

**Curriculum Vitae**  
**of**  
**Maria Clara Ferreira de Almeida Cardia Gomes**

Maria Clara Ferreira de Almeida Cardia Gomes, was born in Mortágua, Viseu, Portugal on April 10, 1986.

Institutional address: Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal.

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## **1 – Academic education and degrees**

Sept 09 - Dec 10                      Master in Clinic and Environmental Microbiology, University of Aveiro  
(final mark: 18 out of 20).

Sept 04 - Jul 09                      "Licenciatura" in Biology, University of Aveiro (final mark: 15 out of 20).

## **4. Domain of specialization and other skills/activities**

### **4.1 Domain of specializations**

The main domain of specialization is in Microbial Biology, mainly in Photobiology. It involved antimicrobial photodynamic effect in microbial cells, oxidative stress and mechanisms cell death of photodynamic effect. Another domain is in Organic Chemistry, involving porphyrin synthesis, structural characterization and photophysical studies. Some experience in Inorganic Chemistry in the synthesis of silica nanoparticles.

## **5 – Main scientific area of research**

Microbiology, Organic Chemistry and Nanotechnology.

### **5.1 Present research interests**

**Photochemistry:** Development of new cationic porphyrins derivatives with appropriate physicochemical properties for microbial applications. Physicochemical studies.

**Photobiology:** Application of cationic porphyrins against several microbial agents. Oxidative stress.

**Nanotechnologies:** Development of new water dispersed hybrids materials as imaging agents.

## **8 – Participation at scientific meetings**

1. 14th Congress of the European Society for Photobiology (ESP), Geneva (Switzerland), September 1-6, **2011**
2. XXII Encontro Nacional da SPQ, Braga (Portugal) July 3-6, **2011**
3. XVI Encontro Luso-Galego de Química, Aveiro (Portugal), November 10-12, **2010**
4. 2nd Portuguese Young Chemists Meeting, Aveiro (Portugal), April 21-23, **2010**.

## **9 – Publications**

### **9.1 – Thesis**

Master Thesis- Cationic galactoporphyrins on microorganisms photoinactivation” University of Aveiro, 2011. Concluded shes Master in Aveiro, under the supervision of Prof. João Paulo Tomé (Department of Chemistry, University of Aveiro, 3810-193 Aveiro, Portugal; fax: +351 234 370 084; phone: +351 234 370 717; e-mail: [jtome@ua.pt](mailto:jtome@ua.pt)) and Prof. Ângela Cunha (Department oof Biology, University of Aveiro, 3810-193 Aveiro, Portugal; Fax + 351 234 426 408; phone: ++ 351 234 37 784; e-mail: [acunha@ua.pt](mailto:acunha@ua.pt)). The subject of shes Master was the synthesis of new cationic galactoporphyrin derivatives, their biological evaluation in bacterial cells and study of sub-cellular damages.

## 9.2 Papers in international scientific periodicals with referees

1. M. C. Gomes, S. Silva, M. A. F. Faustino, M. G. P. M. S. Neves, A. Almeida, J. A. S. Cavaleiro, J. P. C. Tomé and Â. Cunha, Cationic galactoporphyrin photosensitisers against UV-B resistant bacteria: oxidation of lipids and proteins by 1O<sub>2</sub>, *Photochem. Photobiol. Sci.*, 2013, **12**, 262.
2. Dora C. S. Costa, Maria C. Gomes, Maria A. F. Faustino, Maria G. P. M. S. Neves, Ângela Cunha, José A. S. Cavaleiro, Adelaide Almeida, João P. C. Tomé, “Comparative photodynamic inactivation studies of antibiotic resistant bacteria by pyridinium porphyrin and chlorin derivatives”, *Photochem. Photobiol. Sci.*, 2012, **11**, 1905.
3. M. C. Gomes, Woranovicz-Barreira, S. M., M. A. F. Faustino, M. G. P. M. S. Neves, A. C. Tomé, A. Almeida, J. A. S. Cavaleiro, Â. Cunha and J. P. C. Tomé,(2010) Photodynamic Inactivation of Conidia of *Penicillium chrysogenum* by Cationic Porphyrins. *Photochem & Photobiol.* 2011, **10**, 1735.

## 9.3 Communications

### 9.3.1 Oral Communications

1. **2010:** Clara F. A. C. Gomes, Maria, A. F. Faustino, Maria G. P. M. S. Meves, José A. S. Cavaleiro, Adelaide Almeida, Ângela Cunha, João P. C. Tomé. "Cationic galactopotphyrins on microorganisms photoinactivation" (BQ -11), XVI Encontro Luso-Galego de Química, Aveiro (Portugal), November 10-12.

### 9.3.2 Poster Communications:

1. **2011:** M. C. Gomes, Woranovicz-Barreira, S. M., M. A. F. Faustino, M. G. P. M. S. Neves, A. C. Tomé, A. Almeida, J. A. S. Cavaleiro, Â. Cunha and J. P. C. Tomé, "Photodynamic Inactivation of Conidia of *Penicillium chrysogenum* by Cationic Porphyrins" (Poster 047) 14th Congress of the European Society for Photobiology (ESP), Geneva (Switzerland), September 1-6.
2. **2011:** Clara F.A.C. Gomes, Sandrina Silva, Patrícia M. R. Pereira, José A. S. Cavaleiro, Adelaide Almeida, Ângela Cunha, João P. C. Tomé, "Glycosylated Porphyrinoids for PDT applications" 4 th International Symposion on Advances in Synhtesis and Medicinal Chemistry (ASMC), St. Petersburg (Russia), August 21-25.
3. **2011:** Maria C. Gomes, Eliana F. A. Carvalho, Carla M.B. Carvalho, Eliana Alves, Maria A.F. Faustino, Maria G.P.M.S. Neves, Augusto C. Tomé, José A.S. Cavaleiro, Maria A. Almeida, Maria A. Cunha, Zhi Lin, João Rocha, João P.C. Tomé, "Porphyrins and phthalocyanines for wastewater treatment", 17th European Symposium on Organic Chemistry, Crete (Greece), July 10-15.

**4. 2011:** Clara F. A. C. Gomes, Sandrina Silva, Maria G. P. M. S. Neves, José A. S. Cavaleiro, Adelaide Almeida, Ângela Cunha, João P. C. Tomé, "Cationic galactoporphyrins for the photoinactivation of microorganisms" (Poster QO CP 22), XXII Encontro Nacional da SPQ, Braga (Portugal) July 3-6.

**5. 2010:** João P. C. Tomé, Maria C. Gomes, Maria G. P. M. S. Neves, José A. S. Cavaleiro, Adelaide Almeida, Ângela Cunha, "Synthesis, Characterization and Biological Studies of Cationic Galactoporphyrins" (Poster S10-059), Sixth International Conference on Porphyrins and Phthalocyanines (ICPP-6), New Mexico (USA), July 4-9.

**6. 2010:** Clara Gomes, Maria Graça Neves, José Cavaleiro, Adelaide Almeida, Ângela Cunha, João Tomé, "New cationic glycoporphyrins for the photoinactivation of microorganisms" (Poster P25), 2nd Portuguese Young Chemists Meeting, Aveiro (Portugal), April 21-23.

#### **10 – Languages**

In addition to Portuguese, she speaks English and French.