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#### **A. EDUCATION AND POSITIONS**

-BS in Chemistry, University of Athens; MSc in Chemistry, Clemson University, USA (Prof. R.A. Abramovitch); PhD in Chemistry, University of Florida, USA (1988, Prof. A. R. Katritzky). Post-doctoral fellow: University of Florida, USA, 1988-1989; NCSR "Demokritos" (1989-1993).

-Currently Research director (Researcher A) at the Institute of Nanoscience and Nanotechnology, NCSR "Demokritos".

-Scientist-in-charge for the High Resolution NMR facility of NCSR (500 MHz and 250 MHz, liquid samples)

#### **B. EXPERTISE**

Supramolecular Chemistry/Synthetic Organic Chemistry: reactive intermediates; heterocyclic chemistry; cyclodextrin chemistry; molecular structure-properties relations by design of optimized cyclodextrin hosts and guests to maximize/tune association, interactions and expression of specific functions; photoactive molecules as parts of multimodal bioactive host systems; application of NMR spectroscopic methods (multipulse experiments) to molecular and supramolecular structure elucidation, molecular recognition and enantioselectivity, self assembly and dynamic phenomena in solution.

#### **C. RESEARCH INTERESTS**

Stability and equilibria of cyclodextrin-guest systems in solution, synthetic modifications of cyclodextrins to enhance and tune bio and nano applications (nucleotide and DNA carriers, cell penetrating agents, antimicrobial agents, nanoparticle formation); photoactive molecules and their nanoconstructs with cyclodextrins as multifunctional bio and photo active systems combining ROS production, drug transport and photoimaging for chemotoxic and photodynamic applications and/or tuned optical properties.

#### **D. TEACHING/SUPERVISING ACTIVITY**

Supervised five MSc theses, eleven PhD dissertations, two more in progress; supervised six post-doctoral fellows; external PhD committee member (U. Almeria, U. Iceland, U. Paris-Sud, also Greek Universities).

#### **E. PARTICIPATION AND ROLE IN COMPETITIVE EU PROJECTS**

**Coordinator** of the EU FP7 project PEOPLE-ITN "Novel multifunctional cyclodextrin- based nanocarriers for drug encapsulation and delivery as a strategy to overcome current therapeutic drawbacks", **CYCLON** (2009-2013). **Partner** in the FP7-ITN "Nanocarriers for the delivery of antimicrobial agents to fight resistance mechanisms" **CycloN-Hit** (2014-2018). **Partner** in ERA-NET EuroNanomed-II-JTC2015 "Nanoparticle mediated Photochemical internalization (PCI) of small anticancer drugs" **PCInano** project (2016-2021). **Participant** in "NECTAR"-Network for Equilibria and Chemical Thermodynamics Advanced Research COST ACTION 18202 (2019-2023). Participating scientist in previous EU projects RTN "**Uninancups**", Network of excellence "**Nano2life**", STREP-**TASNANO** and Institutional projects co-funded by EU and GSRI (KRHPISI, KRHPIS II, INSPIRED, INNOVATION-EL).

#### **F. PATENT APPLICATIONS/PATENTS**

One US, one EU and two Greek patents filed and approved; one EU application (3/2019, pending).

#### **G. PROJECT EXPERT REVIEWER**

EU projects (HORIZON-2020 MSCA, Widening and Participation) and of National project calls of several European countries.

## H. RESEARCH REVIEWER

Referee for scientific journals (ACS, RSC, Elsevier, Wiley, mdpi) including: *Chem. Eur. J.*; *J. Org. Chem*; *Carbohydr. Res.*; *Org. Biomol. Chem.*; *J. Phys. Chem.*; *RSC Adv.*, *J. Pharm. Sci.*; *New J. Chem.*; *Beilst. J. Org. Chem.*; *Int. J. Pharm.*; *Tetrahedron Lett.*; *Carbohydr. Polymers*; *Polymers*; *Nanomaterials*.

## I. SELECTED PEER-REVIEWED JOURNAL PUBLICATIONS (OF TOTAL 104)

1. *Unsymmetrical, monocarboxyalkyl meso-arylporphyrins in the photokilling of breast cancer cells using permethyl- $\beta$ -cyclodextrin as sequestrant and cell uptake modulator.* S. Panagiotakis, B. Mavroidi, A. Athanasopoulos, G. Charalambidis, A. G Coutsolelos, M. Paravatou-Petsotas, M. Pelecanou, I. M. Mavridis, K. Yannakopoulou, *Carbohydrate Polymers* **2022**, 275, 118666 (on-line 21/9/2021). [doi.org/10.1016/j.carbpol.2021.118666](https://doi.org/10.1016/j.carbpol.2021.118666)
2. *A self-locked  $\beta$ -cyclodextrin-rhodamine B spirolactam with photoswitching properties.* S. Panagiotakis, E. Saridakis, M. Malanga, I. M. Mavridis, K. Yannakopoulou., *Chem. Asian J.* **2022**, 17(2), e202101282 (on-line: 25-11-2021). <https://doi.org/10.1002/asia.202101282>
3. *Increased antibiotic efficacy and noninvasive monitoring of Staphylococcus epidermidis biofilms using per-cysteamine-substituted  $\gamma$ -cyclodextrin—a delivery effect validated by fluorescence microscopy.* H. Thomsen, M. Agnes, O. Uwangu, L. Persson, M. Mattsson, F. E. Graf, E.-M. Kasimati, K. Yannakopoulou, M. B. Ericson, A. Farewell, *Int. J. Pharm.* **2020**, 587, 119646. DOI:[10.1016/j.ijpharm.2020.119646](https://doi.org/10.1016/j.ijpharm.2020.119646)
4. *Porphyrinoid-Cyclodextrin Assemblies in Biomedical Research: an Update.* I. M. Mavridis, K. Yannakopoulou, *J. Med. Chem.* **2020**, 63, 7, 3391-3424. <https://doi.org/10.1021/acs.jmedchem.9b01069>.
5. *Homo- and hetero-difunctionalized  $\beta$ -cyclodextrins: Short direct synthesis in gram scale and analysis of regiochemistry,* G. Benkovics, M. Bálint, É. Fenyvesi, E. Varga, S. Béni, K. Yannakopoulou, M. Malanga, *Beilst. J. Org. Chem.* **2019**, 15, 710-720. [doi.org/10.3762/bjoc.15.66](https://doi.org/10.3762/bjoc.15.66)
6. *Designed positively charged cyclodextrin hosts with enhanced binding of penicillins as carriers for the delivery of antibiotics: the case of oxacillin.* M. Agnes, A. Thanassoulas, P. Stavropoulos, G. Nounesis, G. Miliotis, V. Miriagou, E. Athanasiou, G. Benkovics, M. Malanga, K. Yannakopoulou, *Int. J. Pharm.* **2017**, 531, 480-491. <https://doi.org/10.1016/j.ijpharm.2017.04.080>
7. *Positively charged cyclodextrins as effective molecular transporters of active phosphorylated forms of gemcitabine into cancer cells.* V. Rodriguez-Ruiz, A. Maksimenko, G. Salzano, M. Lampropoulou, Y. G. Lazarou, V. Agostoni, R. Gref, K. Yannakopoulou, *Scientific Reports* **2017**, 7: 8353. <https://doi.org/10.1038/s41598-017-08727-y>
8. *Photochemical Internalization of Tamoxifens Transported by a Trojan-Horse Nanoconjugate into Breast-Cancer Cell Lines.* T. A. Theodossiou, A. R. Goncalves, K. Yannakopoulou, E. Skarpen, K. Berg, *Angew. Chem. Int. Ed.* **2015**, 54 4885–4889. <https://doi.org/10.1002/anie.201500183>
9. *Symmetry requirements for effective blocking of pore-forming toxins: Comparative study with  $\alpha$ -,  $\beta$ -, and  $\gamma$ -cyclodextrin derivatives.* K Yannakopoulou, L. Jicsinszky, C. Aggelidou, N. Mourtzis, . M Robinson, A. Yohannes, E. M. Nestorovich, S. M. Bezrukov, V. A. Karginov, *Antimicrob. Agent. Chemother.* **2011**, 55 (7), 3594-3597. <https://doi.org/10.1128/AAC.01764-10>

## J. CONFERENCES- CITATIONS

There are more 85 oral and poster presentations in international and national conferences.

Citations: total 2700; h-Index: 28 (Google Scholar, 12/2021).