafa**, Ahmed Sayed, Felipe S. Chambergo, Adam S. Dawe, Mohamed A. Ghazy, Hazem Sharaf, Amged Ouf, Intikhab Alam, Alyaa M. Abdel-Haleem, Heikki Lehvaslaiho, Eman Ramadan, André Antunes, Ulrich Stingl, John A. C. Archer, Boris R. Jankovic, Mitchell Sogin, Vladimir B. Bajic, Hamza El-Dorry. Core Microbial Functional Activities in Ocean Environments Revealed by Global Metagenomic Profiling Analyses. *PLoS ONE*, 12 June 2014. doi:10.1371/journal.pone.0097338.
14. Rania Siam, Ghada Moustafa, Hazem Sharaf, **Ahmed Moustafa**, Adham Ramadan, Andre Antunes, Vladimir Bajic, Uli Stingl, Nardine Marsis, Marco Coolen, Mitchell Sogin, Ari Ferreira, and Hamza El-Dorry. Unique Prokaryotic Consortia in Geochemically Distinct Sediments from Red Sea Atlantis II and Discovery Deep Brine Pools. *PLoS ONE*, 20 August 2012. doi:10.1371/journal.pone.0042872.

Machine Learning, Computational Biology, and Bioinformatics Tools

1. Rana Salah, Khlood R AbdElaal, Lobna Ghonaim, Olaitan I Awe, **Ahmed Moustafa**. DeepTaxa: a hybrid CNN-BERT framework for 16S rRNA taxonomic classification. *Bioinformatics Advances*, 12 June 2026. doi:10.1093/bioadv/vbag166.
2. Aya Galal, **Ahmed Moustafa**, Mohamed Salama. Transforming neurodegenerative disorder care with machine learning: Strategies and applications. *Neuroscience*, 20 March 2025. doi:10.1016/j.neuroscience.2025.03.036.
3. Myret Ghabriel, Ahmed El Hossein, **Ahmed Moustafa**, Asma Amleh. Computational comparative analysis identifies potential stemness-related markers for mesenchymal stromal/stem cells. *Frontiers in Cell and Developmental Biology*, 1 March 2023. doi:10.3389/fcell.2023.1065050.
4. Aya Galal, Marwa Talal, **Ahmed Moustafa**. Applications of Machine Learning in Metabolomics: Disease Modeling and Classification. *Frontiers in Genetics*, 24 November 2022. doi:10.3389/fgene.2022.1017340.
5. Nemin Shaltout, Mohamed Moustafa, Ahmed Rafea, **Ahmed Moustafa**, Mohamed ElHefnawi. Comparing PCA to information gain as a feature selection method for Influenza-A classification. *2015 International Conference on Intelligent Informatics and Biomedical Sciences (ICIIBMS)*, November 2015. doi:10.1109/iciibms.2015.7439550.
6. **Ahmed Moustafa**, Debashish Bhattacharya, Andrew E. Allen. iTree: a high-throughput phylogenomic pipeline. *5th Cairo International Biomedical Engineering Conference*, 17 February 2011. doi:10.1109/CIBEC.2010.5716071.
7. **Ahmed Moustafa**, Debashish Bhattacharya. PhyloSort: a user-friendly phylogenetic sorting tool and its application to estimating the cyanobacterial contribution to the nuclear genome of Chlamydomonas. *BMC Evolutionary Biology*, 15 January 2008. doi:10.1186/1471-2148-8-6.

Comparative and Evolutionary Genomics

1. Mariam R. Rizkallah, Stephan Frickenhaus, Scarlett Trimborn, Lars Harms, **Ahmed Moustafa**, Vladimir Benes, Steffi Gäbler-Schwarz, Sara Beszteri. Deciphering patterns of adaptation and acclimation in the transcriptome of Phaeocystis antarctica to changing iron conditions. *Journal of Phycology*, 15 April 2020. doi:10.1111/jpy.12979.
2. Uwe John, Yameng Lu, Sylke Wohlrab, Marco Groth, Jan Janouškovec, Gurjeet S. Kohli, Felix C. Mark, Ulf Bickmeyer, Sarah Farhat, Marius Felder, Stephan Frickenhaus, Laure Guillou, Patrick J. Keeling, **Ahmed Moustafa**, Betina M. Porcel, Klaus Valentin, Gernot Glöckner. An aerobic eukaryotic parasite with functional mitochondria that likely lacks a mitochondrial genome. *Science Advances*, 24 April 2019. doi:10.1126/sciadv.aav1110.
3. Yu Ling, Sahar Alshareef, Haroon Butt, Jorge Lozano-Juste, Lixin Li, Aya A Galal, **Ahmed Moustafa**, Afaque Ahmad Momin, Manal Tashkandi, Dale N Richardson, Hiroaki Fujii, Stefan Arold, Pedro L Rodriguez, Paula Duque, Magdy M Mahfouz. Pre-mRNA splicing repression triggers abiotic stress signaling in plants. *The Plant Journal*, 24 September 2016. doi:10.1111/tpj.13383.
4. Gernot Glöckner, Norbert Hülsmann, Michael Schleicher, Angelika A Noegel, Ludwig Eichinger, Christoph Gallinger, Jan Pawlowski, Roberto Sierra, Ursula Euteneuer, Loic Pillet, **Ahmed Moustafa**, Matthias Platzer, Marco Groth, Karol Szafranski, Manfred Schliwa. The Genome of the Foraminiferan Reticulomyxa filosa. *Current Biology*, 12 December 2013. doi:10.1016/j.cub.2013.11.027.
5. Jonas Collén, Betina Porcel, Wilfrid Carré, Steven G Ball, Cristian Chaparro, Thierry Tonon, Tristan Barbeyron, Gurvan Michel, Benjamin Noel, Klaus Valentin, Marek Elias, François Artiguenave, Alok Arun, Jean-Marc Aury, José F Barbosa-Neto, John H Bothwell, François-Yves Bouget, Loraine Brillet, Francisco Cabello-Hurtado, Salvador Capella-Gutiérrez, Bénédicte Charrier, Lionel Cladière, J Mark Cock, Susana M Coelho, Christophe Colleoni, Mirjam Czjzek, Corinne Da Silva, Ludovic Delage, France Denoeud, Philippe Deschamps, Simon M Dittami, Toni Gabaldón, Claire M M Gachon, Agnès Groisillier, Cécile Hervé, Kamel Jabbari, Michael Katinka, Bernard Kloareg, Nathalie Kowalczyk, Karine Labadie, Catherine Leblanc, Pascal J Lopez, Deirdre H McLachlan, Laurence Meslet-Cladiere, **Ahmed Moustafa**, Zofia Nehr, Pi Nyvall Collén, Olivier Panaud, Frédéric Partensky, Julie Poulain, Stefan A Rensing, Sylvie Rousvoal, Gaelle Samson, Aikaterini Symeonidi, Jean Weissenbach, Antonios Zambounisb, Patrick Wincker, Catherine Boyena. Genome structure and metabolic features in the red seaweed Chondrus crispus shed light on evolution of the Archaeplastida. *Proceedings of the National Academy of Sciences*, 15 March 2013. doi:10.1073/pnas.1221259110.
6. Steven G. Ball, Agathe Subtil, Debashish Bhattacharya, **Ahmed Moustafa**, Andreas P.M. Weber, Lena Gehre, Christophe Colleoni, Maria-Cecilia Arias, Ugo Cenci, David Dauvilléea. Metabolic Effectors Secreted by Bacterial Pathogens: Essential Facilitators of Plastid Endosymbiosis. *The Plant Cell*, 31 January 2013. doi:10.1105/tpc.112.101329.
7. Adrian Reyes-Prieto, **Ahmed Moustafa**. Plastid-localized amino acid biosynthetic pathways of Plantae are predominantly composed of non-cyanobacterial enzymes. *Scientific Reports*, 11 December 2012. doi:10.1038/srep00955.
8. Andrew E. Allen, **Ahmed Moustafa**, Anton Montsant, Angelika Eckert, Peter G. Kroth, Chris Bowler. Evolution and Functional Diversification of Fructose Bisphosphate Aldolase Genes in Photosynthetic Marine Diatoms. *Molecular Biology and Evolution*, 8 September 2011. doi:10.1093/molbev/msr223.
9. Karen N. Pelletreau, Debashish Bhattacharya, Dana C. Price, Jared M. Worful, **Ahmed Moustafa**, Mary E. Rumpho. Sea slug kleptoplasty and plastid maintenance in a metazoan. *Plant Physiology*, 23 February 2011. doi:10.1104/pp.111.174078.

10. Mary E. Rumpho, Karen N. Pelletreau, **Ahmed Moustafa**, Debashish Bhattacharya. The making of a photosynthetic animal. *Journal of Experimental Biology*, 15 January 2011. doi:10.1242/jeb.046540.
11. **Ahmed Moustafa**, Andrew N. Evans, Deana L. Erdner, David M. Kulis, Donald M. Anderson, Debashish Bhattacharya. Transcriptome Profiling of a Toxic Dinoflagellate Reveals a Gene-Rich Protist and a Potential Impact on Gene Expression Due to Bacterial Presence. *PLoS ONE*, 12 March 2010. doi:10.1371/journal.pone.0009688.
12. Adrian Reyes-Prieto, Hwan Su Yoon, **Ahmed Moustafa**, Eun Chan Yang, Robert A. Andersen, Sung Min Boo, Takuro Nakayama, Ken-ichiro Ishida, Debashish Bhattacharya. Differential gene retention in plastids of common recent origin. *Molecular Biology and Evolution*, 1 February 2010. doi:10.1093/molbev/msq032.
13. **Ahmed Moustafa**, Bánk Beszteri, Uwe G. Maier, Chris Bowler, Klaus Valentin, Debashish Bhattacharya. Genomic footprints of a cryptic plastid endosymbiosis in diatoms. *Science*, 26 June 2009. doi:10.1126/science.1172983.
14. **Ahmed Moustafa**, Jeannette E. Loram, Jeremiah D. Hackett, Donald M. Anderson, F. Gerald Plumley, Debashish Bhattacharya. Origin of saxitoxin biosynthetic genes in cyanobacteria. *PLoS ONE*, 1 June 2009. doi:10.1371/journal.pone.0005758.
15. Mary E. Rumpho, Jared M. Worful, Jungho Lee, Krishna Kannan, Mary S. Tyler, Debashish Bhattacharya, **Ahmed Moustafa**, James R. Manhart. Horizontal gene transfer of the algal nuclear gene psbO to the photosynthetic sea slug Elysia chlorotica. *Proceedings of the National Academy of Sciences*, 11 November 2008. doi:10.1073/pnas.0804968105.
16. **Ahmed Moustafa**, CX Chan, Megan Danforth, David Zear, Hiba Ahmed, Nagnath Jadhav, Trevor Savage, Debashish Bhattacharya. A phylogenomic approach for studying plastid endosymbiosis. *Genome Informatics*, November 2008. doi:10.1142/9781848163324_0014.
17. Adrian Reyes-Prieto, **Ahmed Moustafa**, Debashish Bhattacharya. Multiple genes of apparent algal origin suggest ciliates may once have been photosynthetic. *Current Biology*, 8 July 2008. doi:10.1016/j.cub.2008.05.042.
18. **Ahmed Moustafa**, Adrian Reyes-Prieto, Debashish Bhattacharya. Chlamydiae has contributed at least 55 genes to Plantae with predominantly plastid functions. *PLoS ONE*, 21 May 2008. doi:10.1371/journal.pone.0002205.
19. William Lanier, **Ahmed Moustafa**, Debashish Bhattacharya, Josep Comeron. EST analysis of Ostreococcus lucimarinus, the most compact eukaryotic genome, shows an excess of introns in highly expressed genes. *PLoS ONE*, 14 May 2008. doi:10.1371/journal.pone.0002171.
20. Naomi Phillips, Calhoun Sam, **Ahmed Moustafa**, Debashish Bhattacharya, Edward Braun. Genomic insights into evolutionary relationships among heterokont lineages emphasizing the phaeophyceae. *Journal of Phycology*, 9 January 2008. doi:10.1111/j.1529-8817.2007.00435.x.

Biomedical and Translational Genomics

1. Sara Mohamed, Ahmed Kreta, Heba Refaat, Shaimaa F. Ahmed, Amany Khalifa, C. Tharwat, **Ahmed Moustafa**, Mohamed A. Swillam. Efficacy of cost-effective UV-light for Salmonella elimination. *Photonic Diagnosis, Monitoring, Prevention, and Treatment of Infections and Inflammatory Diseases 2026*, 5 March 2026. doi:10.1117/12.3081802.
2. Rowan Abdelbary, Sherine K. Saber, Fabian Rose, Kai Breuhahn, Shereen A. El Sobky, Injie Omar Fawzy, **Ahmed Moustafa**, Nada El-Ekiaby, Ahmed Ihab Abdelaziz. Pilot study: predicting the interplay between FOXO1 and its downstream long non-coding RNAs in HCC. *Frontiers in Oncology*, 16 February 2026. doi:10.3389/fonc.2026.1692980.
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Datasets

- **Phylogenomic Revisit for Green Contribution to Diatoms.** Ahmed Moustafa, Klaus Valentin, Debashish Bhattacharya. *figshare*. doi:10.6084/m9.figshare.735804
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Selected Media and Public Engagement

- **Egypt Genome Project (EGP1K)**, 2026. Interviewed and quoted across the Egyptian and regional press (Youm7, *El-Watan*, *Al-Dostor*, *Asharq Al-Awsat*, and *Al Jazeera*; in English, *Egypt Today* and *Ahram Online*), and appeared as a guest expert on Mehwar TV's *90* دقيقة.
- **Scientific American** (Arabic edition). Interviewed on Egypt's SARS-CoV-2 sequencing, Parkinson's disease in Africa, and DNA-repair research, 2021.
- **Nature Middle East.** Coverage of Egypt's SARS-CoV-2 sequencing efforts, 2021.
- **SciDev.Net.** Unlocking modern, ancient Egyptian DNA secrets, 2020.
- **PNAS cover.** The solar-powered sea slug (*Elysia chlorotica*) paper on the cover of *PNAS*, 2008.
- Research highlights of the *Science* (2009) plastid-endosymbiosis and *Science Advances* (2019) DNA-lacking-mitochondria papers in outlets such as *Science News*, *EurekAlert!*, and *Nature Reviews Genetics*.

For the full archive of media coverage and appearances, see the Media page.