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ABOUT ME

Lecturer of Analytical Chemistry, Faculty of Science, Ain Sham University, Egypt

WORK EXPERIENCE

Lecturer of Analytical Chemistry

Faculty of Science, Ain Shams University [26 Sep 2022 – Current]

Developing independent or team-taught courses, producing teaching materials and methodologies, and training or supervising undergraduate students.

Assistant lecturer of Chemistry

Faculty of Science, Ain Shams University [2 Dec 2019 – 25 Sep 2022]

To support the design, development and production of learning and teaching material and deliver either across a range of modules or within a subject area.

Demonstrator of Inorganic and Analytical Chemistry

Faculty of Science, Ain Shams University [24 May 2016 – 1 Dec 2019]

Demonstrate use of practical equipment (including where relevant, software packages), experiments, exercises, techniques and/or processes that may form an element of an undergraduate course of study.

EDUCATION AND TRAINING

Ph.D. in Chemistry (Analytical Chemistry)

Faculty of Science, Ain Shams University [Mar 2020 – 24 Aug 2022]

Thesis: Nanomaterials For Analytical Uses and Their Applications to Environmental Analysis

Master of Science (MSc) in Chemistry

Faculty of Science, Ain Shams University [Apr 2017 – 3 Oct 2019]

Thesis: Innovative methods for electronic waste recycling and development of some chemical sensors for the assessment of the consistent of these wastes

Premaster of Inorganic and Analytical Chemistry

Faculty of Science, Ain Shams University [Nov 2015 – Oct 2016]

Bachelor of Science (BSc) in Chemistry

Faculty of Science, Ain Shams University [Sep 2011 – 2 Sep 2015]

Final grade: Excellent with First class honor degree, 89.7 %, Ranked the top out of 120 students

LANGUAGE SKILLS

Mother tongue(s): Arabic

Other language(s):

English

LISTENING C1 READING C1 WRITING C2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B1

PUBLICATIONS

1- A novel miniaturized pH potentiometric electrode based on a nano bismuth oxide film deposited on a fluorine doped nano tin oxide glass substrate.

- Hassan, S. S., **Fathy*, M. A.**, Moussa, I., Obaida, M., & Kamel, A. H. (2023). A novel miniaturized pH potentiometric electrode based on a nano bismuth oxide film deposited on a fluorine doped nano tin oxide glass substrate. *Sensors and Actuators B: Chemical*, 133397.

2- All-Solid-State Paper-Based Potentiometric Combined Sensor Modified With Reduced Graphene Oxide (rGO) and Molecularly Imprinted Polymer For Monitoring Losartan Drug In Pharmaceuticals and Biological Samples.

- Hassan, S. S., Kamel, A. H., & **Fathy*, M. A.** (2023). All-solid-state paper-based potentiometric combined sensor modified with reduced graphene oxide (rGO) and molecularly imprinted polymer for monitoring losartan drug in pharmaceuticals and biological samples. *Talanta*, 253, 123907.

3- A novel screen-printed potentiometric electrode with carbon nanotubes/polyaniline transducer and molecularly imprinted polymer for the determination of nalbuphine in pharmaceuticals and biological fluids.

- Hassan, S. S., Kamel, A. H., & **Fathy, M. A.** (2022). A novel screen-printed potentiometric electrode with carbon nanotubes/polyaniline transducer and molecularly imprinted polymer for the determination of nalbuphine in pharmaceuticals and biological fluids. *Analytica Chimica Acta*, 1227, 340239.

4- Novel magnetic nickel ferrite nanoparticles modified with poly(aniline-co-o-toluidine) for the removal of hazardous 2,4-dichlorophenol pollutant from aqueous solutions.

- **Fathy, M. A.**, Kamel, A. H., & Hassan, S. S. (2022). Novel magnetic nickel ferrite nanoparticles modified with poly (aniline-co-o-toluidine) for the removal of hazardous 2, 4-dichlorophenol pollutant from aqueous solutions. *RSC advances*, 12(12), 7433-7445.

5- Mechanochemical Activation for Lead Extraction from Spent Cathode Ray Tube.

- **Fathy, M. A.**, Abdelbasir, S. M., Hassan, S. S., Kamel, A. H., & Rayan, D. (2021). Mechanochemical activation for lead extraction from spent cathode ray tube. *Journal of Material Cycles and Waste Management*, 23, 1090-1101.

6- Paper Strip and Ceramic Potentiometric Platforms Modified with Nano-Sized Polyaniline (PANi) for Static and Hydrodynamic Monitoring of Chromium in Industrial Samples.

- Hassan, S. S., Kamel, A. H., Amr, A. E. G. E., **Fathy, M. A.**, & Al-Omar, M. A. (2020). Paper strip and ceramic potentiometric platforms modified with nano-sized polyaniline (PANi) for static and hydrodynamic monitoring of chromium in industrial samples. *Molecules*, 25(3), 629.

7- Gold Plate Electrodes Functionalized by Multiwall Carbon Nanotube Film for Potentiometric Thallium(I) Detection.

- Hassan, S. S., Abdelbasir, S. M., **Fathy, M. A.**, Amr, A. E. G. E., Al-Omar, M. A., & Kamel, A. H. (2019). Gold plate electrodes functionalized by multiwall carbon nanotube film for potentiometric thallium (I) detection. *Nanomaterials*, 9(8), 1160.

8- Potentiometric study for rapid continuous monitoring of trace level thiocyanate using solid and conventional types PVC membrane sensors.

- Hassan, S. S., Kamel, A. H., El-Naby, H. A., & **Fathy, M. A.** (2018). Potentiometric study for rapid continuous monitoring of trace level thiocyanate using solid and conventional types PVC membrane sensors. *European Chemical Bulletin*, 7(4/6), 182-189.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- Eager to learn
- Able to communicate and cooperate
- Organized and mentally creative
- Positive, and have an optimistic vision
- Adapt successfully to changing situations & environments
- Manage time effectively, prioritizing tasks and able to work to deadlines

JOB-RELATED SKILLS

Job-related skills

- Able to conduct practical experiments independently.
- Can design Electrochemical sensors.
- Have experience on preparing Solid-Contact ion selective electrodes.
- Can deal with few milligrams till 1 mg and prepare very low concentrations up to ppb (part per billion) with high accuracy.
- Able to operate and interpret FTIR, SEM, XRF, XRD, AA and ICP.
- Good Teaching Skills.

WORKSHOPS

Workshops

- "**Grant Writing**" from Nature Research *Academies* in collaboration with The Science, Technology & Innovation Funding Authority (STDF) and The Egyptian Knowledge Bank (EKB), July 25, 2022.
- "**Research Methodology**" from Nature Research *Academies* in collaboration with The Science, Technology & Innovation Funding Authority (STDF) and The Egyptian Knowledge Bank (EKB), July 20, 2022.
- "**Sharing Responsible Science Curriculum workshop**" from Sandia National Laboratories (SNL) and CRDF Global, 3-6 November 2019, Cairo, Egypt.

AWARDS

Winner of the Ain Shams University (ASU) Innovation Award, July 2022

- I won the Ain Shams University innovation award in July 2022, with a research project entitled "**Wearable Sensors**".