

Manos Vlasios  
Assistant Professor  
School of Veterinary Medicine



## Research interests

- Oxidation and anticancer activity of phenol complexes with transition metals and chelation activity of prenylated chalcones.
- Biomimetic radical chemistry – Biomolecular electron transfer.
- Complexation of flavonoids analogues with Vanadium and Cobalt and Zinc for use as anticancer drugs.
- Computer-aided synthesis of natural products and biological active ligands as anticancer agents.
- Synthesis and anticancer properties of Vanadium-tocopherol / xanthohumol conjugated molecules.
- Synthesis of fluorinated derivatives as probes for drug monitoring with <sup>19</sup>FNMR.
- Characterization of biomimetic models of transition metals and investigation of their electron transfer activity.
- Molecular and biomolecular Spectroscopy and Computational Chemistry of mixed inorganic-organic metal complexes with medicinal applications.
- Identification and qualitative determination of biopolymers and macromolecules in food matrixes and in biomimetic models using advanced NMR techniques.
- Computer-aided drug design and discovery.
- Zinc binding and distribution with transport proteins and interactions of zinc-drug complexes with DNA.

## Qualifications

PhD, Chemistry, University of Cyprus

## Employment

### Assistant Professor

School of Veterinary Medicine  
14 Oct 2024 → present

### Department of Health Sciences

School of Life and Health Sciences  
16 Jan 2023 → 14 Oct 2024

### Assistant Professor

School of Life and Health Sciences  
9 Sept 2019 → 14 Oct 2024

### Editor

BMC Chemistry  
United Kingdom

### Reviewer

Journal of Molecular Structure  
Netherlands

### Research and Development Scientist

M.N.K.E. CHEMICAL SERVICES  
Cyprus

### Reviewer

Molecular Simulation  
United Kingdom

**Reviewer RSC Advances**  
Royal Society of Chemistry  
United Kingdom

**Member**  
Royal Society of Chemistry  
United Kingdom

**Reviewer Journal of Molecular Modeling**  
Springer Nature  
United Kingdom

**Reviewer Board**  
Symmetry MDPI  
Switzerland

## Research outputs

**Staphylococcus epidermidis (Gram +) and Escherichia coli (Gram-) Bacteria Show Sensitivity Against Hymecromone Divalent Transition Metal Complexes of Cobalt and Copper**  
Panayi, T. & Vlasίου, M. C., 30 Dec 2024, In: Letters in Applied NanoBioScience. 13, 4, 195.

**Theoretical Studies Revealing Mitochondrial-Targeted Anticancer Activity of Oxovanadium (V) Complexes**  
Vlasίου, M. C., 30 Dec 2024, In: Letters in Applied NanoBioScience. 13, 4, 174.

**Computer-aided drug discovery methods: A brief introduction**  
Vlasίου, M. C., 11 Oct 2024, Bentham Science Publishers B.V. 150 p.

**$\beta$ -Tocotrienol and  $\delta$ -Tocotrienol as Additional Inhibitors of the Main Protease of Feline Infectious Peritonitis Virus: An In Silico Analysis**  
Vlasίου, M. C., Nikolaou, G., Spanoudes, K. & Mavrides, D. E., Sept 2024, In: Veterinary Sciences. 11, 9, 424.

**Application of artificial intelligence in pharmaceutical development**  
Mourelatou, E. A., Iosif, E., Galatou, E., Sarigiannis, Y., Vlasίου, M. C., Zacharia, L. & Petrou, C. C., 1 Jan 2024, *Novel Formulations and Future Trends: Recent and Future Trends in Pharmaceutics, Volume 3*. Elsevier, Vol. 3. p. 415-451 37 p.

**Editorial: Targeting mitochondrial dysfunction for the diagnosis and treatment of Alzheimer's and cognitive-related diseases**  
Vlasίου, M. C., Zacharia, L. C., Douni, E. & Papanephytous, C., 2024, In: Frontiers in Pharmacology. 15, 1455646.

**Vet informatics and the future of drug discovery in veterinary medicine**  
Vlasίου, M. C., 2024, In: Frontiers in Veterinary Science. 11, 1494242.

**Design and Modulation of Selectivity toward Vanadium(V) and Uranium(VI) Ions: Coordination Properties and Affinity of Hydroxylamino-Triazine Siderophores**  
Amoiridis, A., Papanikolaou, M., Vlasίου, M., Bandeira, N. A. G., Miras, H. N., Kabanos, T. & Keramidas, A., 11 Dec 2023, In: Inorganic Chemistry. 62, 49, p. 19971-19985 15 p.

**Targeting Lactate Dehydrogenase-B as a Strategy to Fight Cancer: Identification of Potential Inhibitors by In Silico Analysis and In Vitro Screening**

Vlasiou, M., Nicolaidou, V. & Papanephytous, C., Oct 2023, In: *Pharmaceutics*. 15, 10, 2411.

**Cheese and Milk Adulteration: Detection with Spectroscopic Techniques and HPLC: Advantages and Disadvantages**

Vlasiou, M. C., Sept 2023, In: *Dairy*. 4, 3, p. 509-514 6 p.

**In Silico Techniques Used for the Evaluation of Anticancer Metal-Based Compounds**

Vlasiou, M., Mar 2023, In: *Anti-Cancer Agents in Medicinal Chemistry*. 23, 5, p. 490-491 2 p.

**Computer-aided Drug Discovery Methods for Zoonoses**

Vlasiou, M. C., 2023, In: *Anti-Inflammatory and Anti-Allergy Agents in Medicinal Chemistry*. 22, 3, p. 131-132 2 p.

**Dft studies and molecular dynamics of the molecular and electronic structure of cu (I) and zn (II) complexes with the symmetric ligand (z)-2-((3,5-dimethyl-2h-pyrrol-2-yl) methylene)-3,5-dimethyl-2h-pyrrole**

Vlasiou, M. & Pafiti, K. S., 15 Oct 2022, In: *Biointerface Research in Applied Chemistry*. 12, 5, p. 5953-5968 16 p.

**Binuclear  $V^{IV/V}$ ,  $Mo^{VI}$  and  $Zn^{II}$  - hydroquinonate complexes: Synthesis, stability, oxidative activity and anticancer properties**

Loizou, M., Papaphilippou, P., Vlasiou, M., Spilia, M., Peschos, D., Simos, Y. V., Keramidas, A. D. & Drouza, C., Oct 2022, In: *Journal of Inorganic Biochemistry*. 235, 111911.

**Ligand and Structure-Based Virtual Screening in Combination, to Evaluate Small Organic Molecules as Inhibitors for the XIAP Anti-Apoptotic Protein: The Xanthohumol Hypothesis**

Mavra, A., Petrou, C. C. & Vlasiou, M. C., Aug 2022, In: *Molecules*. 27, 15, 4825.

**Novel Zinc and Vanadium (V) Hydroquinonate Complexes: Synthesis and Biological Solution Evaluation**

Ioannou, K., Eleftheriou, C., Drouza, C., Pafiti, K. S., Panayi, T., Keramidas, A. D., Zacharia, L. C. & Vlasiou, M. C., 5 Jun 2022, In: *Journal of Molecular Structure*. 1257, 132582.

**Synthesis and biological evaluation of a new chalconate Co (II/III) complex with cytotoxic activity**

Vlasiou, M. C., Ioannou, K., Eleftheriou, C., Pafiti, K. S., Zacharia, L. C. & El-Shazly, M., 5 Feb 2022, In: *Journal of Molecular Structure*. 1249, 131567.

**NGIWY-Amide: A Bioinspired Ultrashort Self-Assembled Peptide Gelator for Local Drug Delivery Applications**

Theodoroula, N. F., Karavasili, C., Vlasiou, M. C., Primikyri, A., Nicolaou, C., Chatzikonstantinou, A. V., Chatzitaki, A. T., Petrou, C., Bouropoulos, N., Zacharis, C. K., Galatou, E., Sarigiannis, Y., Fatouros, D. G. & Vizirianakis, I. S., Jan 2022, In: *Pharmaceutics*. 14, 1, 133.

**Metal-based complexes against SARS-CoV-2**

Ioannou, K. & Vlasiou, M. C., 2022, (Accepted/In press) In: *BioMetals*.

**Eugenol emulsions stabilized by a natural-derived nonionic palmitate surfactant/polyacrylic acid complex**

Pafiti, K. S., Kourtis, K. I., Sarigiannis, Y., Petrou, C. C. & Vlasiou, M. C., 5 Dec 2021, In: *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 630, 127559.

**Cell arrest and apoptosis induced by the next generation of vanadium based drugs: Action mechanism to structure relation and future perspectives**

Vlasiou, M. C. & Pafiti, K. S., Nov 2021, In: *Anti-Cancer Agents in Medicinal Chemistry*. 21, 16, p. 2111-2116 6 p.

**Molecular docking, dft studies and admet simulations for evaluating already approved fda drugs as inhibitors for sars-cov-2 rna-dependent polymerase**

Vlasiou, M. C., Ioannou, K. I. & Pafiti, K. S., Jul 2021, In: *Letters in Drug Design and Discovery*. 18, 7, p. 674-685 12 p.

**Density functional theory studies and molecular docking on xanthohumol, 8-prenylnaringenin and their symmetric substitute diethanolamine derivatives as inhibitors for colon cancer-related proteins**

Vlasiou, M. C., Petrou, C. C., Sarigiannis, Y. & Pafiti, K. S., Jun 2021, In: *Symmetry*. 13, 6, 948.

**Spectroscopic evaluation of chalcone derivatives and their zinc metal complexes: A combined experimental and computational approach studying the interactions of the complexes with the serum albumin**

Vlasiou, M. C. & Hatahta, A. A., 15 May 2021, In: *Journal of Molecular Structure*. 1232, 130052.

**Screening possible drug molecules for Covid-19. The example of vanadium (III/IV/V) complex molecules with computational chemistry and molecular docking**

Vlasiou, M. C. & Pafiti, K. S., May 2021, In: *Computational Toxicology*. 18, 100157.

**In Search of Antiviral Metal-Based Drugs**

Vlasiou, M., 2021, In: *Open Medicinal Chemistry Journal*. 15, p. 30-31 2 p.

**Linear Scorpion Peptides: An unexplored pool for peptide hydrogels**

Petrou, C., Constantinou, A., Diavoli, S., Robertson, A., Vlasiou, M., Mourelatou, E. & Sarigiannis, Y., 2021.

**Oligo(ethylene imine)-grafted glycidyl methacrylate linear and star homopolymers: Odd-even correlated transfection efficiency**

Pafiti, K. S., Kepola, E. J., Vlasiou, M. C., Yamasaki, E. N., Patrickios, C. S., Mastrogiannopoulos, N. P., Phylactou, L. A. & Théato, P., 2021, (Accepted/In press) In: *Journal of Polymer Science*.

**Structural characterization of two novel, biological active chalcone derivatives, using density functional theory studies**

Vlasiou, M. C., 2021, In: *Biointerface Research in Applied Chemistry*. 11, 6, p. 15051-15057 7 p.

**Spectroscopic evaluation of Zn (II) complexes with drug analogues: Interactions with BSA and the pH effect on the drug-Zn (II) system**

Vlasiou, M. C. & Pafiti, K. S., 5 Nov 2020, In: *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*. 241, 118641.

**Synthesis of vitamin E and aliphatic lipid vanadium(IV) and (V) complexes, and their cytotoxic properties**

Hadjiadamou, I., Vlasiou, M., Spanou, S., Simos, Y., Papanastasiou, G., Kontargiris, E., Dhima, I., Ragos, V., Karkabounas, S., Drouza, C. & Keramidas, A. D., Jul 2020, In: *Journal of Inorganic Biochemistry*. 208, 111074.

**Chromium coordination compounds with antimicrobial activity: Synthetic routes, structural characteristics, and antibacterial activity**

Vlasiou, M. C. & Pafiti, K. S., 1 Jan 2020, In: *Open Medicinal Chemistry Journal*. 14, p. 1-25 25 p.

**Geographical discrimination of pine and fir honeys using multivariate analyses of major and minor honey components identified by <sup>1</sup>H NMR and HPLC along with physicochemical data**

Karabagias, I. K., Vlasiou, M., Kontakos, S., Drouza, C., Kontominas, M. G. & Keramidas, A. D., 1 Jul 2018, In: *European Food Research and Technology*. 244, 7, p. 1249-1259 11 p.

**Donor atom electrochemical contribution to redox potentials of square pyramidal vanadyl complexes**

Vlasiou, M., Drouza, C., Kabanos, T. A. & Keramidas, A. D., 14 Jun 2015, In: *Journal of Inorganic Biochemistry*. 147, p. 39-43 5 p.

**<sup>19</sup>F NMR for the speciation and quantification of the OH-molecules in complex matrices**

Vlasiou, M. & Drouza, C., 7 May 2015, In: *Analytical Methods*. 7, 9, p. 3680-3684 5 p.

**Oxidovanadium(IV/V) complexes as new redox mediators in dye-sensitized solar cells: A combined experimental and theoretical study**

Apostolopoulou, A., Vlasiou, M., Tziouris, P. A., Tsiafoulis, C., Tsipis, A. C., Rehder, D., Kabanos, T. A., Keramidas, A. D. & Stathatos, E., 20 Apr 2015, In: *Inorganic Chemistry*. 54, 8, p. 3979-3988 10 p.

Interaction of Chromium(III) with a N, N'-disubstituted hydroxylamine-(diamido) ligand: A combined experimental and theoretical study

Tziouris, P. A., Tsiafoulis, C. G., Vlasiou, M., Miras, H. N., Sigalas, M. P., Keramidas, A. D. & Kabanos, T. A., 3 Nov 2014, In: *Inorganic Chemistry*. 53, 21, p. 11404-11414 11 p.

Synthesis, characterization of dinuclear vanadium(III) hydroquinonate- iminodiacetate complexes

Drouza, C., Vlasiou, M. & Keramidas, A. D., 24 Aug 2014, In: *Inorganica Chimica Acta*. 420, p. 103-111 9 p.

Vanadium(IV/V)-p-dioxolene temperature induced electron transfer associated with ligation/deligation of solvent molecules

Drouza, C., Vlasiou, M. & Keramidas, A. D., 2013, In: *Dalton Transactions*. 42, 33, p. 11831-11840 10 p.

## Projects

**CADD: Computer-aided Drug Discovery**

Vlasiou, M. (PI)

20/07/19 → ...