Curriculum vitae

PERSONAL INFORMATION

Mohammed Hammad Mohammed Fawey

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Sex Male | Date of birth 01/10/1980 | Nationality Egyptian

WORK EXPERIENCE

09/07/2012–31/12/2017 **Scientist**

Karlsruhe Institute of Technology (KIT), Karlsruhe, Baden-Württemberg (Germany)

- FIB sample preparation
- In situ TEM studies of fluoride ion batteries
- Ex situ TEM studies of fluoride ion batteries

02/04/2011–08/07/2012 **Assistant Lecturer (Physics)**

Sohag University, Faculty of Science, Physics Department, Sohag (Egypt)

- Teaching the courses of practical physics for the undergraduate students.

07/05/2003–02/04/2011 **Demonstrator (Physics)**

Sohag University, Faculty of Science, Physics Department, Sohag (Egypt)

- Teaching the courses of practical physics for the undergraduate students.

EDUCATION AND TRAINING

18/12/2012–29/09/2017 **Ph.D. in the field of energy storage and electrochemistry**

Materials Science Department, Technical University of Darmstadt (TUD), Darmstadt, Germany

Dissertation title: In situ and Ex situ TEM Studies of Fluoride Ion Batteries

http://tuprints.ulb.tu-darmstadt.de/6933/

2005–2007 **M.Sc. in Solid-State Physics, Plasma Applications (Physics)**

Sohag University, Faculty of Science, Physics Department, Sohag (Egypt)

Dissertation title: Duplex Plasma Treatment of Stainless Steel

1998–2002 **B.Sc. in Physics (Physics)**

Sohag University, Faculty of Science, Physics Department, Sohag (Egypt)

PERSONAL SKILLS

Mother tongue(s) Arabic

Other language(s) English

Communication skills Good communication skills gained through my experience as a scientist in Karlsruhe Institute of Technology (KIT)

List of publications

1. **Mohammed Hammad Fawey**, Venkata Sai Kiran Chakravadhanula, Anji Reddy Munnangi, Carine Rongeat, Horst Hahn, Maximilian Fichtner and Christian Kübel, "*In situ* TEM studies of a micron-sized all-solid-state fluoride ion battery", **submitted to Nano Energy**, 2018.
2. S. Sabet, A. Moradabadi, S. Gorji, M. Yi, Q. Gong, **M. H. Fawey**, E. Hildebrandt, D. Wang, H. Zhang, B. Xu, C. Kübel and L. Alff, "On the origin of incoherent exchange coupling in MnBi/Fe_xCo_{1-x} bilayer system", **submitted to Applied Materials & Interfaces**, 2018.
3. Bhupendra K. Sharma, Anna Stoesser, Suresh Kumar Garlapati, **Mohammed Hammad Fawey**, Venkta Sai Kiran Chakravadhanula, Robert Kruk, Horst Hahn and Subho Dasgupta, "High-Performance All-Printed Amorphous Oxide FETs and Logic with Superior Electrode/Channel Interface", **submitted to Advanced Functional Materials**, 2017.
4. M. R. Chellali, S. H. Nandam, S. Li, **M. H. Fawey**. E. Moreno-Pineda, L. V. Estrada, T. Boll, R. Kruk, H. Hahn, "Amorphous Nickel nanophases inducing ferromagnetism in equiatomic Ni-Ti alloy", Acta Materialia 161 (2018) 47-53, DOI: https://doi.org/10.1016/j.actamat.2018.09.019
5. Magnus Garbrecht, Lars Hultman, **Mohammed H. Fawey**, Timothy D. Sands, and Bivas Saha, "Tailoring of surface plasmon resonances in TiN/$(Al_{0.72}Sc_{0.28})$N multilayers by dielectric layer thickness variation", Journal of Materials Science, 53 (2018) 4001-4009, *DOI: https://doi.org/10.1007/s10853-017-1837-4*.
6. Magnus Garbrecht, Lars Hultman, **Mohammed H. Fawey**, Timothy D. Sands, and Bivas Saha, "Void-mediated coherency-strain relaxation and impediment of cubic-to-hexagonal transformation in epitaxial metastable metal/semiconductor TiN/$Al_{0.72}Sc_{0.28}$N multilayers", Physical Review Materials, 1 (2017) 033402, *DOI: https://doi.org/10.1103/PhysRevMaterials.1.033402*.
7. Harshita Bhatia, Duc Tho Thieu, Alexander Herald Pohl, Venkata Sai K. Chakravadhanula, **Mohammed H. Fawey**, Christian Kübel, and Maximilian Fichtner, "Conductivity Optimization of Tysonite-type $La_{1-x}Ba_xF_{3-x}$ Solid Electrolytes for Advanced Fluoride Ion Battery", ACS Applied Materials &

Interfaces, 9 (2017) 23707-23715, *DOI: 10.1021/acsami.7b04936*.

8. Bivas Saha, Magnus Garbrecht, Jaime A. Perez-Taborda, **Mohammed H. Fawey**, Yee Rui Koh, Ali Shakouri, Marisol Martin-Gonzalez, Lars Hultman, and Timothy D. Sands, “Compensation of native donor doping in ScN: Carrier concentration control and p-type ScN”, Applied Physics Letters, 110 (2017) 252104, *DOI: 10.1063/1.4989530.*
9. **Mohammed Hammad Fawey***, Duc Tho Thieu*, Harshita Bhatia, Thomas Diemant, Venkata Sai Kiran Chakravadhanula, Rolf Jürgen Behm, Christian Kübel, and Maximilian Fichtner, "CuF_2 as Reversible Cathode for Fluoride Ion Batteries", Advanced Functional Materials, 27 (2017) 1701051, *DOI: 10.1002/adfm.201701051* (* equal contribution first author).
10. **Mohammed Hammad Fawey**, Venkata Sai Kiran Chakravadhanula, Munnangi Anji Reddy, Carine Rongeat, Torsten Scherer, Horst Hahn, Maximilian Fichtner, and Christian Kübel, "In situ TEM Studies of Micron-sized All-solid-state Fluoride Ion Batteries: Preparation, Prospects, and Challenges", Microscopy Research and Technique, 79 (2016) 615–624, *DOI: 10.1002/jemt.22675*.
11. Venkata Sai Kiran Chakravadhanula, Thais Silva Teodoro, Torsten Scherer, Suresh Kumar Garlapati, Aaron Kobler, Krishna Kanth Neelisetty, **Mohammed Hammad Fawey** and Christian Kübel, "Electrochemistry in Liquid Environments: Challenges in the Presence of Accelerated Electrons", Imaging & Microscopy, Aug. 17, 2016, http://www.imaging-git.com/science/electron-and-ion-microscopy/electrochemistry-liquid-environments.
12. Suresh Kumar Garlapati, Tessy Theres Baby, Simone Dehm, **Mohammed Hammad**, Venkata Sai Kiran Chakravadhanula, Robert Kruk, Horst Hahn, and Subho Dasgupta, “Ink-Jet Printed CMOS Electronics from Oxide Semiconductors”, Small, 11 (2015) 3591–3596,

    DOI: 10.1002/smll.201403288.
13. F. M. El-Hossary, N. Z. Negm, A. M. Abed El-Rahman, **M. Hammad**, “Duplex treatment of 304 AISI stainless steel using rf plasma nitriding and carbonitriding”, Materials Science and Engineering C, 29 (2009) 1167–1173, *DOI: 10.1016/j.msec.2008.09.049*.
14. F. M. El-Hossary, N. Z. Negm, A. M. Abd El-Rahman, **M. Hammad**, C. Templier, “Duplex treatment of AISI 304 austenitic stainless steel using rf nitriding and dc reactive magnetron sputtering of titanium”, Surface & Coating technology, 202 (2008) 1392–1400, *DOI: 10.1016/j.surfcoat.2007.06.066*.