

## Europass Curriculum Vitae



### Personal information

**First name / Surname** Anna Troiani

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**Nationality** Italian

**Date of birth** 28 August 1967

**Gender** Female

### Curriculum vitae dates

**1992** Degree in Pharmaceutical Sciences and Technology (cum laude) at the University of Rome "Sapienza", tutor Prof. Fulvio Cacace.

**1993** Qualification to the profession of Chemist.

**1993-97** Attends the PhD School of Pharmaceutical Sciences (9th Cycle) at the Pharmacy Faculty of Rome University "Sapienza". Final dissertation 12<sup>th</sup> September 1997.

**1996** As PhD student spends a research period at the Central Research Institute for Chemistry of the Academy of Sciences, Budapest, under the supervision of Prof. K. Vekey.

**1998** Degree in Pharmacy (cum laude) at the University of Rome "La Sapienza", tutor Prof. Giulia de Petris.

**1998-2002** Postdoc at Department of Chemistry and Technology of Biological Active Substances of "Sapienza" Rome University.

### Occupation or position held

**2002** Permanent Researcher at the University of Rome "La Sapienza"

### Grants Awarded

**1996** UE COST grant for Short Term Mission at the Central Research Institute for Chemistry of the Academy of Sciences, Budapest.

**1996** Short Mobility grant from Italian National Research Council (CNR) at the

Central Research Institute for Chemistry of the Academy of Sciences, Budapest.

**1997** and **1998** Scholarship from Italian National Research Council (CNR) for Chemical Sciences.

**2000** Grant for “Young Research Scientists Project” from National Research Ministry for the research project: “New Neutral Unstable Species of Xenon Oxides”.

**2002** Grant for “Young Research Scientists Project” from National Research Ministry for the research project: “O<sub>3</sub><sup>+</sup> Ions from Oxygen Ionization”.

**2012** University Research Projects - "Gas-phase ion-chemistry of reactive species. Study of ion-surface interactions by means of advanced mass spectrometric techniques"

**2014** University Research Projects - “Gas-phase ion-molecule reactions as a model for heterogeneous catalytic processes”

### Research activity

Principal research interests focus on the study of ionic processes and the characterization of new radical and neutral species relevant to atmospheric chemistry; the investigation of non-conventional isotopic effects on heavy atoms; investigated by mass spectrometry; the study of activation and functionalization of C-H, O-H and C-halogen bonds by mass spectrometric techniques.

### Name and address of employer

University of Rome “La Sapienza” Piazzale Aldo Moro 5 00185 Rome, Italy

### Mother tongue(s)

Italian

### Other language(s) Self-assessment

*European level*

English

French

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C2	C1	C1	C1
B2	C1	B2	B2	B2

### Scientific Publication

(max 30)

1. “Experimental Detection of Tetranitrogen”, F. Cacace, G. de Petris, A. Troiani, *Science*, **2002**, 295, 480-481.
2. “Bile Salt Aggregates in the Gas Phase: an Electrospray Ionization Mass Spectrometric Study”, F. Cacace, G. de Petris, E. Giglio, F. Punzo, A. Troiani, *Chem. Eur. J.*, **2002**, 8, 1925-1933.
3. “Formation of O<sub>3</sub><sup>+</sup> upon Ionization of O<sub>2</sub>. The Role of Isomeric O<sub>4</sub><sup>+</sup> Complexes”, F. Cacace, G. de Petris, M. Rosi, A. Troiani, *Chem. Eur. J.*, **2002**,

- 8, 3653-3659.
4. "Charged and Neutral NO<sub>3</sub> Isomers from the Ionization of NO<sub>x</sub> and O<sub>3</sub> Mixtures", F. Cacace, G. de Petris, M. Rosi, A. Troiani, *Chem. Eur. J.*, **2002**, 8, 5684-5693.
  5. "The Impervious Route to the Elusive HOOO<sup>-</sup> Anion", F. Cacace, R. Cipollini, G. de Petris, A. Troiani, *Int. J. Mass Spect.*, **2003**, 228, 717-722.
  6. "Carbon Tetraoxide: Theoretically Predicted and Experimentally Detected", F. Cacace, G. de Petris, M. Rosi, A. Troiani, *Angew. Chem. Int. Ed.*, **2003**, 42, 2985-2990.
  7. "Experimental Detection of the H<sub>2</sub>NO<sub>3</sub> Radical", F. Cacace, G. de Petris, A. Troiani, *ChemPhysChem*, **2003**, 4, 1128-1131.
  8. "Discovery of Two High-Energy N<sub>2</sub>O<sub>2</sub> Isomers", F. Cacace, G. de Petris, A. Troiani, *Chem. Commun.*, **2004**, 3, 326-327.
  9. "Discovery of the New Metastable HONF Radical", F. Cacace, G. de Petris, M. Rosi, A. Troiani, *ChemPhysChem*, **2004**, 5, 503-508.
  10. "Experimental Detection of Theoretically Predicted N<sub>2</sub>CO", G. de Petris, F. Cacace, R. Cipollini, A. Cartoni, M. Rosi, A. Troiani, *Angew. Chem. Int. Ed.*, **2005**, 44, 462-465.
  11. "CS<sub>2</sub>O<sup>+</sup> and CS<sub>2</sub>O in the Gas Phase: an Experimental and Computational Study", G. de Petris, M. Rosi, A. Troiani, *J. Chem. Phys.*, **2005**, 123, 164307/1-164307/9.
  12. "A Novel Route to H<sub>2</sub>O<sub>2</sub><sup>+</sup> Ions via Direct Generation of the Oxywater Cation H<sub>2</sub>OO<sup>+</sup>", G. de Petris, R. Cipollini, A. Cartoni, A. Troiani, *Int. J. Mass Spect.*, **2006**, 249-250, 311-316.
  13. "Direct Experimental Observation of CS<sub>2</sub>OH", G. de Petris, M. Rosi, A. Troiani, *ChemPhysChem*, **2006**, 7, 2352-2357.
  14. "S<sub>3</sub>O and S<sub>3</sub>O<sup>+</sup> in the Gas Phase: Ring and Open-Chain Structures", G. de Petris, M. Rosi, A. Troiani, *Chem. Comm.*, **2006**, 42, 4416-4418.
  15. "H<sub>2</sub>O<sub>2</sub><sup>+</sup> Ions in Ionized O<sub>2</sub>/CH<sub>4</sub> Mixtures: Intermediacy of CH<sub>3</sub>OOH<sup>+</sup> and CH<sub>2</sub>O<sup>+</sup>", G. de Petris, S. Garzoli, A. Troiani, *Chem. Phys. Lett.*, **2007**, 435, 219-223.
  16. "SSOH and HSSO Radicals: An Experimental and Theoretical Study of [S<sub>2</sub>OH]<sup>0/+/-</sup> Species", G. de Petris, M. Rosi, A. Troiani, *J. Phys. Chem. A*, **2007**, 111, 6526-6533.
  17. "Isotope Exchange in Disulfur Monoxide-Water Charged Complexes: A Mass Spectrometric and Computational Study", G. de Petris, A. Troiani, G. Angelini, O. Ursini, A. Bottoni, M. Calvaresi, *Journal of the American Society for Mass Spectrometry*, **2007**, 18, 1664-1671
  18. "Isotope Effects in Isotope-Exchange Reactions: Evidence for a Large <sup>12</sup>C/<sup>13</sup>C Kinetic Isotope Effect in the Gas Phase", G. de Petris, A. Troiani, *J. Phys. Chem. A*, **2008**, 112, 2507-2510.
  19. "The HSSS radical and the HSSS<sup>-</sup> anion", G. de Petris, A. Cartoni, M. Rosi, A. Troiani, *J. Phys. Chem. A*, **2008**, 112, 8471-8477.
  20. "Methane Activation by Metal-Free Radical Cations: Experimental Insight into the Reaction Intermediate", G. de Petris, A. Troiani, M. Rosi, G.

Angelini, O. Ursini, *Chem. Eur. J.*, **2009**, 15, 4248-4252.

21. "Sodium Glycodeoxycholate and Glycocholate Mixed Aggregates in Gas and Solution Phases", G. de Petris, M. R. Festa, L. Galantini, E. Giglio, C. Leggio, N. V. Pavel, A. Troiani, *J. Phys. Chem. B*, **2009**, 113, 7162-7169.
22. "Experimental and Theoretical Evidence for  $\text{HS}_4^+$ ", G. de Petris, A. Cartoni, R. Cipollini, M. Rosi, A. Troiani, *J. Phys. Chem. A*, **2009**, 113, 14420-14423.
23. "Water Activation by  $\text{SO}_2^+$  ions: an Effective Source of OH Radicals", de Petris, G., Cartoni, A., Troiani, A., Angelini, G., Ursini, O., *PhysChemChemPhys*, **2009**, 11, 9976-9978.
24. "Double C-H Activation of Ethane by Metal-Free  $\text{SO}_2^+$  Radical Cations", G. de Petris, A. Cartoni, A. Troiani, V. Barone, P. Cimino, G. Angelini, O. Ursini, *Chem. Eur. J.*, **2010**, DOI: 10.1002/chem.200903588.
25. "The proton Affinity and Gas-Phase Basicity of Sulfur Dioxide", G. de Petris, A. Cartoni, M. Rosi, V. Barone, C. Puzzarini, A. Troiani., *ChemPhysChem*, **2011**, 12, 112-115.
26. "The Azido Oxide,  $\text{N}_3\text{O}$ " G. de Petris, A. Troiani, M. Rosi, A. Sgamellotti, R. Cipollini, *Chemical Physics*, **2011**, in press.
27. "Linking Ion and Neutral Chemistry in C-H Bond Electrophilic Activation: Generation and Detection of  $\text{HO}_2\cdot$  Reactive Radicals in the Gas Phase", de Petris, G.; Angelini, G.; Ursini, O.; Rosi, M.; Troiani, A.; *Angew. Chem. Int. Ed.*, **2012**, 51, 1455-1458.
28. "A mass spectrometric study of the acid-catalysed D-fructose dehydration in the gas phase", F. Pepi, A. Ricci, S. Garzoli, A. Troiani, C. Salvitti, B. Di Rienzo, P. Giacomello; *Carbohydrate Research*, **2015**, 413 145-150.
29. "Iron-Promoted C-C Bond Formation in the Gas Phase", A. Troiani, M. Rosi, S. Garzoli, C. Salvitti, G. de Petris; *Angew. Chem. Int. Ed.* **2015**, 54, 14359-14362.
30. "Vitamin C: an experimental and theoretical study on the gas-phase structure and ion energetics of protonated ascorbic acid", A. Ricci, F. Pepi, P. Cimino, A. Troiani, S. Garzoli, C. Salvitti, B. Di Rienzo, V. Barone, *J. Mass Spectrom.* **2016**, 51, 1146-1151.