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Education

1974-1979: Student of Chemistry, National University of Athens, Greece
1979: Ptychion (B.Sc.) in Chemistry
1981-1984: Graduate student, Dept. of Chemistry, New York University, USA
1984-1989: Ph.D. candidate, Dept. of Chemistry, NYU, USA
1985: M.Sci. in Physical Chemistry, NYU, USA
1990: Ph.D. in Physical Chemistry

Research experience

1977-1979: Undergraduate Research Assistant, Center for Nuclear Research
"Demokritos", Athens, Greece

1983-1990: Graduate Research Assistant, Chemistry Dept., NYU, USA

1991-1995: Postdoctoral fellow, Structures and Biocomputing Programme, European
Molecular Biology Laboratory, Heidelberg, Germany

1995-Sep. 1996: Visiting Assistant Professor, Chemistry Dept., University of Crete, Greece

Sep. 1996-1998: Visiting Associate Professor, Chemistry Dept., University of Crete, Greece

1998-1999: Adj. Asst. Professor, Chemistry Dept., University of Crete, Greece

1/2000-9/2000: Senior Research Fellow, Medical Research Council, National Institute for
Medical Research, Mill Hill, London, UK

9/2000-5/2001: Research Fellow, Laboratory of Biological Chemistry, Medical School, University of Ioannina, Greece

5/2001- present: Assistant Professor, Medical School, University of Ioannina, Greece

7/2007-present: Collaborating faculty member of the Biomedical Research Institute/ Foundation for Research and Technology-Hellas (BRI-FORTH)

Research Grants

1996-1997: Research grant (PENED) from the General Secretariat of Research and Technology, Greece (8 000 000 drs)-*Coordinator*

1998-1999: Research grant supported by the Bilateral Cooperation Programme of BMBF (Germany) and the Ministry of Development (Greece) (2 761 000 drs)-*Coordinator*

1999-2000: Research grant supported by the Research Committee of the University of Crete (1 300 000 drs)-*Coordinator*

1999-2000: Research grant from AFM (Association Française contre les Myopathies) (500000 FF)-*Partner*

2000-2001: Research grant (PENED) from the General Secretariat of Research and Technology, Greece (50 000 000 drs)-*Partner*

2002-2007: Research grant "Heraklitos" from the Ministry of Education, Greece (33.574 €)- *Coordinator*

2003-2007: Research grant EPAN from the General Secretariat of Research and Technology, Greece (380 000 €)-*Partner*

- 2003-2004: Research grant from the Royal Society, UK (17.000 €)-*Coordinator*
- 2005-2007: Research grant supported by the Bilateral Cooperation Programme of DAD (Germany) and IKY (Greece) (15 000 €)-*Coordinator*
- 2005-2007: Research grant "Pythagoras II" from the Ministry of Education, Greece (50.000€)-*Coordinator*
- 2005-2007: Research grant "Pythagoras II" from the Ministry of Education, Greece (40.000€) -*Partner*
- 2005-2007: Research grant "Pythagoras II" from the Ministry of Education, Greece (42.000€)-*Coordinator*
- 2005-: Research grant (PENED) from the General Secretariat of Research and Technology, Greece (199088 €)-*Partner*
- 2006-2007: Research grant supported by the Bilateral Cooperation Programme between Poland and Greece (11.740 €)- *Coordinator*

Current research interests

- Structural/functional characterization of natively unfolded proteins
- Structural/functional characterization of proteins and protein domains involved in chromatin remodelling and nuclear envelope assembly (chromodomains, TUDOR domains, histones)
- Protein confinement
- Biomolecular Spectroscopy
- Biochemical and biophysical studies of integrin-interacting peptides

Peer-reviewed publications

1. A. Kalousi, I. Mylonis, **A.S. Politou**, G. Chachami, E. Paraskeva and G. Simos (2010): Phosphorylation and regulation of human hypoxia inducible factor HIF-1 α by casein kinase I. *J. Cell Sci.*, in press.
2. D. Sanfelice, T. Tancredi, **A.S. Politou**, A. Pastore and P.A. Temussi (2009): Cold denaturation and aggregation: a comparative NMR study of Titin I28 in bulk and in a confined environment. *J. Am. Chem. Soc.*, **131**:11662-11663.
3. Y. Markaki, A. Christogianni, **A.S. Politou** and S.D. Georgatos (2009): Phosphorylation of histone H3 at threonine-3 is part of a combinatorial pattern that marks and configures mitotic chromatin. *J. Cell Sci.*, **122**:2809-2819.
4. Z. Karetsoy, A. Emmanouilidou, I. Sanidas, S. Liokatis, E. Nikolakaki, A.S. Politou and T. Papamarcaki (2009): Identification of distinct SET/TAF-I β domains required for core histone binding and quantitative characterisation of the interaction. *BMC Biochemistry*, **10**:10.
5. S.D. Georgatos, Y. Markaki, A. Christogianni and **A.S. Politou** (2009): Chromatin remodeling during mitosis: a structure-based code? *Front. Biosci.*, **14**:2017-2027.
6. A. Pastore, S.R. Martin, **A. Politou**, T. Stemmler and P.A. Temussi (2007): Unbiased cold denaturation: low and high temperature unfolding of yeast frataxin under physiological conditions. *J. Am. Chem. Soc.*, **129**:5374-5375.
7. G. Martic, Z. Karetsoy, K. Kefala, **A.S. Politou**, C.R. Clapier, T. Straub and T. Papamarcaki (2005): Parathymosin affects the binding of linker histone H1 to nucleosomes and remodels chromatin structure. *J. Biol. Chem.*, **280**:16143-16150.
8. D. Bolis, **A.S. Politou**, G. Kelly, A. Pastore and P.A. Temussi (2004): Protein stability in nanocages: a novel approach for influencing protein stability by molecular confinement. *J. Mol. Biol.*, **336**:203-212.
9. S. Adinolfi, M. Nair, **A. Politou**, E. Bayer, S. Martin, P.A. Temussi and A. Pastore (2004): The factors governing the thermal stability of frataxin orthologues: How to increase the stability of a protein. *Biochemistry*, **43**: 6511-6518.
10. P.F. Foltopoulou, G.A. Zachariadis, **A.S. Politou**, A.S. Tsiftoglou and L.C. Papadopoulou (2004): Recombinant human wild-type and mutated forms of the mitochondrial Cox assembly Sco2 protein differ in physical state and copper binding capacity. *Mol. Genet. Metab.*, **81**:225-236.
11. C. Pozidis, A. Chalkiadaki, A. Gomez-Serrano, H. Stahlberg., I. Brown, A.P. Tabakaki, A. Lustig, G. Sianidis, **A.S. Politou**, A. Engel, N.J. Panopoulos, J. Mansfield, A.P. Pugsley, S. Karamanou and A. Economou (2003): Type III protein translocase: HrcN is a peripheral membrane ATPase that is activated by oligomerization. *J. Biol. Chem.* **278**:25816-25824.

12. N. Biris, A. Stavrakoudis, **A.S. Politou**, E. Mikros, M. Sakarellos-Daitsiotis, C. Sakarellos and V. Tsikaris (2003): Slow conformational exchange of short linear peptides in DMSO solution: The example of Ac-RGD-NH₂. *Biopolymers* **69**:72-86.
13. S. Adinolfi, M. Trifuoggi, **A.S. Politou**, S. Martin and A. Pastore (2002): A structural approach to understanding the iron-binding properties of phylogenetically different frataxins. *Hum. Mol. Genet.* **11**:1865-1877.
14. C. Baud, S. Karamanou, G. Sianidis, E. Vrontou, **A.S. Politou** and A. Economou (2002): Allosteric communication between signal peptides and the SecA protein DEAD motor ATPase domain. *J. Biol. Chem.* **277**:13724-13731.
15. **A.S. Politou**, R. Spadaccini, C. Joseph, B. Brannetti, R. Guerrini, M. Helmer-Citterich, S. Salvadori, P.A. Temussi and A. Pastore (2002): The SH3 domain of nebulin binds selectively to type II peptides: theoretical prediction and experimental validation. *J. Mol. Biol.* **316**:305-315.
16. G. Sianidis, S. Karamanou, E. Vrontou, K. Boulias, K. Repanas, N. Kyrpides, **A.S. Politou** and A. Economou (2001): Cross-talk between catalytic and regulatory elements in a DEAD motor domain is essential for SecA function. *EMBO J.* **20**:961-970.
17. S. Vrtala, K. Hirtenlehner, M. Susani, M. Akdis, F. Kussebi, C.A. Akdis, K. Blaser, P. Hufnagl, B.R. Binder, **A. Politou**, A. Pastore, L. Vangelista, W. R. Sperr, H. Semper, P. Valent, C. Ebner, D. Kraft and R. Valenta (2001): Genetic engineering of a hypoallergenic trimer of the major birch pollen allergen Bet. *FASEB J.* **15**:2045-2047.
18. C. Joseph, G. Stier, R.O. Brien, **A.S. Politou**, R.A. Atkinson, A. Bianco, J.E. Ladbury, S.R. Martin and A. Pastore (2001): A structural characterization of the interactions between titin and actinin in the Z-disk of the sarcomere. *Biochemistry* **40**: 4957-4965.
19. C. Pozidis, E. Lammertyn, **A.S. Politou**, E. Bosmans, J. Anné and A. Economou (2001): Protein secretion biotechnology using *Streptomyces lividans*: large-scale production of tumour necrosis factor α . *Biotechnol. Bioeng.* **72**:611-619.
20. S. Vlachou, **A. Politou**, P. Dais, K. Mazeau and F.R. Taravel (2001): Structure and dynamics of the branched polysaccharide scleroglucan in dilute solutions studied by 1D and 2D NMR spectroscopy. *Carbohydr. Polym.* **46**:349-363.
21. N. Kourmouli, P. Theodoropoulos, G. Dialynas, A. Bakou, **A.S. Politou**, I.G. Cowell, P.B. Singh and S.D. Georgatos (2000): Dynamic association of Heterochromatin protein 1 with the nuclear envelope. *EMBO J.* **19**:6558-6568.
22. S. Karamanou, E. Vrontou, G. Sianidis, C. Baud, T. Roos, A. Kuhn, **A.S. Politou** and A. Economou (1999): A molecular switch in SecA protein couples ATP hydrolysis to protein translocation. *Mol. Microbiol.* **34**:1133-1145.

23. **A.S. Politou**, S. Millevoi, M. Gautel, B. Kolmerer and A. Pastore (1998): SH3 in muscles: Solution structure of the SH3 domain from nebulin. *J. Mol. Biol.* **276**:189-202.
24. M. Pfuhl, S. Improta, **A.S. Politou** and A. Pastore (1997): When a module is also a domain: The rôle of the N-terminus in the stability and the dynamics of immunoglobulin domains from titin. *J. Mol. Biol.* **265**:242-256.
25. **A.S. Politou**, M. Gautel, S. Improta, L. Vangelista and A. Pastore (1996): I-band titin is assembled in a "modular" fashion by weakly interacting immunoglobulin-like domains. *J. Mol. Biol.* **255**:604-616.
26. S. Improta, **A.S. Politou** and A. Pastore (1996): Immunoglobulin-like modules from titin I-band: Extensible components of muscle elasticity. *Structure* **4**:323-337.
27. M. Pfuhl, M. Gautel, **A.S. Politou**, C. Joseph and A. Pastore (1995): Secondary structure determination by NMR spectroscopy of an immunoglobulin-like domain from the giant muscle protein titin. *J. Biomol. NMR* **5**:56-64.
28. **A.S. Politou**, D.J. Thomas and A. Pastore (1995): The folding and stability of titin immunoglobulin-like modules, with implications for the mechanism of elasticity. *Biophys. J.* **69**:2601-2610.
29. **A.S. Politou**, M. Gautel, C. Joseph and A. Pastore (1994): Immunoglobulin-type domains of titin are stabilized by amino-terminal extension. *FEBS Lett.* **352**:27-31.
30. **A.S. Politou**, M. Gautel, M. Pfuhl, S. Labeit and A. Pastore (1994): Immunoglobulin-type domains of titin: Same fold, different stability? *Biochemistry* **33**:4730-4737.
31. **A.S. Politou**, C. Morterra and M.J.D. Low (1991): Thermal degradation and carbonization of an aliphatic allyl polycarbonate polymer. *Polym. Degrad. Stabil.* **32**:331-356.
32. **A.S. Politou**, C. Morterra and M.J.D. Low (1990): The oxidation of polycarbonate chars. *Carbon* **28**:855-865.
33. **A.S. Politou**, C. Morterra and M.J.D. Low (1990): The formation of chars from a polycarbonate. An IR spectroscopic study. *Carbon* **28**:529-538.
34. M.J.D. Low, **A.S. Politou**, P.G. Varlashkin and N. Wang (1990). Unusual bands in the IR spectra of chars. *Spectrosc. Lett.* **23**:527-531.
35. E. Papaconstantinou, D. Dimotikali and **A. Politou** (1980): Photochemistry of Heteropoly-electrolytes. The 18-Molybdodiphosphate. *Inorg. Chim. Acta* **46**:155-158.