

## Europass Curriculum Vitae



### Personal information

**First name(s) / Surname(s)** **Gemma Montalvo-García**  
**Address(es)** Universidad de Alcalá, Facultad de Farmacia, Dpto. Química Analítica, Química Física e Ingeniería Química, Ctra. Madrid-Barcelona km 33.600, 28871 Alcala de Henares (Spain)  
**Telephone(s)** +34 91 8854671  
**Fax(es)** +34 91 8854763  
**E-mail** gemma.montalvo@uah.es  
**Nationality** Spanish  
**Gender** Female

### Desired employment / Occupational field

**Lecturer (Assistant Professor) – Researcher at the University**

### Work experience

|                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Dates</b></p> <p><b>Occupation or position held</b></p> <p><b>Main activities and responsibilities</b></p> <p><b>Name and address of employer</b></p> <p><b>Type of business or sector</b></p> | <p>September/21/2011 to till date.</p> <p>Associate Professor (“Profesor Titular de Universidad”, full time)</p> <p>Teaching in several Bachelor programs. Research in Forensic Science. Main topic: Raman spectroscopy applied to drugs determination in solid matrix and oral fluids.</p> <p>University of Alcalá (UAH). Faculty of Pharmacy. Ctra. Madrid-Barcelona, Km 33,6. CP 28871 Alcalá de Henares (Madrid). Spain.</p> <p>University</p> |
| <p><b>Dates</b></p> <p><b>Occupation or position held</b></p> <p><b>Main activities and responsibilities</b></p> <p><b>Name and address of employer</b></p> <p><b>Type of business or sector</b></p> | <p>March/01/2005 to September/20/2011</p> <p>Senior Lecturer (“Profesor Contratado Doctor”, full time)</p> <p>Teaching in several Bachelor programs and Research in Colloidal Chemistry</p> <p>University of Alcalá (UAH). Faculty of Pharmacy. Ctra. Madrid-Barcelona, Km 33,6. CP 28871 Alcalá de Henares (Madrid). Spain.</p> <p>University</p>                                                                                                 |
| <p><b>Dates</b></p> <p><b>Occupation or position held</b></p> <p><b>Main activities and responsibilities</b></p> <p><b>Name and address of employer</b></p> <p><b>Type of business or sector</b></p> | <p>December/31/1999 to February/28/2005</p> <p>Affiliate Lecturer (“Profesor Asociado”, half time 6+6h)</p> <p>Teaching in several Bachelor program and Research in Colloidal Chemistry</p> <p>University of Alcalá (UAH). Faculty of Pharmacy. Ctra. Madrid-Barcelona, Km 33,6. CP 28871 Alcalá de Henares (Madrid). Spain.</p> <p>University</p>                                                                                                 |
| <p><b>Dates</b></p> <p><b>Occupation or position held</b></p>                                                                                                                                        | <p>September/01/2000 – August/31/2002</p> <p>Postdoctoral Fellowship (Fellowship by the Spanish Ministry of Education, Culture and Sports (MECD)).</p>                                                                                                                                                                                                                                                                                             |

|                                      |                                                                                                                                                                                                                                                                                             |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main activities and responsibilities | Research projects. Phase behaviour and physicochemical characterization in based-lecithin systems. Training in SAXS, Cryo-TEM, and NMR techniques.                                                                                                                                          |
| Name and address of employer         | At Department of Physical Chemistry 1, Chemical Centre, University of Lund, Lund, Sweden.                                                                                                                                                                                                   |
| Type of business or sector           | University                                                                                                                                                                                                                                                                                  |
| Dates                                | January/01/1996 – December/31/1999                                                                                                                                                                                                                                                          |
| Occupation or position held          | PhD Student (Fellowship by Spanish Ministry of Education and Science (MEC))                                                                                                                                                                                                                 |
| Main activities and responsibilities | -Research projects: Phase behaviour and physicochemical characterization of surfactant colloid systems by UV-Vis, surface tension, conductivity, fluorescence, FF-TEM, among others.<br>-Rheology of liquid crystals. Effect of the shear stress on the lamellar liquid crystalline phases. |
| Name and address of employer         | University of Alcalá (UAH), Faculty of Pharmacy. Ctra. Madrid-Barcelona, Km 33,6. CP 28871 Alcalá de Henares (Madrid). Spain.                                                                                                                                                               |
| Type of business or sector           | University                                                                                                                                                                                                                                                                                  |
| Dates                                | January/01/1995 – December/31/1995                                                                                                                                                                                                                                                          |
| Occupation or position held          | PhD Student (Fellowship by University of Alcalá (UAH))                                                                                                                                                                                                                                      |
| Main activities and responsibilities | Phase behaviour and physicochemical characterization of ternary surfactant/alcohol/water systems. Training in spectrometry techniques (UV-VIS, fluorescence)                                                                                                                                |
| Name and address of employer         | University of Alcalá (UAH). Ctra. Madrid-Barcelona, Km 33,6. CP 28871 Alcalá de Henares (Madrid). Spain                                                                                                                                                                                     |
| Type of business or sector           | University                                                                                                                                                                                                                                                                                  |
| Dates                                | May/18/1999 – November/17/1999                                                                                                                                                                                                                                                              |
| Occupation or position held          | Quality Control Analyst                                                                                                                                                                                                                                                                     |
| Main activities and responsibilities | Quality Control of drugs. Drugs release.                                                                                                                                                                                                                                                    |
| Name and address of employer         | FROSST IBERICA, SA. Subsidiary of MERCK-SHARP-DOHME Co. Via Complutense 140. CP. 28805, Alcala de Henares, (Madrid), Spain.                                                                                                                                                                 |
| Type of business or sector           | Company of Manufacture of Pharmaceutical Products                                                                                                                                                                                                                                           |

## Education and training

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dates                                                          | 1996-1999                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Title of qualification awarded                                 | <i>European Ph.D. Sciences, Chemistry.</i>                                                                                                                                                                                                                                                                                                                                                                                                   |
| Principal subjects/occupational skills covered                 | Thesis Title: " <i>Phase and Rheological Behaviour of Surfactant Systems with CTAB and Diluted with C<sub>12</sub>E<sub>4</sub> and C<sub>12</sub>E<sub>4</sub>/CPyCl which Including the Cosurfactant Benzyl Alcohol</i> ".<br>Empirical research and Data Analysis that directly contributes to understand the effect of the shear stress on the biomimetic lamellar systems. Correlations between structure and macroscopical properties. |
| Name and type of organisation providing education and training | Alcalá University, Spain                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Level in national or international classification              | ISCED 6                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Dates                                                          | 1995                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Title of qualification awarded                                 | Master Thesis. Postgraduate university degree                                                                                                                                                                                                                                                                                                                                                                                                |
| Principal subjects/occupational skills covered                 | Thesis Title: " <i>Phase Behaviour of the Hexadecyltrimetil ammonium Bromide/Benzyl Alcohol/Water and the Normal and Reverse micellar phases as the Media Reaction</i> ".<br>Surfactant colloid Science. Empirical research and Data Analysis that involves studies of cationic quaternary ammonium salt surfactants in aqueous solutions with alcohols as cosurfactant.                                                                     |
| Name and type of organisation providing education and training | University of Alcalá. Ctra. Madrid-Barcelona km 33.600, 28871 Alcalá de Henares (Spain)                                                                                                                                                                                                                                                                                                                                                      |
| Level in national or international classification              | ISCED 6                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|                                                                |                                                                                                                    |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Dates                                                          | 1988-1993                                                                                                          |
| Title of qualification awarded                                 | <i>Degree in Chemistry</i>                                                                                         |
| Principal subjects/occupational skills covered                 | University Courses of theoretical and practical aspects of the Inorganic, Organic, Analytical and Physicochemical. |
| Name and type of organisation providing education and training | University of Alcalá, Ctra. Madrid-Barcelona km 33.600, 28871 Alcala de Henares (Madrid).Spain.                    |
| Level in national or international classification              | Bachelor, ISCED 5                                                                                                  |

### Personal skills and competences

Mother tongue(s) **Spanish**

Other language(s)

Self-assessment

European level (\*)

**English**

| Understanding |                  |         |                 | Speaking           |                  |                   |                  | Writing |                  |
|---------------|------------------|---------|-----------------|--------------------|------------------|-------------------|------------------|---------|------------------|
| Listening     |                  | Reading |                 | Spoken interaction |                  | Spoken production |                  |         |                  |
| B1            | Independent user | C1      | Proficient user | B1                 | Independent user | B1                | Independent user | B2      | Independent user |

(\*) [Common European Framework of Reference for Languages](#)

|                                       |                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Social skills and competences         | Extensive practice with different research teamwork, from different countries and in different languages. Ability to motive and communicate with personnel, and hard worker.                                                                                                                          |
| Organisational skills and competences | Management of a <i>Teaching Innovation Group of 6 participants</i> . Member of the organization committee of a course for undergraduate students. Member of the organization committee of the social programme in a summer course (two years).                                                        |
| Technical skills and competences      | In charge person and/or user of several scientific techniques: rheology, conductivity, optical microscopy with crossed polarizers; transmission electron microscopy (cryo- and freeze fracture techniques); tensiometer; HPLC; NMR; small angle X-Ray dispersion (SAXS); UV-Vis; fluorescence, etc... |
| Computer skills and competences       | User of Windows workstations, Internet, MS Office, basic image editors, and some scientific and graphic design applications (e.g., Origin Pro, EndNote, SciFinder, etc). Perform on-line via the virtual lecture theatre (BlackBoard).                                                                |
| Other skills and competences          |                                                                                                                                                                                                                                                                                                       |
| Driving licence                       | B1                                                                                                                                                                                                                                                                                                    |

### Additional information

#### PROFESSIONAL REFERENCES

Michael Gradzielski. Full Professor. Technische Universität Berlin Fakultät II. Institut für Chemie. Berlin (Germany). [michael.gradzielski@tu-berlin.de](mailto:michael.gradzielski@tu-berlin.de)

Ulf Olsson. Professor. Department of Physical Chemistry 1, University of Lund, Lund (Sweden). [Ulf.Olsson@fkem1.lu.se](mailto:Ulf.Olsson@fkem1.lu.se)

Conxita Solans Marsà. Colloid and Interfacial Chemistry Centre, IQAC-CSIC, Barcelona (Spain). [csmqci@iqac.csic.es](mailto:csmqci@iqac.csic.es)

#### AREAS OF EXPERTISE

Forensic and Colloidal Sciences:

- Developing an innovative forensic approach for drugs determination in oral fluids and its use to define objective criteria to confirm the drugs influence on drivers for law application (pending of applied funding)

- The identification of explosives in pre- and post-blast IEDs by Raman spectroscopy (funded by EU Project HOME/2011/ISEC/AG/4000002480)

- Compiling scientific data on explosives to provide scientific information to forensic experts (funded by EU Project HOME/2012/ISEC/AG/CBRN/4000003800).
- Forensic applications of functionalized carbon nanotubes in capillary electrophoresis systems.
- Study of chemometric tools for the interpretation of data of forensic interest.
- Characterization of materials and their effect on enzymatic interactions by Raman spectroscopy (in BIBAFOODs project, funded by Ref. FP7-PEOPLE-2013-ITN- 606713).
- Relevant experience in phase behaviour of surfactant systems. Drugs delivery by colloidal systems; lipid and surfactant self-assembly; biomimetic & nano structures; microemulsions, micelles and liquid crystal phases; organogels; physicochemical properties; neutrons radiation revealing colloidal structure; phase transitions induced by shearing (Founded by 6 Governmental Organizations and 5 by University of Alcalá).

### MANAGEMENT AND PARTICIPATION IN EUROPEAN FUNDING PROJECTS

Total funding as Project Head: 237,681.62€

Title: "BIBAFOODS—Blopolymer BAsed FOod Delivery Systems". Ref. FP7-PEOPLE-2013-ITN-606713. Organism: European Commission, FP7-PEOPLE-"Marie Curie Initial Training Networks (Multi-Partner ITN) Programme. Duration and funding: From February 2014 to January 2018. 3,765,084.18€. **(Manager and coordinator by UAH: G. Montalvo, 237.681,62€).** 11 Participants and 4 Associated Partners (Public Institutions and Private Enterprises).

Title: "Exchange of explosives data to make a comprehensive database by police laboratories cooperation". Ref. HOME/2012/ISEC/AG/CBRN/4000003800. Organism: European Commission, "Prevention of and Fight Against Crime 2007-2013" programme. Duration and funding: From May 2013 to April 2015. 107.883,00 €. Participant.

Title: "New identification methods of improvised explosive devices and post-blast residues by raman spectroscopy to prevent criminal actions". Ref. HOME/2011/ISEC/AG/4000002480. Organism: European Commission, "Prevention of and Fight Against Crime 2007-2013" programme. Duration and funding: From December 2013 to November 2015. 297.902,00 €. Participant.

### INTERNATIONAL SCIENCE PUBLICATIONS (17)

1. G. Montalvo; R. Pons; G. Zhang, M. Díaz, M. Valiente *Langmuir* 29(47):14369-79. (2013). <http://pubs.acs.org/doi/pdf/10.1021/la402764w> OI:10.1021/la402764w
2. G. Montalvo; R. Pons; M. Valiente. *Langmuir*, 4(26), 2256 - 2262 (2010). <http://pubs.acs.org/doi/pdf/10.1021/la902672j>
3. M. Torre; M. P. San Andrés; S. Vera; G. Montalvo; M. Valiente. *Colloid Polym. Sci.*, 8(28), 951 - 959 (2009). DOI: 10.1007/s00396-009-2051-y.
4. G. Montalvo; M.Valiente. "Sugar-Based Surfactants: Fundamentals and Application", *Surfactant Science Serie*, Vol. Nº 143. 245 – 274, Taylor & Francis Group, LLC. (2009). I.S.B.N.: 978-1-4200-5166-7.
5. G. Montalvo; M. Valiente; A. Khan. *Langmuir*, 21(23), 10518 - 10524 (2007). <http://pubs.acs.org/doi/abs/10.1021/la0204489>
6. G. Montalvo; E. Rodenas; M. Valiente. "Encyclopedia of Surface and Colloid Science", 2ªEd, Pgs. 1199 – 1216, Taylor & Francis Group LLC, USA (2006). I.S.B.N.; 978-0-8493-9615-1 and 1ª Ed, (2002). Pgs. 3983-4001, T. Hubbard, Ed.; Marcel Dekker, (2002). I.S.B.N.: 978-0-8247-2154-1.
7. G. Montalvo; A. Khan. *Colloid Polym Sci*, 283, 402 - 412 (2005). <http://link.springer.com/article/10.1007%2Fs00396-004-1161-9>
8. Stenstam; G. Montalvo; I. Grillo; M. Gradzielski. *Journal of Physical Chemistry B*, 107, 12331 - 12338 (2003). <http://pubs.acs.org/doi/abs/10.1021/jp0352783>
9. G. Montalvo; A. Khan. *Langmuir*, 22(18), 8330 - 8339 (2002). <http://pubs.acs.org/doi/pdf/10.1021/la0204489>
10. G. Montalvo; M. Valiente; K. Mortensen; M. Gradzielski. *Journal of Colloid and Interface Science*, 238, 251 - 258 (2001). <http://dx.doi.org/10.1006/jcis.2001.7482>
11. G. Montalvo. PhD Thesis, UAH, 1998-2000. Digital Media, (2001). I.S.B.N.; 84-89609-88-8; D.L.: S.269-2001
12. G. Montalvo; I. Jiménez; E. Rodenas. *Langmuir*, 23(16), 8604 - 8610 (2000). <http://pubs.acs.org/doi/pdfplus/10.1021/la0003589>
13. G. Montalvo; E. Rodenas; M. Valiente. *Journal of Colloid and Interface Science*, 227, 171 - 175 (2000). <http://dx.doi.org/10.1006/jcis.2000.6872>

14. G. González-Gaitano; M. Valiente; G. Tardajos; G. Montalvo; E. Rodenas. *Journal of Colloid and Interface Science*, 211, 104 - 109 (1999). <http://dx.doi.org/10.1006/jcis.1998.5937>
15. G. Montalvo; E. Rodenas; M. Valiente. *Journal of Colloid and Interface Science*, 202, 232 - 237 (1998). <http://dx.doi.org/10.1006/jcis.1998.5404>
16. G. Montalvo; M. Valiente; E. Rodenas. *Langmuir*, 21(12), 5202 - 5208 (1996). <http://pubs.acs.org/doi/pdf/10.1021/la9515682>
17. G. Montalvo; M. Valiente; E. Rodenas. *Journal of Colloid and Interface Science*, 172, 494 - 501 (1995). <http://dx.doi.org/10.1006/jcis.1995.1280>

### PROCEEDINGS (10)

18. G. Montalvo; M. Valiente." Rheology in Product Design and Engineering". Spanish Rheology Group, RSEQ. Ed., Pg. 289 - 291 (2008). I.S.B.N.: 978-84-608-0779-1, D.L. SE-4273-2008 U.E.
19. G. Montalvo; W. E. Muñoz. Colloid and Interfaces Series, Book of Proceedings of the 2nd Meeting of Colloids and Interfaces-RICI2. Sociedade Portuguesa de Química, Pg. 487 - 492 (2007). I.S.B.N.: 978-989-8124-01-2, D.L. 261953/07
20. G. Montalvo; A. Khan. Colloid and Interfaces Series. Servicio de Publicacións da Universidade de Vigo, L. M. Liz Marzán, P. Hervés Beloso, J. C. Mejuto, C. Tojo Eds. Pgs. 75-80. (2003). I.S.B.N.: 84-8158-242-5, D.L. C-1369-2003
21. G. Montalvo; M. Valiente; M. Bergmeier; K. Horsbaschek; E. Rodenas. Serie Coloides e Interfases Estado Líquido. Vol. 16. Pg. 513 - 516 Servicio de Publicaciones. Universidad de Almería. F.J. de las Nieves, A. Fernandez, Eds. (2000). I.S.B.N.: 84-8240-191-2. D.L.: Al-26-1999.
22. Jiménez; G. Montalvo; E. Rodenas. Serie Coloides e Interfases Proceedings de la 4ª Reunión del grupo Especializado de coloides e interfaces., M.R. Infante, C. Solans, N. Azemar. Barcelona Pg. 157-160 (2000). I.S.B.N.: 84-600-9686-6.
23. G. Montalvo; M. Gradzielski, M. Valiente. Serie Coloides e Interfases Proceedings de la 4ª Reunión del grupo Especializado de coloides e interfaces., M.R. Infante, C. Solans, N. Azemar., Barcelona. Pg. 161-164 (2000). I.S.B.N.: 84-600-9686-6.
24. G. Montalvo; E. Rodenas; M. Valiente. Proceedings of the Fifth European Rheology Conference. Springer Pg. 295-296 (1998). I.S.B.N.: 3-7985-1128-4.
25. G. Montalvo; M. Valiente; E. Rodenas, Serie Coloides e Interfases. Proceedings de XII cursos de Verano Universidad de Alcalá. E. Rodenas, S. Vera, Eds., Pg. 307 - 310 (1997). I.S.B.N.:84-8138-250-7. D.L.: M-20533-1998.
26. G. González-Gaitano; M. Valiente; G. Tardajos; G. Montalvo; E. Rodenas. Serie Coloides e Interfases. Proceedings de XII cursos de Verano Universidad de Alcalá. E. Rodenas, S. Vera, Eds., Pg. 307 - 310 (1997). I.S.B.N.:84-8138-250-7. D.L.: M-20533-1998.
27. G. Montalvo; M. Gradzielski; A. Stenstam. ILL Annual Report (Journal of the Institut Laue-Langevin). Pg. D22910591 - 910592 Institute Laue-Langevin (2001)

### CONFERENCES

Participant in International (23) and national (14) science conferences. Invited presentations (5) and seminars (3).

### RESEARCH PROJECTS

Participant in several research projects founded by EU- ISEC Programme (2), EU- FP7 Marie Curie-International Network Training ITN (1), Spanish Governmental Organizations (6) and by the University of Alcalá (5).

Experimental beam-time at the neutron facilities at the Institute Laue-Langevin (ILL, Grenoble, France) (4) founded proposals. Ref. Ref. 9-10-512-2000; Ref. 9-10-591-2001; Ref. 9-10-586-2001; and Ref. 9-10-592-2002 as coordinator).

### TEACHING

Participant in several education innovation projects (7), founded by University of Alcalá. Two of those culminated with the distinction UAH. Participant in implementing pilot projects (2) in the University of Alcalá; teaching publications (4) and participations in national (3) and international (2) conferences of education, research and innovation.

Visitor professor at the Science Faculty of Universidad Central del Ecuador (5 weeks in 2005).

### RELEVANT GRANTS:

- By Spanish Ministry of Education and Science: research pre-doctoral stays of 8 weeks at the University of Lund (Sweden) and 8 weeks at the University of Bayreuth (Germany). (1995-1999).
- Student in the "European Training School on Neutron Beam Experiments", fellowship by the European Social Fund, 40h, 2001. Research Reactor Institute for Solid State, Physics and Optics (CSER), Budapest (Hungary).

**Other merits:**

- Scientific supervisor of 13 postgraduate students.
- Reviewer of international journals (in the JCR ranking)
- Member of the research group "Forensic Chemistry" (INQUIFOR), 2011 –
- Member of the Spanish Royal Society of Chemistry (RSEQ); Iberian Colloid and Interfaces Group (GECI); and the Spanish Rheology Group (GER).
- Member of a Teaching Innovation Group "APRACE: APREndizaje Activo en Ciencias Experimentales", from 2008.

**Award to**

Teaching Innovation Group, by University of Alcalá. (2008 y 2009).

**Annexes**