

## CURRICULUM VITAE

**Dr. Apostolos Spyros**

### PERSONAL DATA

*birth date:* September 15, 1966  
*address:* Dept. of Chemistry, University of Crete, P.O. Box  
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### EDUCATION

- *March 96*  
Ph.D. in Chemistry, Chemistry Dept., University of Crete, Heraklion Crete, Greece.  
“Study of microstructure and dynamics of synthetic and biological polymers in solution and in bulk by  $^{13}\text{C}$  NMR Spectroscopy.”
- *October 93*  
M.Sc. in Chemistry, Chemistry Dept., University of Crete, Heraklion Crete, Greece.  
“Polymer Spectroscopy”
- *1988 September*  
B.Sc. in Chemistry, Chemistry Dept., Aristotlian University, Thessaloniki, Greece.

### PROFESSIONAL EXPERIENCE

- *February 18 - present*  
Assosiate Professor, Chemistry Dept. University of Crete, Heraklion Crete, Greece.
- *May 07 – February 18*  
Assistant Professor (Tenured in May 2011), Chemistry Dept. University of Crete, Heraklion Crete, Greece.
- *February 02 – April 07*  
Adjunct Assistant Professor, Chemistry Dept. University of Crete, Heraklion Crete, Greece.
- *February 99 – January 02*  
Visiting Assistant Professor, Chemistry Dept. University of Crete, Heraklion Crete, Greece.
- *November 97 – November 98*  
Military service, Greek Army.
- *March 96 - September 97*  
Alexander von Humboldt postdoctoral researcher, NMR Section, Physics Dept., University of Ulm, Ulm, Germany.
- *August 94 - January 96*

Postdoctoral researcher, Chemistry Dept. and Pulp & Paper Research Center, McGill University, Montreal, Canada.

- *March 92, January, June-July 93* Visiting scientist, NMR lab, Chemistry Dept., University of Manchester, Manchester, U.K.

- *January 89 - July 94*  
Researcher, Chemistry Dept., University of Crete, Heraklion Crete, Greece.

## FELLOWSHIPS – AWARDS - ACTIVITIES

- *May 18*  
Member of the Organizing Committee, International Conference “Vine, wine, food and health”, UNESCO Chair «Culture and Wine Traditions», Heraklion Crete.
- *September 17*  
Member of the Organizing Committee, IMA 2017, 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, Heraklion Crete.
- *May 17*  
Reviewer, Hellenic Foundation for Research & Innovation, Athens.
- *October 09*  
Reviewer, Heraclitus II, Ministry of Education, Athens.
- *June 09*  
Member of the Scientific Committee, 3rd Conference of the Greek Lipid Forum, Athens.
- *April 09*  
Member of the Organizing Committee, TECHNART 2009, Non-destructive and Microanalytical Techniques in Art and Cultural Heritage, Athens.
- *March 96 - August 97*  
Alexander Von Humboldt Fellowship, Bonn, Germany.
- *June 93*  
DIGITAL Co. Award for postgraduate studies in Chemistry.
- *January 89 - December 93*  
Postgraduate fellowship (E.M.Y.), Greek Ministry of Education.

## FUNDING

- \* 8,000 €, University of Crete, Start-up fund, May 2007.
- \* 1,300 €, Small Research Programs, Research Committee, University of Crete, March-September 2010.
- \* 45,000 €, Heraclitus II, Greek Ministry of Education, 2011-2013.
- \* 100,000 €, Thalís, Greek Ministry of Education, 2012-2015.
- \* 2,500 €, Small Research Programs, Research Committee, University of Crete, 2012.
- \* 155,100 €, Synergasia II, Greek Ministry of Education, 2013-2015.
- \* 6,000 €, Senate Properties, Finnish Ministry of Finance, 2014-2016.

- \* 1,500 €, Small Research Programs, Research Committee, University of Crete, 2016.
- \* (???) €, *FoodOmicsGR*, National Research Infrastructure, 2017.
- \* 20,700 €, PhD fellowship, Hellenic Foundation for Research & Innovation, 2017.

## TEACHING

Department of Chemistry, Univ. Of Crete.

- \* 2011- ...                   Qualitative & Quantitative Analysis
- \* 2008- ...                   Food Analysis Techniques
- \* 2008-2010                 Analytical Chemistry II
- \* 2007, 2009                Structure Elucidation of Organic Molecules by NMR and MS
- \* 2007, 2009, 2010       Instrumental Analysis: NMR Spectroscopy (graduate)
- \* 2005- ...                 NMR Spectroscopy (graduate, undergraduate)
- \* 1999-2008                General Chemistry I
- \* 1999-2004                Polymer Chemistry
- \* 2000-2001                Food analysis by NMR spectroscopy (graduate, lab)
- \* 1989-1994                General Chemistry I/II, Inorganic Chemistry, Physical Chemistry IV  
(Teaching assistant)  
General Chemistry Lab I/II, Inorganic Chemistry Lab  
(Laboratory assistant)

Elsewhere

- \* 2017, 1 week            University of Palermo  
Liquid state NMR spectroscopy in archaeology and cultural heritage materials analysis, Erasmus Mundus M.Sc. program ARCHMAT: Summer School “*Archaeometry and Underwater Archaeology*”.
- \* 2016, 3 days            University of Palermo  
Cultural heritage materials analysis by NMR Spectroscopy, M.Sc. program “*Ricercatori ed Esperti di Alta Tecnologica e Innovazione Tecnologica Applicata al Settore dei Beni Culturali*”.
- \* 2014, 1 week            University of Helsinki  
NMR Spectroscopy in food and cultural heritage materials analysis, Erasmus+ Teaching Mobility, M.Sc. program.

## RESEARCH SUPERVISION

*Ph.D. Theses*

- E. Ralli, *June 2016* - ...  
«NMR-based metabolomics of dairy products».
- E. Manolopoulou, *awarded, December 2017*  
«NMR metabolomics analysis of plant extracts and biological fluids».
- M. Amargiannitaki, *awarded, November 2015*  
«Analysis and optimization of the wine aging process by NMR spectroscopy».
- E. Kartsonaki, *awarded, June 2012*  
«Development of NMR spectroscopy methodologies for the analysis of organics in cultural heritage materials».

### *M.Sc. Theses*

- S. Tachtalidou, *March 2017 - ...*  
«Impact of sulfonation on the antioxidant and radical scavenging properties of wines»
- M. Kalitsounaki, *February 2016 - ...*  
«Phenolic profiling of functional olive oils modified with goji berry»
- S. Tsana, *awarded, July 2018*  
«Analysis of organic residues in archaeological pottery by NMR spectroscopy»
- G. Markakis, *awarded, April 2017*  
«NMR-based metabolomics analysis of Cretan salted white cheese»
- E. Ralli, *awarded, April 2016*  
«NMR metabolomics for the authentication of PGO Cretan graviera cheese»
- E. Manolopoulou, *awarded, December 2012*  
«A study of olive leaves by NMR spectroscopy in the solid and liquid state»
- M. Amargianitaki, *awarded, January 2012*  
«Determination of water-soluble organic compounds in secondary atmospheric aerosols by NMR spectroscopy».
- M. Karafas, *awarded, December 2011.*  
«Synthesis and spectroscopic characterization of tholins as model aerosols in Titan's atmosphere ».
- S. Sfakianaki, *awarded, February 2011.*  
«Analysis of proteinaceous paint binders in paintings by NMR spectroscopy ».

### *Diploma Theses*

- E. Beleli, *October 2016 - ...*  
«Phenolic profiling of extra-virgin olive oils by <sup>1</sup>H NMR spectroscopy».
- S. Melabianaki, *June 2017 - completed*  
«Chemical composition and environmental degradation of unsaturated polyester resin (UPR) contemporary artworks by analytical NMR spectroscopy».
- N. Frangoulis, *February 2017 - completed*  
«Development of a methodology for phenolic content determination of extra-virgin olive oils by NMR spectroscopy».
- A. Kolesnikova, *October 2016 - completed*  
«NMR-based metabolomic analysis of apple juices».
- S. Tachtalidou, *October 2016 - completed*  
«Compositionl analysis of Greek coffee by NMR spectroscopy».
- G. Alexakis, *June 2016 - completed*  
«Analysis of PDO Cretan commercial dry red wines by NMR spectroscopy».

- M. Kontoudi, *December 2015 - completed*  
«A study of the distillation procedure of raki by NMR spectroscopy».
- G. Christophorou, *June 2014 completed*  
«Phenolics analysis in cretan red and white wines by NMR spectroscopy».
- M. Pantelidou, *February 2014 completed*  
«Compositional analysis of hard yellow Cretan cheeses produced at a single cheese-making site by NMR spectroscopy».
- M. Stomi, *October 2013 completed*  
«<sup>1</sup>H NMR spectroscopy as a tool for the authentication and quality control of Cretan raki».
- A. Panagiotakis, *June 2013 completed*  
«Aging of polyurethane polyols used as construction materials in modern art installations».
- E. Ralli, *February 2013, completed*  
«Development of an NMR methodology for the analysis of Cretan graviera cheese».
- K. Bosioli, *June 2011, completed*  
«Compositional analysis of commercial cocoa powder products by <sup>1</sup>H NMR spectroscopy».
- A. Tzortzi, *June 2010, completed*.  
« Identification of xanthins in cocoa powder (*Theobroma cacao L.*) by NMR spectroscopy».
- A. Perraki, *July 2009, completed*.  
«Analysis of waxes by NMR spectroscopy».
- D. Stratinakis, *October 2007, completed*.  
«A methodology for the extraction and NMR analysis of organic residues from pottery».
- G. Stamatakis, *August 2007, completed*.  
«Analysis of polymeric resins used in the creation of works of art by NMR spectroscopy»

## RESEARCH INTERESTS

NMR spectroscopy applications (<sup>1</sup>H, <sup>13</sup>C, <sup>31</sup>P, <sup>15</sup>N) in Analytical Chemistry, Environmental, Food and Polymer Science .

Tools: 2D NMR, solid state HR-MAS NMR, LC-NMR, MRI.

- \* Food chemistry and analysis, quality control and authentication.
- \* NMR spectroscopic analysis of organics in cultural heritage materials, arts and archaeology.
- \* NMR based metabolomics and chemometrics
- \* Analysis and spectroscopic characterization of organic molecules and macromolecules, biomaterials, synthetic polymers, atmospheric aerosols, plant extracts and foods.

Reviewer for the Journals

1. Analytical Chemistry
2. Biomacromolecules
3. Analytical & Bioanalytical Chemistry
4. Journal of Agricultural and Food Chemistry

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|--|---|
| 5. Journal of the American Oil Chemist's Society       | 6. European Journal of Lipid Science & Technology |
| 7. Macromolecules                                      | 8. Journal of Applied Polymer Science             |
| 9. Environmental Science & Pollution Research          | 10. Journal of Cultural Heritage                  |
| 11. Journal of Polymer Science Part B: Polymer Physics | 12. Langmuir                                      |
| 13. Talanta  | 14. Food Chemistry                                |
| 15. Analytical Methods                                 | 16. European Polymer Science                      |

Citations: 1196, *h*-index: 21 (September 2018, Thompson-ISI)

## PUBLICATIONS

(pdf available at [www.chemistry.uoc.gr/aspyros](http://www.chemistry.uoc.gr/aspyros))

57. «NMR Spectroscopy»  
**A. Spyros** in *Fingerprinting Techniques in Food Authentication and Traceability*, K.S. Siddiqi, L. Nollet (Eds), CRC Press, Boca Raton, Florida, USA, **2018**, Ch. 3, 45 (invited)
56. «Significant metabolic improvement by a water extract of olives: animal and human evidence»  
 N. Peroulis, V. P. Androutsopoulos, G. Notas, S. Koinaki, E. Giakoumaki, **A. Spyros**, E. Manolopoulou, S. Kargaki, M. Tzardi, E. Moustou, E. G. Stephanou, E. Bakogeorgou, N. Malliaraki, M. Niniraki, C. Lionis, E. Castanas, M. Kampa, *Euro. J. Nutr.* **2018**, in press.
55. «NMR spectroscopy protocols for food metabolomics applications»  
 E. Ralli, M. Amargianitaki, E. Manolopoulou, M. Misiak, G. Markakis, S. Tachtalidou, A. Kolesnikova, P. Dais and **A. Spyros**, in *Metabolic Profiling: Methods and Protocols, Methods in Molecular Biology, vol. 1738*, G. A. Theodoridis, H. Gika, I. Wilson (Eds), Humana Press, New York, NY, **2018**, Ch. 14, 203.
54. «Use of costic acid, a natural extract from *Dittrichia viscosa*, for the control of *Varroa destructor*, a parasite of the European honey bee»  
 K. Sofou, D. Isaakidis, **A. Spyros**, A. Büttner, A. Giannis, H. E. Katerinopoulos, *Beilstein J. Org. Chem.* **2017**, 13, 952.
53. «Phosphorus derivatization as a tool to enhance specificity of quantitative NMR analysis of foods»  
**A. Spyros** in *Modern Magnetic Resonance*, 2nd Edition, Graham Webb (ed), Springer, **2017**. (invited)
52. «NMR-based metabolomics in wine quality control and authentication»  
 M. Amargianitaki and **A. Spyros**, *Chem Biol. Technol. Agric.* **2017**, 4:9.
51. «Liquid state NMR spectroscopy in cultural heritage and archaeological sciences».  
**A. Spyros** in *Modern Magnetic Resonance*, 2nd Edition, Graham Webb (ed), Springer, **2016**. (invited)
50. «Application of NMR in food analysis».  
**A. Spyros** in *SPR Nuclear Magnetic Resonance* volume 45, V. Ramesh (Ed), Royal Society of Chemistry, Cambridge, UK, **2016**. (Book chapter)

49. «Identification and quantification of aromatic hydrocarbons adsorbed on soot from premixed flames of kerosene, synthetic kerosene, and kerosene-synthetic biofuels»  
A. Andrade-Eiroa, R. Shahla, M. Romanias, P. Dagaut, E. Karafas, **A. Spyros**, and G. Dayma, *Energy & Fuels*, **2015**, 29, 6556.
48. «Identification and quantitative determination of carbohydrate molecules in Greek honey by employing  $^{13}\text{C}$  NMR spectroscopy»  
A. Kazalaki, M. Misiak, **A. Spyros** and P. Dais, *Anal. Methods*, **2015**, 7, 5962.
47. «Investigation of the photochemical reactivity of soot particles derived from biofuels toward  $\text{NO}_2$ . A kinetic and product study»  
M. Romanias, P. Dagaut, Y. Bedjanian, A. Andrade-Eiroa, R. Shahla, E. Karafas, V.P. Papadimitriou, and **A. Spyros**, *J. Phys. Chem. A*, **2015**, 119, 2006.
46. «Egg yolk identification and aging in mixed paint binding media by NMR spectroscopy»  
S. Sfakianaki, E. Kouloumpi, D. Anglos, and **A. Spyros**, *Magn. Reson. Chem.* **2015**, 53, 22.
45. «Nuclear Magnetic Resonance».  
**A. Spyros** in *Handbook of Food Analysis (3<sup>rd</sup> Ed.)*, L. Nollet, F. Todrá (Eds), CRC Press, Boca Raton, Florida, USA, **2015**, Ch. 35, 659. (Book chapter)
44. «Heptanuclear lanthanide [Ln7] clusters: from blue-emitting solution-stable complexes to hybrid clusters»  
A. B. Canaj, G. K. Tsikalas, A. Philippidis, **A. Spyros** and C. J. Milios, *Dalton Trans.* , **2014**, 43, 12486.
43. «Carbon-dot organic surface modifier analysis by solution-state NMR spectroscopy».  
A. Fillipidis, **A. Spyros**, D. Anglos, A. Bourlinos, Radek Zbořil, E. P. Giannelis *J. Nanopart. Res.* **2013**, 15, 1777.
42. «NMR spectroscopy analysis of polyester resins as contemporary art materials».  
**A. Spyros**, U. Knuutinen in *Impact of the Indoor Environment on the Preservation of our Moveable Heritage*, Havermans, J., Adriaens, M., Thickett, D., Strlic, M., Fassina, V. and Rabin, I. (Eds), Nardini Editore, **2013**. (Book chapter)
41. «High resolution-magic angle spinning NMR study of olive leaves».  
E. Manolopoulou, A. Spinella, E. Caponetti, P. Dais and **A. Spyros** in *Magnetic Resonance in Food Science: Food for Thought*, J. van Duynhoven (Ed), pp. 164-170, Royal Society of Chemistry, Cambridge, UK, **2013**. (Book chapter)
40. «NMR Spectroscopy in Food Analysis»  
**A. Spyros**, P. Dais, Royal Society of Chemistry, Cambridge, UK, **2012**. (Book)
39. «Nuclear Magnetic Resonance».  
P. Dais, **A. Spyros** in *Chemical Analysis of Food: Techniques and Applications*, Y. Picó (Ed.), pp. 91-115, Elsevier, Amsterdam, **2012**. (Book chapter)
38. «Primary and secondary marine organic aerosols over the North Atlantic ocean during the MAP experiment»  
S. Decesari, E. Finessi, M. Rinaldi, M. Paglione, S. Fuzzi, E. G. Stephanou, T. Tziaras, **A. Spyros**, D. Ceburnis, C. O'Dowd, M. Dall'Osto, R. M. Harrison, J. Allan, H. Coe, M. C. Facchini, *J. Geophys. Res.-Atmosph.*, **2011**, 116, D22210.

37. «The adsorption of organophosphates into microporous and mesoporous NaX zeolites and subsequent chemistry»  
Q. Meng, D. Doetschman, A. Rizos, M.H. Lee, S. Schulte, A. Spyros, C. Kanyi, *Env. Sci. Technol.*, **2011**, 45, 3000.
36. «Analysis and aging of unsaturated polyester resins in contemporary art installations by NMR spectroscopy»  
G. Stamatakis, U. Knuutinen, K. Laitinen, **A. Spyros**, *Anal. Bioanal. Chem.*, **2010**, 398, 3203.
35. «<sup>31</sup>P NMR spectroscopy in food analysis».  
**A. Spyros**, P. Dais, *Prog. NMR Spectrosc.*, **2009**, 54, 195.
34. «Geographical characterization of Greek virgin olive oils (Cv. Koroneiki) using <sup>1</sup>H and <sup>31</sup>P NMR fingerprinting with canonical discriminant analysis and classification binary trees».  
P. Petrakis, A. Agiomyrgianaki, S. Christophoridou, **A. Spyros**, P. Dais, *J. Agric. Food Chem.*, **2008**, 56, 3200.
33. «The isoenzyme seven of tobacco NAD(H)-dependent glutamate dehydrogenase exhibits high deaminating and low aminating activities *in vivo*».  
D. S. Skopelitis, N. V. Paranychianakis, A. Kouvarakis, **A. Spyros**, E. G. Stephanou, and K. A. Roubelakis-Angelakis, *Plant. Physiol.*, **2007**, 145, 1726.
32. «<sup>31</sup>P NMR spectroscopy in the quality control and authentication of extra-virgin olive oil: A review of recent progress».  
P. Dais and **A. Spyros**, *Magn. Reson. Chem.*, **2007**, 45, 367.
31. «Comparison of analytical methodologies based on <sup>1</sup>H and <sup>31</sup>P NMR spectroscopy with conventional methods of analysis for the determination of some olive oil constituents».  
P. Dais, **A. Spyros**, S. Christophoridou, E. Hatzakis, G. Fragaki, A. Agiomyrgianaki, E. Salivaras, G. Siragakis, D. Daskalaki, M. Tasioula-Margari, M. Brenes, *J. Agric. Food Chem.*, **2007**, 55, 577.
30. «Dynamic light scattering vs <sup>1</sup>H NMR investigation of pH-responsive diblock copolymers in water».  
M. Vamvakaki, D. Palioura, **A. Spyros**, S. P. Armes, and S. H. Anastasiadis, *Macromolecules*, **2006**, 39, 5106.
29. «Studies of organic paint binders by NMR spectroscopy».  
**A. Spyros**, D. Anglos, *Appl. Phys. A*, **2006**, 83, 705.
28. «Detection of extra virgin olive oil adulteration with lampante olive oil and refined olive oil using NMR spectroscopy and multivariate statistical analysis».  
G. Fragaki, **A. Spyros**, G. Siragakis, E. Salivaras, P. Dais, *J. Agric. Food Chem.*, **2005**, 53, 2810.
27. «Structure determination of oligomeric alkannin and shikonin derivatives».  
**A. Spyros**, A. N. Assimopoulou, V. P. Papageorgiou, *Biomed. Chrom.*, **2005**, 19, 498.
26. «Correction of the structure of a new sesquiterpene from *Cistus creticus* ssp. *creticus*».  
K. Hatzellis, G. Pagona, **A. Spyros**, C. Demetzos, H. E. Katerinopoulos, *J. Nat. Prod.*, **2004**, 67, 1996
25. «Study of aging in oil paintings by 1D and 2D NMR spectroscopy».



- A. Spyros**, D. Anglos, *Anal. Chem.*, **2004**, 76, 4929.
24. «Kinetics of diglyceride formation and isomerization in virgin olive oils by employing  $^{31}\text{P}$  NMR spectroscopy. Formulation of a quantitative measure to assess olive oil storage history».  
**A. Spyros**, A. Fillipidis and P. Dais, *J. Agric. Food Chem.*, **2004**, 52, 157.
23. «Classification of edible oils by employing  $^{31}\text{P}$  and  $^1\text{H}$  NMR Spectroscopy in combination with multivariate statistical analysis. A proposal for the detection of seed oil adulteration in virgin olive oils».  
G. Vigli, A. Fillipidis, **A. Spyros** and P. Dais, *J. Agric. Food Chem.*, **2003**, 51, 5715.
22. «Characterization of unsaturated polyester and alkyd resins using One and Two-Dimensional NMR spectroscopy».  
**A. Spyros**, *J. Appl. Polym. Sci.*, **2003**, 88, 1881.
21. «The use of L-lysine fluorescence derivatives as tracers enhance the performance of polarization fluoroimmunoassays. A study using the herbicides 2,4D and 2,4,5T as model antigens».  
G. I. Hatzidakis, S. A. Eremin, E. K. Krambovitis, **A. Spyros** and A. M. Tsatsakis, *Anal. Chem.*, **2002**, 74, 2513.
20. «Determination of the diglycerides content in Greek virgin olive oils and some commercial olive oils by employing  $^{31}\text{P}$  NMR spectroscopy».  
P. Fronimaki, **A. Spyros**, S. Christoforidou and P. Dais, *J. Agric. Food Chem.*, **2002**, 50, 2207.
19. «Quantitative determination of the distribution of free hydroxylic and carboxylic groups in unsaturated polyester and alkyd resins by  $^{31}\text{P}$  NMR spectroscopy».  
**A. Spyros**, *J. Appl. Polym. Sci.*, **2002**, 83, 1635.
18. « $^{31}\text{P}$  Nuclear Magnetic Resonance spectroscopy of polyphenol-containing olive oil model compounds».  
S. Christoforidou, **A. Spyros** and Photis Dais, *Phosphorus Sulfur and Silicon*, **2001**, 170, 139.
17. «Application of  $^{31}\text{P}$ -NMR spectroscopy in food analysis. I. Quantitative determination of mono- and diglycerides in virgin olive oils».  
**A. Spyros**, Photis Dais, *J. Agric. Food Chem.*, **2000**, 48, 802 .
16. «NMR study of the rotational dynamics of linear homopolysaccharides in dilute solutions as a function of linkage position and stereochemistry».  
E. Tylanakis, **A. Spyros**, Photis Dais, F. Taravel, and A. Perico, *Carbohydr. Res.*, **1999**, 315, 16.
15. «CYCLCROP mapping of  $^{13}\text{C}$  labelled compounds: Perspectives in polymer science and plant physiology».  
M. Heidenreich, **A. Spyros**, W. Köckenberger, N. Chandrakumar, R. Bowtell and R. Kimmich, in *Spatially Resolved Magnetic Resonance*, Blümmler, P. Blümich, B. Botto, R. Fukushima E. (Eds), Wiley-VCH, Weinheim, 1998. (Book chapter)
14. «Selective determination of elastomer distribution in multicomponent systems using proton-detected  $^{13}\text{C}$  imaging».

- A. Spyros**, N. Chandrakumar, M. Heidenreich and R. Kimmich, *Macromolecules* **1998**, 31, 3021.
13. «<sup>1</sup>H NMR imaging study of enzymatic degradation in poly(3-hydroxybutyrate) and poly(3-hydroxybutyrate-co-3-hydroxyvalerate). Evidence for preferential degradation of the amorphous phase by PHB depolymerase B from *Pseudomonas lemoignei*».  
**A. Spyros**, R. Kimmich, B. H. Briese and D. Jendrossek, *Macromolecules* **1997**, 30, 8218.
  12. «A study of polyhydroxyalkanoates by quantitative <sup>31</sup>P NMR Spectroscopy: Molecular weight and chain cleavage».  
**A. Spyros**, D. S. Argyropoulos, and R. H. Marchessault, *Macromolecules* **1997**, 30, 327.
  11. «<sup>13</sup>C and <sup>1</sup>H amorphous linewidths in semicrystalline poly(4-hydroxybutyrate) and poly(3-hydroxybutyrate-co-4-hydroxybutyrate) above T<sub>g</sub> by high resolution and solid state NMR experiments».  
**A. Spyros** and R. H. Marchessault, *J. Polym. Sci. Part B: Polym. Phys.* **1996**, 34, 1777.
  10. «Segmental dynamics in poly(3-hydroxybutyrate-co-4-hydroxybutyrate)s above T<sub>g</sub>: <sup>13</sup>C Nuclear Magnetic Relaxation in the amorphous phase».  
**A. Spyros** and R. H. Marchessault, *Macromolecules*, **1996**, 29, 2479.
  9. «<sup>13</sup>C Nuclear Magnetic Relaxation measurements of poly(4-hydroxybutyrate) and poly(3-hydroxybutyrate-co-4-hydroxybutyrate) in the bulk».  
**A. Spyros**, R. H. Marchessault, *Macromolecules*, **1995**, 28, 6108.
  8. «<sup>13</sup>C Nuclear Magnetic Relaxation and local dynamics of synthetic polymers in solution and in the bulk».  
P. Dais and **A. Spyros**, *Progr. NMR Spectrosc.* **1995**, 27, 555.
  7. «Local chain motions of Poly(β-hydroxyoctanoate) in the bulk. <sup>13</sup>C NMR relaxation study».  
**A. Spyros**, P. Dais and R.H. Marchessault, *J. Polym. Sci. Polym. Phys. Ed.* **1995**, 33, 367.
  6. «Composite spectral density functions for the interpretation of the <sup>13</sup>C NMR relaxation behaviour of polymers containing hydrocarbon side chains. Free and restricted side chain motion».  
**A. Spyros** and P. Dais, *J. Polym. Sci. Polym. Phys. Ed.* **1995**, 33, 353.
  5. «Viscosity dependence of chain segmental motion and side chain internal rotation of poly(1-naphthylmethyl acrylate) in dilute solution. Carbon-13 Nuclear Magnetic Relaxation study».  
**A. Spyros**, P. Dais and F. Heatley, *Macromolecules*, **1994**, 27, 6207.
  4. «Chain segmental motion and sidechain internal rotations of poly(1-naphthylalkyl acrylate)s in solution studied by <sup>13</sup>C Nuclear Magnetic Relaxation».  
**A. Spyros**, P. Dais and F. Heatley, *Macromolecules*, **1994**, 27, 5845.
  3. «Assignment of the <sup>1</sup>H and <sup>13</sup>C NMR spectra and stereochemical analysis of radical-initiated poly(1-naphthylmethyl acrylate) and poly(2-(1-naphthyl)ethyl acrylate)».  
**A. Spyros**, P. Dais and F. Heatley, *Macromol. Chem. Phys.* **1994**, 195, 3271.
  2. «Microstructure determination of poly(1-naphthylalkyl methacrylate)s by <sup>13</sup>C NMR spectroscopy».

T. Radiotis, **A. Spyros** and P. Dais, *Polymer*, **1993**, 34, 1846.

1. «Structure and dynamics of poly(1-naphthyl acrylate) in solution by <sup>13</sup>C NMR spectroscopy».  
**A. Spyros** and P. Dais, *Macromolecules*, **1992**, 25, 1062.

#### *Submitted*

- i. «NMR metabolic profiling of maturation in red and white indigenous Cretan monocultivar wines as a function of barrel type and vintage»  
M. Amargianitaki, P. Dais and **A. Spyros**, *Food Chem.*

#### *Manuscripts in preparation*

- «Comparison of the nonvolatile NMR sensometabolome of Cretan red and white wines with panel test sensory attributes and quality indices»  
M. Amargianitaki, M. Basalekou, Ph. Dais and **A. Spyros**, *J. Agric. Food Chem.*
- «Resin identification in aged paint varnishes by high resolution-magic angle spinning (HR-MAS) NMR spectroscopy»  
E. Kartsonaki, A. Spinella, U. Knuutinen, E. Caponetti, **A. Spyros**, *Anal. Bioanal. Chem.*

#### *Patents*

1. «A water-olive extract with metabolic and cardioprotective properties».  
E. Domazakis, I. Kastanas, M. E. Kampa, C. Lionis, **A. Spyros**, Creta Farm S.A. Patent No. WO2016083525 A1, European Patent Office, June 2, 2016.
2. «Use of costic acid or extracts of *Dittrichia Viscosa* against *Varroa Destructor*».  
C. Katerinopoulos, D. Isaakidis, K. Sofou, **A. Spyros**, University of Crete. Patent No. 2346328 B1, European Patent Office, Jan. 7, 2015.
3. «Use of costic acid and other constituents of the plant *Dittrichia Viscosa* (common name akoniza) and of related subspecies against *Varroa Destructor*, a bee parasite».  
C. Katerinopoulos, D. Isaakidis, K. Sofou, **A. Spyros**, University of Crete. Patent No. 1006569, Greek Patent Office, Oct. 13, 2009.

#### *INVITED TALKS*

31. «Molecular fingerprinting and aging of wines from Cretan cultivars»: UNESCO International Conference “Vine, wine, food and health”, 22-26 May 2018, Heraklion Crete, Greece.
30. «Olive oil quality indices, polyphenolics and health claims»: Olive Oil Quality Colloquium, Association of Greek Chemists and Olive Oil Network of Crete, 29 March 2018, Heraklion Crete, Greece.
29. «Food quality control and authentication using NMR spectroscopy and metabolomics»: 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, 17-22 September 2017, Heraklion Crete, Greece.
28. «Liquid state NMR spectroscopy in archaeology and cultural heritage materials analysis» Erasmus Mundus ARCHMAT Summer School 2017: Archaeometry and Underwater Archaeology, July 24, 2017, Marsala, Italy.

27. «Food analysis and authentication using NMR-based metabolomics»: 4th Workshop on Holistic Analytical Methods for systems Biologies Studies, 17-19 April 2016, Thessaloniki, Greece.
26. «NMR metabolomics in food authentication and quality control»: XII Greece-Cyprus Chemistry Conference, 8-10 May 2015, Thessaloniki, Greece.
25. «Plant extract analysis by NMR spectroscopy»  
Bruker Greek Users Meeting, October 13, 2014, Athens, Greece.
24. «NMR spectroscopy for the identification and analysis of cultural heritage materials»  
POLITEIA Analytical, OPTO-CH Workshops 2014, June 23-27, 2014, Heraklion Crete, Greece.
23. «NMR spectroscopy applications in food analysis»  
Spectroscopy Solutions eConference, May 20, 2014.
22. «Small Molecule Analysis in Food: an Overview and Some Recent Applications»  
SMASH 2013, Small Molecule NMR Conference, September 22-25, 2013, Santiago de Compostela, Spain.
21. «NMR potential in metabolomics of natural products»  
COST Action FA1101: Saffronomics, WG2 Interim meeting on Phytochemistry and Metabolomics, May 29-June 1, 2013, Chania, Crece.
20. «Olive leaves analysis by solid state HR-MAS NMR spectroscopy»  
2nd SEE--DRUG Workshop: NMR Basics and Applications in Life Sciences, May 13-15, 2013, Patras, Greece.
19. «Analysis of bioactive compounds in olive leaves by solid state HR-MAS NMR spectroscopy»  
International Workshop in Bioactive Compounds from Olea europaea: Chemistry and Biology, May 12-13, 2013, Athens, Greece.
18. «High resolution-magic angle spinning NMR study of olive leaves»  
11th International Conference on the Applications of Magnetic Resonance in Food, 26-29 June, 2012, Wageningen, Netherlands.
17. «Analytical applications of NMR spectroscopy»  
Chemistry Dept., University of Helsinki, November 17, 2011, Helsinki, Finland.
16. «Cultural heritage materials analysis by NMR spectroscopy»  
Chemistry Dept., University of Palermo, October 19, 2011, Palermo, Italy.
15. «Analysis of bioactive compounds in extra virgin olive oil and olive leaves»  
2nd Conference on Cretan Diet and Health, 14-15 May, 2011, Rethymnon, Greece.
14. «NMR-based olive oil metabonomics»  
18th EuroQSAR, EAST-NMR Satellite Meeting, 24-25 September 2010, Rhodes, Greece.
13. «Analysis of organic materials in arts and archeology by NMR Spectroscopy»  
XXXIX National Congress on Magnetic Resonance, 24 September 2009, Palermo, Italy.
12. «NMR Spectroscopy and Chemometrics in Food Analysis»

Department of Chemistry, University of Palermo, 25 September, 2009, Palermo, Italy.

11. «Characterization of organic materials by NMR (nuclear magnetic resonance) spectroscopy: natural and synthetic resins and waxes»  
Analyze This! Metropolia University & Nordic Association of Conservators, 15-17 February 2009, Helsinki, Finland.
10. «Titan, a planetary laboratory of prebiotic chemistry»  
13th Panhellenic Chemistry Graduate Student Conference, June 2007, Santorini, Greece.
9. «Extraction of olive oil and seed oils. Quality and nutritional value comparison»  
Dept. of Chemistry, University of Patras, April 6, 2005, Patras, Greece.
8. «Advanced spectroscopic techniques in food quality control»  
Dept. of Agriculture, Animal Production and Marine Environment, University of Thessaly, June 13, 2004, Volos, Greece.
7. «Applications of NMR spectroscopy and Chemometrics in food analysis and quality control»  
Dept. of Human Nutrition and Dietetics, Technological Educational Institute of Crete, May 25, 2004, Sitia, Greece.
6. «NMR spectroscopy applications in analytical chemistry»  
Chemistry Department, University of Crete, March 31, 2004, Heraklion, Greece.
5. «Applications of high resolution and solid state NMR spectroscopy and Magnetic Resonance Imaging»  
Chemistry Department, University of Crete, April 18, 2002, Heraklion, Greece.
4. «<sup>1</sup>H NMR imaging studies of enzymatic degradation in PHAs»  
International Symposium on Biological PHAs '98, September 11, 1998, Tokyo, Japan.
3. «Applications of MRI in polymer science»  
Chemistry Dept. University of Crete, June 5, 1998, Heraklion Crete, Greece.
2. «NMR imaging applications to biopolymers»  
Chemistry Dept., McGill University, September 20, 1997, Montreal, Canada.
1. «NMR imaging: Applications to polymers»  
Max-Planck-Institut für Polymerforschung, July 16, 1997, Mainz, Germany.

#### **PARTICIPATION IN CONFERENCES (\*oral presentation)**

57. M. Amargianitaki and **A. Spyros\***  
«Molecular fingerprinting and aging of wines from Cretan cultivars»: UNESCO Chair: Culture and Wine Traditions, International Conference “Vine, wine, food and health”, 22-26 May 2018, Heraklion Crete, Greece.
56. E. Ralli, H. Mannerheimo, U. Knuutinen and **A. Spyros** (poster award!)  
«NMR spectroscopy analysis of 19th century decorative interior paintings in Helsinki, Finland»: 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, 17-22 September 2017, Heraklion Crete, Greece.

55. E. Ralli, O.V. Petrov, C. Mattea, B. Gizatullin, S. Stapf and **A. Spyros**  
«The maturation of Cretan graviera cheese as monitored by high resolution NMR spectroscopy and low field NMR relaxometry/diffusometry »: 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, 17-22 September 2017, Heraklion Crete, Greece.
54. E. Manolopoulou, S. Tachtalidou, E. Beleli, A.M. Gómez-Caravaca, A. Segura-Carretero and **A. Spyros**  
«Phenolics profiling in extra-virgin olive oil, olive leaves, and olive mill waste water by NMR spectroscopy»: 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, 17-22 September 2017, Heraklion Crete, Greece.
53. **A. Spyros\***, M. Amargianitaki, E. Ralli, M. Misiak and P. Dais  
« Food quality control and authentication using NMR spectroscopy and metabolomics»: 10th International Conference on Instrumental Methods of Analysis. Modern Trends and Applications, 17-22 September 2017, Heraklion Crete, Greece.
52. M. Amargianitaki, E. Manolopoulou, E. Ralli, A. Kolesnikova, G. Alexakis and **A. Spyros\***  
«Food analysis and authentication using NMR-based metabolomics»: 4th Workshop on Holistic Analytical Methods for Systems Biologies Studies, 17-19 April 2016, Thessaloniki, Greece.
51. E. Manolopoulou, S. Kargaki, N. Peroulis, V. Androutsopoulos, G. Notas, E. Castanas, M. Kampa, E. Stephanou and **A. Spyros**  
«Analysis of plant extracts and their metabolic effect using NMR spectroscopy and tandem LC-MS biofluid profiling»: XII Greece-Cyprus Chemistry Conference, 8-10 May 2015, Thessaloniki, Greece.
50. **A. Spyros\***  
«NMR metabolomics in food authentication and quality control»: XII Greece-Cyprus Chemistry Conference, 8-10 May 2015, Thessaloniki, Greece.
49. N. Peroulis, V. Androutsopoulos, G. Notas, **A. Spyros**, E. Manolopoulou, S. Kargaki, M. Tzardi, E. Stefanou, N. Malliaraki, E. Castanas, M. Kampa  
«Total polyphenol fraction from olive mills waste waters (OMWW) has a beneficial effect in high fat diet induced metabolic changes in rats»: 65<sup>th</sup> Hellenic Society for Biochemistry and Molecular Biology (HSBMB) Conference, 28-30 November 2014, Thessaloniki, Greece.
48. M. Amargianitaki, **A. Spyros**, Ph. Dais  
«Analysis and optimization of the wine making procedure by NMR spectroscopy»: XII International Conference on the Applications of Magnetic Resonance in Food Science: Defining Food by Magnetic Resonance, 20-23 May 2014, Cesena, Italy.
47. **A. Spyros\***, M. Amargianitaki, E. Ralli, G. Markakis, M. Stomi and M. Pantelidou  
«NMR metabolomics in food analysis, authentication and quality control»: 4th Transylvanian NMR Workshop, 27-29 September 2013, Cluj-Napoca, Romania.
46. **A. Spyros\***, P. Dais, M. Amargianitaki, E. Ralli and M. Misiak  
«Small molecule analysis in food: an overview and some recent applications»: SMASH 2013, Small Molecule NMR Conference, 22-25 September 2013, Santiago de Compostela, Spain.

45. E. Manolopoulou, A. Spinella, E. Caponetti, P. Dais and **A. Spyros\***  
«High resolution-magic angle spinning NMR study of olive leaves»: 11th International Conference on the applications of Magnetic Resonance in Food, 26-29 June, 2012, Wageningen, Netherlands.
44. P. Mara, E. Bossioli, and **A. Spyros**  
«Characterization of commercial cocoa powders using  $^1\text{H}$  NMR metabolomics »: 11th International Conference on the applications of Magnetic Resonance in Food, 26-29 June 2012, Wageningen, Netherlands.
43. E. Kartsonaki, A. Spinella, U. Knuutinen, E. Caponetti, D. Anglos and **A. Spyros**  
«High resolution-magic angle spinning (HR-MAS) NMR analysis of solid paint varnishes»: 5th International Congress on "Science and Technology for the Safeguard of Cultural Heritage of the Mediterranean Basin", 22-25 November 2011, Istanbul, Turkey.
42. E. Kouloumpi, S. Sfakianaki and **A. Spyros**  
«Egg tempera identification in organic binding media by NMR Spectroscopy»: Works of Art & Conservation Science Today, 26-28 November 2010, Thessaloniki, Greece.
41. E. Kartsonaki, S. Sfakianaki, **A. Spyros** and U. Knuutinen  
«Analysis of organic materials from archaeological and historical context by NMR spectroscopy»: ENVIART: Impact of the Indoor Environment on the Preservation of our Moveable Heritage, 8-9 November 2010, Dublin, Ireland.
40. **A. Spyros\*** and P. Dais  
«NMR-based olive oil metabolomics»  
18th EuroQSAR, EAST-NMR Satellite Meeting, 24-25 September 2009, Rhodes, Greece
39. T. Tziaras, E. Stephanou and **A. Spyros\***  
«Organics speciation in Eastern Mediterranean atmospheric aerosols during the forest fire season, the NMR way»: International Symposium on recent advances in NMR applications to materials, 17-20 September 2010, Hirschegg, Austria.
38. **A. Spyros\***  
«Analysis of organic materials in arts and archaeology by NMR Spectroscopy»: XXXIX National Congress on Magnetic Resonance, 21-24 September 2009, Palermo, Italy.
37. **A. Spyros \***  
«NMR spectroscopic analysis of organic materials in arts and archaeology»: 10th Greece-Cyprus Conference, 2-4 July 2009, Heraklion Crete, Greece.
36. E. Kartsonaki, A. Perraki, U. Knuutinen, A. Spyros  
«Identification of natural waxes in Pompeii wall paintings by NMR spectroscopy»: 10th Greece-Cyprus Conference, 2-4 July 2009, Heraklion Crete, Greece.
35. S. Sfakianaki, E. Kouloumpi, A. Spyros  
«Analytical characterization of organic binders in paintings by NMR spectroscopy »: 10th Greece-Cyprus Conference, 2-4 July 2009, Heraklion Crete, Greece.
34. **A. Spyros\***  
“NMR spectroscopy in cultural heritage materials analysis”: TECHNART 2009, Non-destructive and Microanalytical Techniques in Art and Cultural Heritage, 27-30 April 2009, Athens.

33. E. Kartsonaki, A. Perraki, U. Knuutinen, **A. Spyros**  
“Identification of natural waxes in Pompeii wall paintings by Nuclear Magnetic Resonance Spectroscopy”: TECHNART 2009, Non-destructive and Microanalytical Techniques in Art and Cultural Heritage, 27-30 April 2009, Athens.
32. **A. Spyros\***, E. Kartsonaki, D. Anglos, U. Knuutinen  
“Characterization of natural resins and waxes from archaeological and historical contexts by NMR spectroscopy”: 5th Symposium of the Hellenic Society of Archaeometry, October 10-12, 2008, Athens, Greece.
31. G. Stamatakis, **A. Spyros**, U. Knuutinen, K. Laitinen, A. Häärä  
“NMR and Mechanical Studies of the Weather Resistance of UP Resins, Modern Contemporary Art Materials”: 9th International Conference on ART2008, Non-destructive investigations and microanalysis for the diagnostics and conservation of cultural and environmental heritage, May 25-30, 2008, Jerusalem, Israel
30. E. Kartsonaki, G. Stamatakis, D. Anglos, U. Knuutinen and **A. Spyros\***  
“NMR Spectroscopy applications in the analysis of cultural heritage materials”: EYROanalysisXIV, September 9-14, 2007, Antwerp, Belgium.
29. E. Kartsonaki, D. Anglos, U. Knuutinen and **A. Spyros**  
“Characterization of terpenoid resin varnishes used in artworks by NMR Spectroscopy”: TechnArt 2007, Non-destructive and Microanalytical Techniques in Art and Cultural Heritage Research, April 25-28, 2007, Lisboa, Portugal.
28. S. Anastasiadis, M. Vamvakaki, D. Palioura, **A. Spyros**.  
“The Formation of Metal Nanoparticles in pH-responsive Block Copolymers and Hydrogels” IUPAC International Symposium on Advanced Polymers for Emerging Technologies, [PSK30], October 2006, Bexco, Busan, Korea.
27. S. Christoforidou, **A. Spyros**, P. Dais  
“A novel approach for detection and quantification of phenolic compounds in olive oil based on <sup>31</sup>P NMR spectroscopy”: 4th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications, October 2-6, 2005, Heraklion, Greece.
26. **A. Spyros\***, D. Anglos.  
“Analytical studies of organic materials in paintings by 1D and 2D NMR spectroscopy”: 4th International Conference on Instrumental Methods of Analysis: Modern Trends and Applications, October 2-6, 2005, Heraklion, Greece.
25. P. Dais, G. Fragaki, **A. Spyros**  
“Classification of three grades of olive oils by employing <sup>31</sup>P NMR spectroscopy and multivariate statistical analysis. Detection of extra virgin olive oil adulteration with refined and lampante olive oils”: 26th World Congress and Exhibition of the International Society for Fat research (ISF), Modern Aspects of Fats and Oils. A Fascinating Source of Knowledge, September 25-28, 2005, Prague, Czech Republic.
24. S. H. Anastasiadis, M. Vamvakaki, D. Palioura, V. Katsamanis, T. Afchoudia, **A. Spyros**, M. Kostylev, L. Bronstein, “Micellization of pH-responsive block copolymers and the formation of metal nanocrystals” Pacifichem 2005, December 2005, Honolulu, Hawaii, U.S.A.
23. M. Vamvakaki, D. Palioura, **A. Spyros**, S. Anastasiadis  
“Responsive polymeric materials and metallic nanocrystal formation”: 5<sup>th</sup> Hellenic Chemical Engineering Conference, May 26-28, 2005, Thessaloniki, Greece.



22. **A. Spyros\***, D. Anglos.  
“NMR spectroscopy: A new analytical tool for the study of painted artworks”: Materials science and cultural heritage, E-MRS 2005 Spring Meeting, May 31-June 3, **2005**, Strasbourg, France.
21. G. Fragaki, **A. Spyros**, G. Siragakis, P. Dais.  
“Detection of extra virgin olive oil adulteration with lampante olive oil, refined olive and olive pomace oil using NMR spectroscopy and multivariate statistical analysis”: Chemistry, Quality of Life and Education, 8<sup>th</sup> Conference Greece-Cyprus, December 10-13, **2004**, Thessaloniki, Greece.
20. P. Dais, **A. Spyros**, A. Philippidis.  
“Determination of storage history (age) of virgin olive oil”: 3<sup>rd</sup> Symposium on Product quality assurance and competitiveness in food industry, November 6-8, **2003**, Athens, Greece.
19. P. Dais, G. Vigli, A. Philippidis, **A. Spyros**.  
“Classification of edible oils by employing <sup>31</sup>P and <sup>1</sup>H NMR spectroscopy in combination with multivariate statistical analysis. Detection of seed oil adulteration in virgin olive oils.”: International Symposium on «The Olive Tree and the Environment», October 1-3, **2003**, MAICh – Chania, Crete, Greece.
18. G. Vigli, P. Fronimaki, **A. Spyros**, P. Dais  
« Classification of vegetable oils by <sup>31</sup>P and <sup>1</sup>H NMR Spectroscopy”: 19th Panhellenic Chemistry Conference, November 6-10, **2002**, Heraklion, Greece.
17. P. Dais, P. Fronimaki, S. Christoforidou, **A. Spyros**  
“A new methodology for the determination of virgin olive oil quality and authenticity”: 19th Panhellenic Chemistry Conference, November 6-10, **2002**, Heraklion, Greece.
16. **A. Spyros\***  
“Characterization of polyester and alkyd resins by 1D and 2D NMR Spectroscopy” :19th Panhellenic Chemistry Conference, November 6-10, **2002**, Heraklion, Greece.
15. P. Dais, P. Fronimaki, **A. Spyros**, S. Christophoridou  
«Determination of the diglycerides content in Greek virgin olive oils and some commercial olive oils by employing <sup>31</sup>P NMR spectroscopy»: 6th International Conference on Applications of Magnetic Resonance in Food Science, September 4-6, **2002**, INA P-G, Paris, France.
14. **A. Spyros**, P. Fronimaki, S. Christoforidou, P. Dais  
‘Vegetable oils characterization and classification via chemometrics and NMR Spectroscopy’: 18th Panhellenic Chemistry Conference, March 10-13, **2001**, Peiraus, Greece.
13. P. Dais, S. Christoforidou, **A. Spyros**, P. Fronimaki  
“Diglycerides, a useful index for the quality control of virgin olive oil”: 18th Panhellenic Chemistry Conference, March 10-13, **2001**, Peiraus, Greece.
12. P. Dais, S. Christoforidou and **A. Spyros**  
«Detection and quantification of polyphenol-containing olive oil model compounds by employing <sup>31</sup>P NMR spectroscopy»: 5<sup>th</sup> International Conference on Applications of Magnetic Resonance in Food Science, September 18-20, **2000**, Aveiro, Portugal.

11. **A. Spyros**  
«Characterization of unsaturated polyester and alkyd resins by employing quantitative  $^{31}\text{P}$  NMR spectroscopy»: Ampere Summer School on Applications of Magnetic Resonance in Novel Materials, September 3-9, **2000**, Nafplio, Greece.
10. **A. Spyros\***, R. Kimmich, B. H. Briese and D. Jendrossek  
« $^1\text{H}$  NMR imaging studies of enzymatic degradation in PHAs»: International Symposium on Biological Polyhydroxyalkanoates '98, September 9-11, **1998**, Tokyo, Japan.
9. **A. Spyros**, R. Kimmich  
«Application of imaging to the study of enzymatic degradation of poly( $\beta$ -hydroxybutyrate), a biodegradable polymer»: 4th International Conference on Magnetic Resonance Microscopy and Macroscopy, September 21-25, **1997**, Albuquerque, New Mexico, US.
8. **A. Spyros**, N. Chandrakumar, R. Kimmich  
«J-cross polarization  $^{13}\text{C}$ -edited imaging of elastomers»: 4th International Conference on Magnetic Resonance Microscopy and Macroscopy, September 21-25, **1997**, Albuquerque, New Mexico, US.
7. **A. Spyros**, D. S. Argyropoylos and R. H. Marchessault  
« $^{31}\text{P}$  NMR: A new and efficient tool for determining molecular weights and studying degradation in PHAs»: International Symposium on Bacterial PHAs '96, August 18-23, **1996**, Davos, Switzerland.
6. R. H. Marchessault and **A. Spyros**  
«Local segmental motion in random copolymers of 3- and 4-hydroxybutyrate by  $^{13}\text{C}$  NMR relaxation»: 13th European Experimental NMR Conference, May 19-24, **1996**, Paris, France.
5. **A. Spyros**, P. Dais and R. H. Marchessault  
«Local segmental dynamics and side chain motion of poly( $\beta$ -hydroxyoctanoate) in the amorphous state by  $^{13}\text{C}$  Nuclear Magnetic Relaxation»: International Symposium on Bacterial PHAs '94, August 14-18, **1994**, Montreal, Quebec, Canada.
4. P. Dais, **A. Spyros** and F. Heatley  
«Multifield, temperature and viscosity dependence of local chain motions of poly(1-naphthyl acrylate)s in dilute solutions»: 11th European Symposium on Polymer Spectroscopy, July 20-22, **1994**, Vajadolid, Spain.
3. **A. Spyros**, P. Dais and R. H. Marchessault  
«Local segmental dynamics of poly( $\beta$ -hydroxyoctanoate) in the bulk.  $^{13}\text{C}$  NMR relaxation study»: NATO Advanced Study Institute on NMR of Biological Macromolecules, August 23 - September 2, **1993**, Kolimbari Crete, Greece.
2. **A. Spyros**, P. Dais and R. H. Marchessault  
« $^{13}\text{C}$  NMR spin-lattice relaxation and molecular dynamics in amorphous poly( $\beta$ -hydroxyalkanoate)s»: 26th Congress Ampere on Magnetic Resonance, September 5-11, **1992**, Athens, Greece.
1. **A. Spyros** and P. Dais

«Dynamics of poly(1-naphthyl acrylate) in solution by  $^{13}\text{C}$  NMR spectroscopy»: 27th Europhysics Conference on Macromolecular Physics, September 23-27, **1991**, Heraklion Crete, Greece.

## GENERAL

- *Member:* American Chemical Society (2006-2011)  
Euro Fed Lipid (2009- ..)  
Greek Lipid Forum (2009- ..)  
Association of Greek Chemists (1988- ..)

- *Languages:*

Greek	(mother language)
English	excellent
French	fair
German	fair