

BIOLOGY DEPARTMENT  
SCHOOL OF SCIENCES AND ENGINEERING  
THE AMERICAN UNIVERSITY IN CAIRO  
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## **Andreas Kakaroukas**

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### WORK EXPERIENCE

#### **2024-Present- THE AMERICAN UNIVERSITY IN CAIRO, EGYPT**

- **Director, Biotechnology Graduate Program**

#### **2016-Present- THE AMERICAN UNIVERSITY IN CAIRO, EGYPT**

- **Assistant Professor of Cell and Molecular Biology**
  - Lecturer of Introductory Biology, Molecular and Cell Biology, Genetics, Molecular Biology of the Gene, Scientific Thinking and selected graduate courses
  - Instructor of Introductory and Cell and Molecular Biology laboratories

#### **2014-2016 - THE AMERICAN UNIVERSITY IN CAIRO, EGYPT**

- **Post-Doctoral Teaching Fellow/ Assistant Professor of Scientific Thinking**
  - Lecturer of Scientific Thinking, Introductory Biology, Cellular and Molecular Biology
  - Demonstrator in the laboratory component of Biology courses

#### **2012-2014 - GENOME DAMAGE AND STABILITY CENTRE, UNITED KINGDOM**

- **Postdoctoral Research Fellow**
    - Duties involved performing scientific research suitable for publication in high quality journals
    - Supervision of undergraduate and postgraduate students
    - Delivery of lectures, tutorials and seminars to undergraduate and postgraduate students
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### EDUCATION

#### **2008-2012 - GENOME DAMAGE AND STABILITY CENTRE, UNITED KINGDOM**

- **Doctor of Philosophy in Biochemistry, Penelope Jeggo Research Group, University of Sussex**
  - Medical Research Council Studentship
  - Completion date: June 2012
  - Course Content: DNA Repair mechanisms
  - Laboratory training: DNA repair assays in mammalian cells including foci microscopy and high resolution 3D imaging
  - Techniques: Include Immunofluorescence, Cytogenetic assays, Protein blotting, Cloning, FACS, siRNA transfection.
  - PhD Thesis: Investigating the role of the mediator proteins in homologous recombination repair after radiation induced DNA double strand breaks.

#### **2006-2007 - UNIVERSITY COLLEGE LONDON, UNIVERSITY OF LONDON, UNITED KINGDOM**

- **Master of Science in Radiation Biology**
  - Cancer Research UK Studentship

- Course Content: Radiation physics, Molecular radiation genetics, Molecular carcinogenesis, Radiotherapy, Radioprotection.
- Taught modules based in The Gray Cancer Institute of Oxford University(UK), University College London (UK), LeidenMedical Center (The Netherlands), Université Catholique de Louvain (Brussels, Belgium), University of Salzburg(Austria), Ludwig- Maxmillian University(Munich, Germany).
- Laboratory training: Toxicology and mutation analysis.
- Techniques: Include PCR, DNA fingerprinting, mFISH, PCC, Micronuclei, FACS.
- MSc Thesis: DNA repair and cell cycle control in normal and repair deficient cell lines under low dose rate chronic radiation exposure

### **2003-2006 - UNIVERSITY OF BRIGHTON, BRIGHTON UNITED KINGDOM**

- **Bachelor of Science in Biomedical Sciences, Jun 2006.**
  - Grade: 2:1- Honours
  - Modules:Molecular Cell Pathobiology and Special Topics in Biomedicine
  - Laboratory Training:Haematology and Transfusion Science, Clinical Microbiology, Tissue Pathology, Molecular Diagnostics
  - Senior Thesis: The role of excitotoxicity in amyotrophic lateral sclerosis

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### **AWARDS**

- 2010 Association of Radiation Research Young Investigator Award, UK
- 2012 MRC Centenary award- Awarded to the very best young researchers (£35,000 funding)
- 2012 Association of Radiation Research Young Investigator Award, UK
- 2023 RCC Faculty Pitch Competition 1<sup>st</sup> Place
- 2023 School of Sciences and Engineering Excellence in Teaching Award

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### **PROFESSIONAL DEVELOPMENT**

#### **2016-Present – THE AMERICAN UNIVERSITY IN CAIRO, EGYPT**

- **Pedagogical workshops and seminars at the Centre for Learning and Teaching**  
Selected seminars:
  - June 2023: Summer Workshop in Problem-Based Learning at the University of Delaware
  - April 2017: Problem Based Learning Institute facilitated by faculty from the Institute for Transforming Undergraduate Education, University of Delaware
  - September 2017: Blended Learning camp. Course design camp focusing on the integration of online resources and facilitated by faculty from MIT

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### **LINGUISTIC AND COMPUTER SKILLS**

- Fluent spoken and written English and Greek
- Elementary/Moderate knowledge of spoken Arabic
- Excellent knowledge and command of Microsoft Office applications and scientific applications including Softworx, Imaris, ImageJ, and Simple PCI.

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### **PERSONAL DATA**

- Date of Birth: November 28<sup>th</sup> 1984
- Nationality: British/Greek

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## PUBLICATIONS

Ayatullah Darwish, Farah Bakier, Ali El Banbi, Andreas Kakaroukikas. Immunotherapies of multiple myeloma: targeted treatment approaches using monoclonal antibodies. *JOURNAL OF CANCER RESEARCH AND REVIEWS*. 2025; 2(1): 19-31. doi: [10.5455/JCRR.20240916121830](https://doi.org/10.5455/JCRR.20240916121830)

Hager Hisham El Khatib, Kanz Abdulla, Layla Khaled Nassar, Mariam Gouda Ellabban and Andreas Kakaroukikas. Advancements in Multiple Myeloma Therapies: A Comprehensive Review by Disease Stage. *Lymphatics* 2025, 3, 2 <https://doi.org/10.3390/lymphatics3010002>

Mostafa, I, Kakaroukikas, A. Blended/flipped biology classes during COVID-19. *Biochem Mol Biol Educ*. 2023. <https://doi.org/10.1002/bmb.21753>

Nada Elzahed, Andreas Kakaroukikas. Impacts of prolonged exposure to low concentration of titanium dioxide nanoparticles on cell cycle control and DNA repair. *European Journal of Biological Research* 2022; 12(4): 339-351

Andreas Kakaroukikas and Reham Abdellatif. A Flipped Classroom Approach and Digital Learning in an Undergraduate Molecular Biology Course. *Journal of College Science Teaching* 2022, Vol. 51, No. 3, 2022

El-Shafie, S.; Fahmy, S.A.; Ziko, L.; Elzahed, N.; Shoeib, T.; Kakaroukikas, A. Encapsulation of Nedaplatin in Novel PEGylated Liposomes Increases Its Cytotoxicity and Genotoxicity against A549 and U2OS Human Cancer Cells. *Pharmaceutics* 2020, 12, 863. <https://doi.org/10.3390/pharmaceutics12090863>

Dina M. Ibrahim, Andreas Kakaroukikas, Nageh K. Allam. Recent advances on electrospun scaffolds as matrices for tissue-engineered heart valves, *Materials Today Chemistry* 2017-23-05, (5)11-23.

Alagoz M, Yoko Katsuki, Hideaki Ogiwara, Tomoo Ogi, Atsushi Shibata, Andreas Kakaroukikas, Penny A Jeggo. SETDB1, HP1 and SUV39 promote repositioning of 53BP1 to extend resection during homologous recombination in G2 cells. *Nucleic Acids Research*. 2015, 43 (16): 7931-7944

Kakaroukikas A, Jessica A Downs, Penny A Jeggo. The PBAF chromatin remodelling complex represses transcription and promotes rapid repair at DNA double strand breaks. *Molecular & Cellular Oncology*, 2015, February, Vol 2, Issue 1

Kakaroukikas A, Ismail A, Riballo E, Herbert A, Kunzel J, Lobrich M, Jeggo PA and Downs JA. Requirement for PBAF in transcriptional repression and repair at DNA breaks in actively transcribed regions of chromatin. *Molecular Cell*, 2014 September, Vol. 55, Issue 5, p723–732

Kakaroukikas A, Jeggo PA. DNA DSB repair pathway choice: an orchestrated handover mechanism. *British Journal of Radiology*. 2014;87:20130685

Kakaroukikas A, Ismail A, Klement K, Goodarzi AA, Conrad S, Freire R, Shibata A, Lobrich M, Jeggo PA. Opposing roles for 53BP1 during homologous recombination. *Nucleic Acids Research*, 2013, 1–13

Kakaroukikas A, Ismail A, Katsuki Y, Freire R, Shibata A, Jeggo PA. Co-operation of BRCA1 and POH1 relieves the barriers posed by 53BP1 and RAP80 to resection. *Nucleic Acids Research*, 2013, 1-14

Shibata A, Conrad S, Birraux J, Geuting V, Barton O, Ismail A, Kakarougkas A, Meek K, Taucher-Scholz G, Löbrich M, Jeggo PA. Factors determining DNA double-strand break repair pathway choice in G2 phase. **EMBO J**, 2011 Mar 16;30(6):1079-92