

## CURRICULUM VITAE

### PHOTIS DAIS

**Marital Status** : Married, one child  
**Current Address** : NMR Laboratory, Department of Chemistry  
University of Crete, P.O. Box 2208, Voutes Campus,  
71003 Heraklion, Crete, Greece  
**Telephone** : 2810.545037  
**Fax** : 2810.545166  
**e-mail** : [ntaisf@uoc.gr](mailto:ntaisf@uoc.gr)  
**Internet** : [www.chemistry.uoc.gr/nmr/dais](http://www.chemistry.uoc.gr/nmr/dais)

#### History and philosophy of science

Graduate studies at the Department of History and Philosophy of the University of Athens

#### EDUCATION

**1971** First degree in Chemistry, Aristotle University of Thessalonica, Department of Chemistry, Thessalonica, Greece.  
**1976** Master of Science, University of Toronto, Department of Chemistry, Toronto, Canada.  
**1980** Ph.D in Physical Chemistry, University of Toronto, Department of Chemistry, Toronto, Canada

#### EMPLOYMENT AND EXPERIENCE

**1980-1981** Postdoctoral fellow, McGill University, Department of Chemistry, Montreal, Canada.  
**1981-1982** Lecturer, University of Patras, Department of Chemistry, Patra, Greece.  
**1983-1986** Research associate, McGill University, Department of Chemistry, Montreal, Canada.  
**1987-1991** Assistant professor, University of Crete, Department of Chemistry, Crete, Greece.  
**1991-1995** Associate professor, University of Crete, Department of Chemistry, Crete, Greece.  
**1995- 2013** Professor, University of Crete, Department of Chemistry, Crete, Greece.  
**2013-today** Emeritus Professor, University of Crete, Department of Chemistry, Crete, Greece.

#### ADMINISTRATIVE ACTIVITIES

**1987-1993** Graduate Admission Committee of the Department  
**1988-1989** Vice-president of the Department  
**1992-1994** Vice-president of the Department  
**1994-1996** Re-elected Vice president of the Department  
**1992-1996** Member of the Senate of the University of Crete  
**1993-1997** Member of the Research Committee of the University of Crete.  
**2000- 2004** Chairman of the chemistry Department of the University of Crete.

#### TEACHING

The following courses were taught in the Chemistry Department:

##### Undergraduate courses:

1. General Chemistry
2. Physical Chemistry I (Thermodynamics)
3. Physical Chemistry II (Electrochemistry, Phase equilibria, Chemical equilibrium)
4. Physical chemistry III (molecular spectroscopy)
5. Theory and applications of NMR spectroscopy

6. Analytical techniques in food science

#### Graduate courses:

1. NMR Spectroscopy. Theory and Applications
2. 2D NMR Spectroscopy
3. Determination of Polymer Microstructure by  $^{13}\text{C}$  NMR Spectroscopy
4. Multi-dimensional NMR
5. Practical NMR
6. Topics in NMR Spectroscopy
7. Nuclear magnetic relaxation. Theory and applications.
8. Polymer Chemistry
9. Spectroscopic methods in food analysis
10. Food hygiene and food safety

#### OTHER ACTIVITIES

1. Author of the *notes of General Chemistry (in Greek)*, University of Crete, 1995.
2. Author of the *notes of NMR Spectroscopy (in Greek)*, University of Crete, 2000.
3. Author of the *notes of Molecular Spectroscopy (in Greek)*, University of Crete, 2003.
4. Member of the organising committee of the NATO Advanced Institute Study *NMR in Biological Macromolecules*, Aug. 23 -Sept. 2, 1993, Kolymbari, Crete, Greece.
5. Chairman of the organizing committee of the 19<sup>th</sup> Pan-hellenic Conference on Chemistry, *The many faces of Chemistry and its Applications*, November 6-10 2002, Iraklion, Crete, Greece.
6. Member of the scientific committee of the 2<sup>nd</sup> conference of the Greek Lipid Forum, *Fats, oils, Lipids: Present and Future*, June 7-8, 2007, Athens, Greece.
7. Member of the scientific committee of the EurpFed Lipid Congress, *Oils, Fats and Lipids in the 3<sup>rd</sup> Millennium*, September 7-10, 2008, Athens, Greece.
8. Member of the scientific committee of the 4<sup>th</sup> panhellenic Conference of Greek Lipid Forum, *Modern trends in lipids*, June 6-7, 2011, Thessaloniki, Greece.
9. Member of the scientific committee of the 5<sup>th</sup> panhellenic Conference of Greek Lipid Forum, *Modern trends in lipids*, March, 29-30, Athens, Greece.
10. Member of examination committees for a large number of master and doctoral dissertations performed in several Greek Universities.

#### Member of the editorial board of scientific journals

The Open Magnetic Resonance Journal (Editorial Advisory Board)  
 Mediterranean Journal of Chemistry  
 Journal of Food Chemistry and Nutrition  
 Chemical and Biological Technologies in Agriculture (Associate Editor)

#### Consulting

Karatzis Co. Heraklion, Crete  
 MINERVA olive oil company. Attiki,  
 Lyrarakis Quality Wines, Heraklion, Crete  
 State General Laboratory, Nicosia, Cyprus  
 Medical School, University of Crete Σχολή  
 FORTH, Heraklion, Crete  
 Hellenic petroleum Refineries, Aspropyrgos  
 Motor Oil Hellas refineries, Korinth  
 OLEON NV (Belgium)

#### Visiting Professor

<b>June-Sept. 1987</b>	
<b>June-Oct. 1988</b>	Visiting Professor, McGill University, Department of Chemistry,
<b>June-Sept. 1990</b>	Montreal, Canada.
<b>Febr.-Oct. 1991</b>	

<b>February 1993</b>	Visiting Professor, IMAG, Institute of Polymer Science, Geneva, Italy.
<b>January 1994</b> Manchester	Visiting Professor, University of Manchester, Department of Chemistry,
<b>1996-1997</b>	Visiting Professor, University of Cyprus, Nicosia, Cyprus.
<b>December 1997</b> Manchester	Visiting Professor, University of Manchester, Department of Chemistry,
<b>June 1998</b>	Visiting Professor, CERMAV, Grenoble, France.
<b>January 2000</b> Manchester	Visiting Professor, University of Manchester, Department of Chemistry,
<b>August 2000</b>	Visiting Professor, CERMAV, Grenoble, France.
<b>Sept-Dec. 2005</b>	Visiting Professor, Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
<b>Jan-May 2009</b>	Visiting Professor, Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
<b>Sept-Dec. 2010</b>	Visiting Professor, Department of Chemistry, University of Cyprus, Nicosia, Cyprus
<b>Sept-Dec. 2011</b>	Visiting Professor, Department of Chemistry, University of Cyprus, Nicosia, Cyprus

#### Ph.D. THESES SUPERVISED

1. *Study of microstructure and nuclear magnetic relaxation of poly( $\beta$ -hydroxyalkanoate)s.* M. E. Nedea, Department of Chemistry, McGill University, Montreal, Canada, Completed in 1991.
2. *Rotational dynamic behaviour of hydrocarbon chains attached to a heavy anchor.* D. Pissas, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1994.
3.  *$^{13}\text{C}$  spin-lattice relaxation and chain local motions in dissolved poly (naphthylalkyl acrylate)s.* A. Spyros, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1996.
4. *Molecular dynamics of synthetic and biological polymers in dilute solutions. An NMR study in combination with theoretical calculations.* E. Tylianakis, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1997.
5. *Concentrations of Ochratoxin A in domestic wines and dried vine fruits. Conformational Analysis of Ochratoxin A by NMR Spectroscopy and Computational Molecular Modeling.* Irine Stephanaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2003.
6. *Development and application of novel analytical techniques for the detection and quantification of phenolic compounds in virgin olive oil.* S. Christoforidou, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2005.
7. *Conformational analysis of mycotoxins employing NMR spectroscopy and molecular modelling. Determination of structure-activity relationship.* G. Fragaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2007.
8. *Development of novel analytical techniques based on  $^{31}\text{P}$  NMR spectroscopy for food analysis. Determination of moisture and phospholipids in olive oil, glycerol in wine and olive oil.* E. Xatzakis, NMR Laboratory, Department of Chemistry, University of Crete, Completed in 2007.
9. *Novel NMR analytical techniques for the determination of cis and trans monounsaturated fatty acids in fats and oils and triterpenic acids with pharmacological properties in plant extracts.* Alexia Agiomyrgianaki, NMR Laboratory, Department of Chemistry, University of Crete, completed in 2011.
10. *Analysis and optimization of the wine aging process by NMR spectroscopy.* Maria Amargianitaki, NMR Laboratory, Department of Chemistry, University of Crete, 2012-2015.

## MASTER THESES SUPERVISED

1. *Structure and dynamics of poly(1-naphthyl acrylate) in solution by  $^{13}\text{C}$  NMR spectroscopy.* A. Spyros, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1991.
2. *Structure determination of 3-fluorene-carboxylate methyl ester by employing two-dimensional NMR spectroscopy.* D. Pissas, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1991.
3.  *$^{13}\text{C}$  NMR relaxation and motional dynamics of polysaccharides in dilute solutions,* Emmanuel Tylianakis, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 1994.
4. *Structure and motional dynamics of the natural polymers scleroglucan and pullulan in solution studied by one and two dimensional NMR.* S. Vlachou, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2000.
5. *Structure and molecular dynamics of industrial polymers with photoconductive properties.* A. Karali, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2000.
6. *Detection and quantification of polyphenol-containing olive oil model compounds by employing  $^{31}\text{P}$  NMR spectroscopy.* S. Christophoridou, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2000.
7. *Classification of edible oils and fats by using NMR spectroscopy.* P. Fronimaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2001.
8. *Classification of edible oils by using NMR spectroscopy and multivariate statistical analysis.* Georgia Vigli, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2003.
9. *Geographical and botanical classification of Greek virgin olive oils by using NMR spectroscopy and multivariate statistical analysis.* A. Philipidis, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2003.
10. *Detection and quantification of diglyceride content in milkfats by using NMR spectroscopy.* F. Michalopoulou, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2003.
11. *Study of virgin olive oil adulteration with olive oils of lower quality by employing NMR spectroscopy and multivariate statistical analysis.* Georgia Fragaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2004.
12. *Detection and quantification of phenolic compounds in Table olives oil by employing  $^{31}\text{P}$ -NMR spectroscopy.* Vagia Tsironi, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2005.
13. *Geographical and botanical classification of Greek virgin olive oils by using NMR spectroscopy and multivariate statistical analysis.* Alexia Agiomyrgianaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed in 2008.
14. *A new methodology for the determination of free and esterified sterols in virgin olive oil.* George Dagounakis, NMR Laboratory, Department of Chemistry, University of Crete. Completed 2008.
15. *Quantitative determination of the polyglycerol esters of polycondensed fatty acids (PGPR) in chocolate and confectionary products.* Andrew Orfanakis, NMR Laboratory, Department of Chemistry, University of Crete. Completed 2009.
16. *Sugars determination in Greek honey using  $^{13}\text{C}$  NMR spectroscopy,* Aristeia Kazalaki, NMR Laboratory, Department of Chemistry, University of Crete. Completed 2012.

## DIPLOMA THESES SUPERVISED

1. *Synthesis of cis-trans 1,4 and trans 1,4-polybutadienes*, 1991.
2. *Synthesis of n-alkyl and alkenyl esters of fluorene-3-carboxylic acid*, 1992.
3. *Hydrodynamic description of the overall molecular motion of poly (1-naphthylalkyl acrylates) by employing viscosity measurements*, 1992.
4. *Synthesis of isotactic poly (1-naphthyl acrylate) and heterotactic poly (1-naphthylmethyl acrylate) and poly(1-naphthylethyl acrylate)*, 1993.
5. *Viscosity measurements of hexachloropropene and 1,2-dichlorobenzenesolvents as a function of temperature*, 1993.
6. *Measurements of intrinsic viscosities of poly(1-naphthylmethyl acrylate) in Chloroform and pentachloroethane solutions*, 1994.
7. *Measurements of intrinsic viscosities of the polysaccharide Dextran in dimethylsulfoxide and water solutions*, 1996.
8. *Measurements of intrinsic viscosities of the polysaccharides alpha- and beta-1,3-D-glucans in dimethylsulfoxide solutions*, 1997.
9. *Assignment of the  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of the polysaccharide schleroglucan by using 2D NMR techniques*, 1997.
10. *Viscosity measurements of poly(N-vinylcarbazole) in toluene solutions*, 1998.
11. *Qualitative determination of UV-stabilizers in high density polyethylene*, 1998.
12. *In Vitro inactivation of mycotoxins absorbed in polymeric materials and activated carbon*, 1999.
13. *Hydrodynamic description of the overall molecular motion of the linear polysaccharide schleroglucan in water and dimethylsulfoxide solutions by employing viscosity measurements*, 1999.
14. *Molecular imprinting of polymers with the pesticides pyrazophos, penthion, and carbaryl*, 2000.
15. *Spectroscopic determination of the polyphenols content in Cretan virgin oils*, 2001.
16. *Determination of total polyphenols in Greek virgin olive oils by employing UV-VIS*, 2002.
17. *Total polyphenols in Greek virgin olive oils determined by the Folin-Ciocaltau method*, 2003.
18. *Spectroscopic determination of the polyphenols content in Cretan virgin oils*, 2003.
19. *Determination of total polyphenols in Greek virgin olive oils by employing UV-VIS*, 2004.
20. *Titrimetric determination of the iodine number in virgin olive oil samples*. 2004.
21. *Determination of total polyphenols with spectroscopy UV-VIS and iodine number with the titrimetric analytical method Wijs in Greek virgin olive oils*. 2005.
22. *Determination of total polyphenols in Greek virgin olive oils by employing UV-VIS*, 2005.
23. *Determination of total polyphenols in Greek virgin olive oils by employing UV-VIS*, 2005.

24. *Antioxidant activity of polyphenols in virgin olive oil*. 2005
25. *Determination of total polyphenols in Greek virgin olive oils by employing UV-VIS*, 2005.
26. *Quantitative determination of phenolic compounds in the polar part of virgin olive oils by using the Folin-Ciocalteu method*. 2005.
27. *Iodine number determination in virgin olive oils*. 2005
28. *Discrimination of refined olive oil and refined hazelnut oil by using  $^{31}\text{P}$  NMR spectroscopy and multivariate statistical analysis*. 2007.
29. *Quantification of polyphenols in commercial extra virgin olive oil samples by  $^{31}\text{P}$  NMR spectroscopy*. 2008.
30. *Determination of phenolic compounds in virgin olive oils by using the Folin-Ciocalteu method*. 2008.
31. *Detection and quantification of phenolic compounds in Cretan virgin olive oils by  $^{31}\text{P}$  NMR spectroscopy*. 2008.
32. *Extraction of polyphenols from virgin olive oil samples and their qualitative and quantitative determination by employing  $^{31}\text{P}$  NMR spectroscopy*. 2009.
33. *Determination of total polyphenols in Greek virgin olive oils by employing  $^{31}\text{P}$  NMR*. 2009.
34. *Detection and quantification of phenolic compounds in Greek and Cypriot virgin olive oil samples by  $^{31}\text{P}$  NMR spectroscopy*. 2009.
35.  *$^{31}\text{P}$  NMR assignment of phosphorylated polyphenols-containing model compounds in oregano*. 2010.
36.  *$^{13}\text{C}$  NMR spectral assignment of sugar-containing honey model compounds*. 2011.

#### **RESEARCH GRANTS (in euro)**

1. Research Committee of the University of Crete, 8.200,00, 1988-1992
2. Greek Ministry of Research and Technology, 10.200,00, 1991-1993
3. NATO Collaborative Research Grants(CRG.910406), 3.500,00, 1992-1993
4. Joint Research and Technology Program Greece-Britain, 3.000,00, 1992-1993
5. NATO Advanced Study Institute, 51.357,30,1993-1994
6. British Council, 4.500,00, 1994-1996
7. NATO Science for Stability, 46.955,25, 1992-1996.
8. Greek Ministry of Research and Technology, 23.477,62, 1995-1997.
9. NATO Collaborative Research Grants (CRG.960593), 4.108,58, 1996-1998
10. Joint Research and Technology Program Greece-Britain, 8.804,11, 1998-2000
11. PABE 1997 (Cooperation with the Industry), 55.465,88, 1997-1999.
12. Scientific Exchange programme CNRS-NHRF, 3.000,00, 1998-1999.
12. Joint Research and Technology Program Greece-France, 9.684,52, 1999-2001
13. Greek Ministry of Research and Technology, 52.824,65, 1999-2001
15. TMR (Marie Curie Fellowships), 34.923,00, 2000-2001.
16. MINERVA A.E., 30.500, 2003-2005.
17. Hraklitos, Greek Ministry of Education, 33.421,00, 2004-2006.
18. Industrial Competitiveness (EPAN), 192.000,00, 2004-2006
19. Regional Pole of Innovation for Value Creation, 385.000,00, 2006-2008.
20. State General Laboratory (Cyprus), 4.325,00, 2008-2009.
21. Hellenic Petroleum refineries, 8.000,00, 2010-2012
22. Motor Oil refineries, 7.000,00, 2010-2012
23. THALES-ESPA (EU-GREECE program), 600.000, 2012-2015

## RESEARCH INTERESTS

### NMR spectroscopy

- Rotational dynamics of small and medium sized molecules.
- Relaxation studies on the conformational dynamics of naturally occurring oligo- and polysaccharide molecules in dilute solutions.
- Liquid and solid state relaxation studies on the microstructure, morphology, and chain local motions of industrial synthetic polymers.
- Multi-nuclear and multi-dimensional NMR techniques for the structure elucidation and the conformational dynamics of natural products
- Food analysis, quality control and authentication (e.g. olive oil, wine, honey).
- Development of new analytical NMR methods (e.g.  $^{31}\text{P}$  NMR spectroscopy).
- NMR based metabonomics and chemometrics

### History and philosophy of science

- History of Physical Sciences, 18th-20th centuries.
- Philosophy of Physical Science

## REVIEWER

General Secretariat for Science and Technology of Greece, Greek Ministry of Education, Carbohydrate Research, Journal Polymer Science Polymer Physics Edition, Macromolecules, Biomacromolecules, Langmuir, International Journal of Biology, Journal of Colloid and Interface Science, Journal of Agricultural and Food Chemistry, Food Additives and Contaminants, Magnetic Resonance in Chemistry, Analytical Chemistry, Analytica Chimica Acta, Italian Journal of Food Science, Food Chemistry, Nutrient, Molecules, European Journal of Lipid Science and Technology, Journal of the American Oil Chemists' Society, Journal of AOAC International, Talanta, Analytical Methods, Chemometrics and Intelligent Laboratory Systems, Journal of Oleo Science, Analytical Letters, Agricultural Journal, Food Biophysics, Analyst, Journal of Pharmaceutical and Biomedical Analysis, Comprehensive Reviews in Food Science and Food Safety, Food Research International, Fuel, Journal of AOAC International, Phytochemical Analysis. Food Control, Grasas y Aceites, LWT-Food Science and Technology, Phytochemical Analysis. Substanti, Studies in History and Philosophy of Science.

## BIBLIOMETRIC REPORT

Research articles: 118

Review articles and book chapters: 14

*h*-Index : 30

Citations : 2992

Without self citations: 2662

Average citation per item : 23,75

Journal average impact factor : 4.33

## PUBLICATIONS

### Dissertations

1. Photis Dais. *Carbon-13 spin-lattice relaxation and dynamic behaviour of p-benzophenone carboxylate esters*, Master thesis.
2. Photis Dais *Rotational dynamics of molecules containing hydrocarbon chains and/or phenyl groups*. Ph.D. thesis.

### Books

*Spectroscopy (in Greek)*, Hellenic Open University, 1999.

*NMR Spectroscopy in Food analysis*, RSC Publishing, 2013.

### Papers in refereed journals

1. Photis Dais and G.A. Gregoriou. Salt effects in solvolysis. 1. Some salt effects in the solvolysis of 2-octyl methanesulfonate in 30% aqueous dioxane. *Tetrahedron Lett.* 1974, 3827-3830.
2. W.F. Reynolds, Photis Dais, A. Mar, and M.A. Winnik. Viscosity effects on the internal motion of alkane chains. *JCS Chem. Commun.* 1976, 757-759.
3. C.M. Paleos and Photis Dais. Ready reduction of some nitroxide free radicals with ascorbic acid., *JCS Chem. Commun.* 1976, 345-346.
4. C.M. Paleos and Photis Dais. Polymerization of oriented monomers. II. Polymerization of 4-Vinylpyridine perchlorate in micellar aggregates. *J. Polym. Sci., Polym. Chem. Ed.* 1978, 16, 1495-1503.
5. M.A. Winnik, A. Mar, W.F. Reynolds, Photis Dais, B.Clin, and B. Causade. The NMR spectra of normal alkane and the conformation of linear hydrocarbons in aromatic solvents. *Macromolecules* 1979, 12, 257-260.
6. C.M. Paleos, Photis Dais, and G.P. Evagelatos. Polymerization of Vinylpyridinium salts. III. Further studies on the interfacial and isotropic polymerization of 4-Vinyl-N-pyridinium methylsulfate. *J. Polym. Sci. Polym. Chem. Ed.* 1979, 17, 1611-1618.
7. G.A. Gregoriou, H. Kakouri, Photis Dais, and A. Matinopoulos. The question of the measure of electrolytes in organic reactions. Calculation of activity coefficients of electrolytes in solvolytic media. *JCS Perkin II* 1979, 1552-1557.
8. Photis Dais, V. Gibbs, G.A. Kenny-Wallace, W.F. Reynolds Molecular relaxation processes in very dilute fluids: A carbon-13 NMR study of alcohols in alkanes. *Chem. Phys.* 1980, 47, 407-415.
9. C.M. Paleos, S. Voliotis, G. Margomenou-Leonidopoulou, and Photis Dais. Polymerization of oriented monomers. V. Radiation-induced polymerization of 3N-dodecyl-1-vinyl imidazolium iodide in micellar aggregates. *J. Polym. Sci. Polym. Chem. Ed.* 1980, 18, 3463-3468.
10. W.F. Reynolds, Photis Dais, D.W. McIntyre, G.K. Hamer, and I.R. Peat. Concerning the relative merits of single and dual substituent parameter scales for the interpretation of substituent-induced-chemical shifts in styrene derivatives. *J. Magn. Reson.* 1981, 43, 81-89.
11. W.F. Reynolds, Photis Dais, R.W. Taft, and R.S. Topson. The response of substituents to pi-electron demand. *Tetrahedron Lett.* 1981, 22, 1795-1798.
12. Photis Dais and A.S. Perlin. High field carbon-13 NMR spectroscopic observation on  $\beta$ -D-Glucans amylopectine and glycogen. *Carbohydr. Res.* 1982, 100, 103-116.
13. Photis Dais and A.S. Perlin. Orientation of hydroxyl groups. Conformational studies on 2,3:5,6-di-O-Isopropylidene- $\alpha$ -D-mannofuranose by NMR spectroscopy. *Can. J. Chem.* 1982, 60, 1648-1656.
14. C.M. Paleos, G. Margomenou-Leonidopoulou, S.E. Philipakis A. Malliaris, and Photis Dais. Thermotropic liquid crystalline polymers. II. Further examples on their synthesis by the interaction of poly(acryloyl chloride) with mesogenic compounds. *J. Polym. Sci., Polym. Chem. Ed.* 1982, 20, 2267-2275.
15. Photis Dais and A.S. Perlin. An examination of carbon-13 and proton-chemical shifts in relation to the conformational stabilities of D-glucopyranose disaccharides and polysaccharides. *Carbohydr. Res.* 1982, 107, 263-269.
16. C.M. Paleos, C. Christias, G.P. Evagelatos, and Photis Dais. Polymerization of oriented monomers. VI. Polymerization of monomeric Di(undecyl) phosphate vesicles to stable polymeric vesicles. *J. Polym. Sci. Polym. Chem. Ed.* 1982, 20, 2565-2573.



17. W.F. Reynolds, Photis Dais, D.W. McIntyre, R.D. Topson, S. Marriot, E. von Nagy-Felsobuki, and R.W. Taft. Nature of  $\pi$ -electron-transfer effects in organic system with varying  $\pi$ -electron demand. *J. Am. Chem. Soc.* 1983, 105, 378-384.
18. Photis Dais and A.S. Perlin. Motional behaviour of 2,3:5,6-di-O-isopropylidene- $\alpha$ -D-mannofuranose in solution. A  $^{13}\text{C}$  spin-lattice relaxation study. *Can. J. Chem.* 1983, 61, 1542-1548.
19. Photis Dais, W.F. Reynolds and M.A. Winnik. Aggregation of the n-alkyl esters of benzo phenone-4-carboxylic acid in acetonitrile. A  $^{13}\text{C}$  NMR study. *J. Colloid. Interf. Sci.* 1983, 94, 336-342.
20. Photis Dais, T.K. Shing, and A.S. Perlin. Proton spin-lattice relaxation rates and Nuclear Overhauser Enhancement, in relation to the stereochemistry of  $\beta$ -D-mannopyranose-1, 2-ortho acetates. *Carbohydr. Res.* 1983, 122, 305-313.
21. Photis Dais, T.K. Shing, and A.S. Perlin. A study of disaccharide conformation by measurements of nuclear Overhauser enhancement, relaxation rates and carbon-proton coupling constants. 1, 6-anhydro- $\beta$ -cellobiosane hexaacetate. *J. Am. Chem. Soc.* 1984, 106, 3082-3089.
22. C.M. Paleos and Photis Dais. Polymerization of allyldimethyldodecylammonium bromide crystalline monomer to its liquid crystalline monomer. *Recent Advances in Liquid Crystalline Polymers*, Applied Science, Polymer Publishers 1984, 89-90.
23. C.M. Paleos, Photis Dais and A. Malliaris. Polymerization of allyldimethyldodecyl ammonium bromide in micellar and isotropic media. *J. Polym. Sci. Polym. Chem. Ed.* 1984, 22, 3383-3391.
24. Photis Dais and A.S. Perlin. Stabilization of the  $\beta$ -furanose form, and kinetics of the tautomerization of D-fructose in dimethylsulfoxide. *Carbohydr. Res.* 1985, 136, 215-223.
25. D. Babilis, Photis Dais, L. H. Margaritis, and C.M. Paleos. Polymerization of oriented monomers. VIII. Polymerization of allyl and diallyl vesicle forming quaternary ammonium salts. *J. Polym. Sci. Polym. Chem. Ed.* 1985, 23, 1089-1098.
26. Photis Dais and A.S. Perlin. Relaxation and related proton NMR studies on asperlin. Configuration and conformation of the epoxypropyl side-chain. *Can. J. Chem.* 1985, 63, 1009-1012.
27. Photis Dais. A Carbon-13 NMR relaxation study on amylose in dimethylsulfoxide. *Macromolecules* 1985, 18, 1351-1354.
28. D. Babilis, C.M. Paleos, and Photis Dais. Polymerization of allyl and diallyl vesicles forming quaternary ammonium salts. *ACS Polym. Prepr.* 1985, 26, 206-208.
29. Photis Dais and A.S. Perlin. Chemical shifts of the methyl groups in di-O-isopropylidene furanoses, and their relationship to molecular conformation and site of ring fusion. Spin-lattice relaxation measurements, and motional characteristics. *Carbohydr. Res.* 1986, 146, 177-191.
30. Photis Dais and G. Fainos. Motional behaviour of asperlin in solution. A Carbon-13 spin-lattice relaxation study. *Can. J. Chem.* 1986, 64, 560-565.
31. Photis Dais. Rotational dynamics of molecules containing phenyl groups. A Carbon-13 spin-lattice relaxation study. *Magn. Reson. Chem.* 1987, 25, 141-146.
32. Photis Dais. Carbon-13 magnetic relaxation and local chain motion of amylose in dimethylsulfoxide. *Carbohydr. Res.* 1987, 160, 73-93.
33. Photis Dais, Q.J. Peng, and A.S. Perlin. A relationship between  $^{13}\text{C}$  chemical shift displacement and counterion condensation theory in the binding of calcium ion by heparin. *Carbohydr. Res.* 1987, 168, 163-179.

34. Photis Dais, Q.J. Peng, and A.S. Perlin. Binding of magnesium and lanthanum ions to heparin in the presence of sodium ions. A relationship between  $^{13}\text{C}$  chemical shift displacements and counterion condensation theory. *Can. J. Chem.* 1987, 65, 1739-1745.
35. A. Malliaris, C.M. Paleos and Photis Dais. Effects of fictionalisation on aggregational and organizational characteristics of the sodium salts of N-dodecylsuccinamic and N-dodecylmaleamic acids. *J. Phys. Chem.* 1987, 91, 1149-1152.
36. C.M. Paleos, A. Malliaris, and Photis Dais. Effects of the position of the double bond on the polymerisation of micelle forming quaternary ammonium salts. *ACS Polymer Preprints* 1987, 28, 434-435.
37. Photis Dais and A. S. Perlin. Intramolecular hydrogen bonding and solvation contributions to the relative stability of the  $\beta$ -furanose form of D-fructose in dimethylsulfoxide. *Carbohydr. Res.* 1987, 169, 159-169.
38. Photis Dais and A.S. Perlin. Study of disaccharide conformation by one- and two-dimensional NMR spectroscopy. 1,6-anhydromaltose-hexaacetate. *Magn. Reson. Chem.* 1988, 26, 373-379.
39. Photis Dais and A.S. Perlin. Assignment of the O-acetyl carbonyl carbons of cellulose triacetate via 2D long-range proton-carbon chemical shift correlation data. *Carbohydr. Res.* 1988, 181, 233-235.
40. D. Babilis, C.M. Paleos, and Photis Dais. Polymerisation of oriented monomers. IX. Further studies on the polymerisation and vesicular properties of allyl and diallyl based monomeric and polymerized quaternary ammonium salts. *J. Polym. Chem. Polym. Chem. Ed.* 1988, 26, 2141-2156.
41. Photis Dais, K.R. Holme, and A.S. Perlin. A carbon-13 NMR study of selectivity in the binding of univalent counterions by heparin. *Can. J. Chem.* 1988, 66, 2601-2604.
42. A. Kokkinia, C.M. Paleos, and Photis Dais. Liquid crystalline character of novel main chain oligophosphates bearing lipophilic and/or mesogenic moieties. *ACS Polym. Preprints* 1989, 30, 448-449.
43. Photis Dais. Rotational dynamics of flexible-chain molecules.  $^{13}\text{C}$  NMR relaxation study of hydrocarbon chains attached to a heavy anchor. *Magn. Reson. Chem.* 1989, 27, 61-67.
44. D. Tsiourvas, C.M. Paleos, and Photis Dais. Functionalized polymers derived from the reaction of polymaleic anhydride with amines and alcohols. *J. Appl. Polym. Sci.* 1989, 38, 257-264.
45. Photis Dais and A. S. Perlin. Carbon-13 spin-lattice relaxation study of solvent effects on the rotational dynamics of methyl glucosides. *Carbohydr. Res.* 1989, 194, 288-295.
46. Photis Dais, M.H. Nedeia, F.G. Morin, and R.H. Marchessault.  $^{13}\text{C}$  spin lattice relaxation and chain local motions in dissolved poly( $\beta$ -hydroxybutyrate). *Macromolecules* 1989, 22, 4208-4212.
47. J. Michas, C.M. Paleos, and Photis Dais. Polymerisation of head and tail methacrylate micelle forming surfactants and thermotropic liquid crystalline character of these monomers and their polymers. *Liquid Cryst.* 1989, 5, 1737-1745.
48. C.M. Paleos, D. Tsourvas, and Photis Dais. Mesomorphic-like character of long-chain amine salts formed by template neutralization on polyacids. *Liquid Cryst.* 1989, 5, 1747-1755.
49. M. Jaseja, A.S. Perlin, and Photis Dais. A 2D NMR spectral study of the tautomeric equilibria of D-fructose and related compounds. *Magn. Reson. Chem.* 1990, 28, 283-289.
50. A. Tsatsakis and Photis Dais.  $^1\text{H}$  NMR structural studies of some naphthalene hydroxy methyl and mercaptomethyl acetic acid compounds and derivatives. *Magn. Reson. Chem.* 1990, 28, 375-377.
51. A. Kokkinia, C.M. Paleos, and Photis Dais. Liquid crystal character of novel main chain oligophosphates bearing lipophilic and/or mesogenic moieties. *ACS Symposium Series.* 1990, 93-101.

52. D. Tsiourvas, C.M. Paleos, and Photis Dais. Further studies on homopolymers and copolymers resulting from the reaction of polymaleic anhydride with alcohols and amines. *J. Polym. Sci., Polym. Chem. Ed.* 1990, 28, 1263-1271.
53. A. Kokkinia, C.M. Paleos, and Photis Dais. Liquid crystalline behaviour of some bipolar quaternary and phosphate amphiphiles. *Mol. Cryst. Liquid Cryst.* 1990, 186, 239-250.
54. Photis Dais. Carbon-13 spectra of polybutadienes in the presence of binuclear shift reagents. *Makromol. Chem. Rapid Commun.* 1990, 11, 299-302.
55. Photis Dais, M.H. Nedeia, F.G. Morin, and R.H. Marchessault. Effects of internal librational motions on the  $^{13}\text{C}$  nuclear magnetic resonance relaxation times of poly( $\beta$ -hydroxybutyrate) in tetrachloroethane solution. *Macromolecules* 1990, 23, 3387-3388.
56. Photis Dais. Conformational properties of para monosubstituted benzophenones.  $^{13}\text{C}$  NMR and molecular modelling studies. *Z. Phys. Chem. Neue Folge Bd. 1* 1990, 168, 43-53.
57. Photis Dais and R.H. Marchessault.  $^{13}\text{C}$  nuclear magnetic relaxation of amylose and dynamic behaviour of hydroxymethyl group of polysaccharides. *Macromolecules* 1991, 24, 4611-4614.
58. D. Pissas, Photis Dais, and F. Sauriol. Two-Dimensional NMR and  $^{13}\text{C}$  spin-lattice relaxation study of 3-fluorenicarboxylate methyl ester. *Magn. Reson. Chem.* 1991, 29, 1181-1190.
59. A. Spyros and Photis Dais. Structure and dynamics of poly(1-naphthyl acrylate) in solution by  $^{13}\text{C}$  NMR spectroscopy. *Macromolecules* 1992, 25, 1062-1067.
60. M.E. Nedeia, R.H. Marchessault, and Photis Dais.  $^{13}\text{C}$  nuclear magnetic relaxation and dynamic behaviour of poly( $\beta$ -hydroxybutyrate) in chloroform solution. *Polymer* 1992, 33, 1831-1835.
61. C.M. Paleos, G. Nika, A. Malliaris, and Photis Dais. Aggregational behaviour of polymeric micelles of methacrylate functionalized quaternary ammonium salts. *Progr. Coll. & Polym. Sci.* 1992, 89, 122-125.
62. Photis Dais, M.E. Nedeia, and R.H. Marchessault. Chain segmental motion of poly( $\beta$ -hydroxybutyrate-co- $\beta$ -hydroxyvalerate) in chloroform solution. *Polymer* 1992, 33, 4288-4291.
63. Photis Dais, C.M. Paleos, G. Nika, and A. Malliaris. Positional effects of the methacrylate group on polymerisation and microstructure of micelle-forming quaternary ammonium salts studied by NMR spectroscopy. *Makromol. Chem.* 1993, 194, 445-450.
64. T. Radiotis, A. Spyros, and Photis Dais. Microstructure determination of poly(1-naphthylalkyl methacrylates) by NMR spectroscopy. *Polymer* 1993, 34, 1846-1849.
65. T. Radiotis, G.R. Brown, and Photis Dais.  $^{13}\text{C}$  nuclear magnetic relaxation and chain local motions of poly(vinyl chloride) in dibutylphthalate and tetrachloroethane solutions. *Macromolecules* 1993, 26, 1445-1452.
66. Photis Dais.  $^{13}\text{C}$  nuclear magnetic relaxation and motional behaviour of polysaccharide molecules in solution. *5th European Conference on Spectroscopy of Biological molecules*, Kluwer Academic Publishers, 1993, 217-221.
67. D. Pissas, Photis Dais, and E. Mikros. Quantitative treatment of the rotational dynamics of flexible-chain molecules.  $^{13}\text{C}$  NMR relaxation study of hydrocarbon chains attached to the fluorine anchor. *Magn. Reson. Chem.* 1994, 32, 263-275.
68. A. Spyros, Photis Dais, and F. Heatley. Assignment of the  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra and stereochemical analysis of radical-initiated poly(1-naphthylmethyl acrylate) and poly(2-(1-naphthyl)ethyl acrylate). *Makromol. Chem. Phys.* 1994, 195, 3271-3279.

69. Photis Dais A quantitative approach to describe the overall motion of monosaccharide molecules in solution.  $^{13}\text{C}$  NMR relaxation study of 1,6-anhydro- $\beta$ -D-glucopyranose in dimethyl sulfoxide. *Carbohydr. Res.* 1994, 263, 13-24.
70. A. Spyros, Photis Dais, and F. Heatley. Chain segmental motion and side chain internal rotations of poly(1-naphthylalkyl acrylate)s in solution studied by  $^{13}\text{C}$  nuclear magnetic relaxation. *Macromolecules* 1994, 27, 5845-5857.
71. A. Spyros, Photis Dais, and F. Heatley. Viscosity dependence of chain segmental motion and side chain internal rotation of poly(1-naphthylmethyl acrylate) in dilute solution.  $^{13}\text{C}$  nuclear magnetic relaxation study. *Macromolecules* 1994, 27, 6207-6215.
72. A. Spyros and Photis Dais. Composite spectral density functions for the interpretation of the  $^{13}\text{C}$  NMR relaxation behaviour of polymers containing hydrocarbon side chains. Free and restricted side chain motion. *J. Polym. Sci. Polym. Phys. Ed.* 1995, 33, 353-365.
73. A. Spyros, Photis Dais, and R.H. Marchessault. Local chain motions of poly( $\beta$ -hydroxy octanoate) in the bulk.  $^{13}\text{C}$  NMR relaxation study. *J. Polym. Sci. Polym. Phys. Ed.* 1995, 33, 367-378.
74. E. Tylianakis, Photis Dais, I. Andre, and F. Taravel. Rotational dynamics of linear polysaccharides in solution.  $^{13}\text{C}$  Relaxation study on amylose and inulin. *Macromolecules* 1995, 28, 7962-7966.
75. E. Mikros, Photis Dais, and F. Sauriol. Conformation analysis of asperlin by NMR spectroscopy and molecular modeling. *Carbohydr. Res.* 1996, 294, 1-13.
76. E. Tylianakis, Photis Dais, F. Heatley. Non-Kramers behavior of PVC in dilute solutions as detected by  $^{13}\text{C}$  NMR relaxation experiments. *J Polym. Sci.: Part B: Polym. Phys.* 1997, 35, 317-329.
77. E. Tylianakis, A. Spyros, Photis Dais, F. Taravel, and A. Perico NMR study of the rotational dynamics of linear homopolysaccharides in dilute solutions as a function of linkage position and stereochemistry. *Carbohydr. Res.* 1999, 315, 16-34.
78. A. Perico, M. Mormino, R. Urbani, A. Cesaro, E. Tylianakis, Photis Dais, and D. Brant. Local dynamics of carbohydrates: I. Dynamics of simple glucans with different chain linkages as a function of temperature and magnetic field. *J. Phys. Chem. B* 1999, 103, 8162-8171.
33333379. A. Spyros and Photis Dais. Application of  $^{31}\text{P}$ -NMR spectroscopy in food analysis. Quantitative determination of the mono and diglycerides composition of olive oils. *J. Agric. Food Chem.* 2000, 48, 802-805.
80. T. Kupka, G. Pasterna, M. Jaworska, A. Karali, and Photis Dais. Molecular Orbital GIAO NMR calculations for carbazole and its N-methyl and ethyl derivatives. Comparison of theoretical and experimental  $^{13}\text{C}$  chemical shifts. *Magn. Reson. Chem.* 2000, 38, 149-155.
81. A. Karali, G. Frudakis, Photis Dais, and F. Heatley. Complete assignment of  $^1\text{H}$ - and  $^{13}\text{C}$ -NMR spectra of Poly(N-vinylcarbazole). *Macromolecules* 2000, 33, 3180-3183.
82. A. Karali, Photis Dais, and F. Heatley. Carbon-13 Nuclear Magnetic Relaxation Study of Solvent Effects on Chain Local Dynamics of Poly(N-vinylcarbazole) in Dilute Solution. *Macromolecules* 2000, 33, 5524-5531.
83. S. Christophoridou, A. Spyros, and Photis Dais.  $^{31}\text{P}$ -Nuclear Magnetic Resonance Spectroscopy of polyphenol-containing olive oil model compounds. *Phosphorous, Sulfur and Silicon & the Related Elements* 2001, 170, 139-157.
84. S. Vlachou, A. Politou, Photis Dais, and F. Taravel. Structure and dynamics of the branched polysaccharide schleroglucan in dilute solutions studied by 1D and 2D NMR spectroscopy. *Carbohydr. Polym.* 2001, 46, 349-363.

85. A. Karali, Photis Dais, E. Mikros, and F. Heatley. Conformational Analysis of Poly (N-vinylcarbazole) by NMR Spectroscopy and Molecular Modeling. *Macromolecules* 2001, 34, 5547-5554.
86. F. Heatley A. Karali, and Photis Dais. An investigation of  $^1\text{H}$  and  $^{13}\text{C}$  longitudinal relaxation and relaxation in the rotating frame in solid poly(N-vinylcarbazole). *Polym. Int.* 2001, 50, 1004-1009.
87. I. Kanetakis and Photis Dais. Critical comparison of two models describing segmental dynamics of polymer chains in dilute solutions. *Macromol. Theory Simul.* 2001, 10, 789-794.
88. S. Vlachou, Photis Dais, and F. Taravel. Segmental Dynamics of Pullulan.  $^{13}\text{C}$  Nuclear Magnetic Relaxation study in dilute solutions. *Biomacromolecules* 2001, 2, 1137-1147.
89. P. Fronimaki, A. Spyros, S. Christophoridou, and Photis Dais. Determination of the diglycerides Content in Greek virgin olive oils, and some commercial olive oils employing  $^{31}\text{P}$  NMR spectroscopy. *J. Agric. Food Chem.* 2002, 50, 2207-2213.
90. I. Stefanaki, E. Foufa, A. Tsatsou-Dritsa, and Photis Dais. Ochratoxin A concentrations in Greek domestic wines and dried vine fruits determined by immunoaffinity clean-up and high performance liquid chromatography. *Food Additives and Contaminants* 2003, 20, 74-83.
91. G. Vigli, A. Philippidis, A. Spyros, and Photis Dais. Classification of edible oils by employing  $^{31}\text{P}$  and  $^1\text{H}$  NMR Spectroscopy in combination with multivariate statistical analysis. A proposal for detection of seed oils adulteration in virgin olive oils. *J. Agric. Food Chem.* 2003, 51, 5715-5722.
92. A. Spyros, A. Philippidis, and Photis Dais. 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. *J. Agric. Food Chem.* 2004, 52, 157-164.
93. Photis Dais, E. Tylianakis, J. Kanetakis, and F. Taravel.  $^{13}\text{C}$  Nuclear magnetic relaxation study of segmental dynamics of hyaluronan in aqueous solutions. *Biomacromolecules* 2005, 6, 1397-1404.
94. G. Fragaki, A. Spyros, G. Siragakis, E. Salivaras, and Photis Dais. Detection of extra virgin olive oil adulteration with lampante olive oil and refined olive using NMR spectroscopy and multivariate statistical analysis. *J. Agric. Food Chem.* 2005, 53, 2810-2816.
95. S. Christoforidou, Photis Dais, Li-Hong Tseng, and M. Spraul. Separation and identification of phenolic compounds in olive oil by coupling high performance liquid chromatography with post-column solid phase extraction to nuclear magnetic resonance spectroscopy (LC-SPE- NMR). *J. Agric. Food Chem.* 2005, 53, 4667-4679.
96. I. Stefanaki, E. Mikros, G. Fragaki, and Photis Dais. Conformational analysis of ochratoxin A by NMR spectroscopy and molecular modeling. *J. Phys. Chem. B* 2005, 109, 16926-16936.
97. S. Christoforidou, and Photis Dais. A Novel Approach for Detection and Quantification of Phenolic Compounds in Olive Oil Based on  $^{31}\text{P}$  NMR spectroscopy. *J. Agric. Food Chem.* 2006, 54, 656-664.
98. Photis Dais, A. Spyros, S. Christophoridou, E. Hatzakis, G. Fragaki, A. Agiomyrgianaki, E. Salivaras, G. Siragakis, D. Daskalaki, M. Tasioula-Margari, M. Brenes. Comparison of quantitative  $^1\text{H}$  and  $^{31}\text{P}$  NMR spectroscopy with conventional methods of analysis for the determination of some olive oil constituents. *J. Agric. Food Chem.* 2007, 55, 577-584.
99. E. Hatzakis and Photis Dais. Determination of glycerol in wine using  $^{31}\text{P}$  NMR spectroscopy. *JAOCS* 2007, 84, 615-619.
100. E. Hatzakis, and Photis Dais. Moisture determination in olive oil by  $^{31}\text{P}$  NMR spectroscopy. *J. Agric. Food Chem.* 2008, 56, 1866-1862.

101. P. Petrakis, A. Agiomyrgianaki, S. Christophoridou, A. Spyros, P. Dais. Geographical characterization of Greek virgin olive oils (Cv. Koroneiki) using  $^1\text{H}$  and  $^{31}\text{P}$  NMR fingerprinting with canonical discriminant analysis and classification binary trees. *J. Agric. Food Chem.* 2008, 56, 3200–3207.
102. E. Hatzakis, A. Koidis, D. Boskou, and Photis Dais. Determination of Phospholipids in Olive Oil by  $^{31}\text{P}$  NMR Spectroscopy. *J. Agric. Food Chem.* 2008, 56, 6232–6240.
103. G. Fragaki, I. Stephanaki, E. Mikros, and P. Dais. Conformational analysis of the mycotoxin verrucarins A in solution by NMR spectroscopy and computational methods. *Magn. Reson. Chem.* 2008, 46, 1102–1111.
104. S. Christophoridou and Photis Dais. Detection and Quantification of Phenolic Compounds in Olive Oil by High Resolution  $^1\text{H}$  Nuclear Magnetic Resonance Spectroscopy. *Anal. Chim. Acta* 2009, 633, 283–292.
105. A. Agiomyrgianaki, P.V. Petrakis and P. Dais. Detection of refined hazelnut oil in refined olive oil by employing NMR spectroscopy and multivariate statistical analysis. *Talanta* 2010, 80, 2165–2171.
106. G. Dagounakis, E. Hatzakis and Photis Dais. A Facile NMR Method for the Quantification of Total Free and Esterified Sterols in Virgin Olive Oil. *Food Chem.* 2010, 122, 346–352.
107. E. Hatzakis, A. Agiomyrgianaki, and Photis Dais. Detection and quantification of free glycerol in virgin olive oil by  $^{31}\text{P}$  NMR spectroscopy. *J. Am. Oil Chem. Soc.* 2010, 87, 29–34.
108. E. Hatzakis, A. Agiomyrgianaki, S. Kostidis and Photis Dais. High-resolution NMR spectroscopy: An alternative fast tool for qualitative and quantitative analysis of diacylglycerol (DAG) oil. *J. Am. Oil Chem. Soc.* 2011, 88, 1695–1708.
109. A. Agiomyrgianaki, P. Petrakis and Photis Dais. Influence of harvest year, cultivar and geographical origin on Greek extra virgin olive oils composition: a study by NMR spectroscopy and biometric analysis. *Food Chem.* 2012, 135, 2561–2568.
110. A. Agiomyrgianaki and Photis Dais Simultaneous determination of phenolic compounds and triterpenic acids in oregano growing wild in Greece by  $^{31}\text{P}$  NMR spectroscopy. *Magn. Reson. Chem.* 2012, 50, 739–748.
111. A. Agiomyrgianaki, J. Sedman, F.R. van de Voort, and Photis Dais. *Cis* and *trans* components of lipids. Analysis by  $^1\text{H}$  NMR and silver shift reagents. *Eur. J. of Lipid Sci. Technol.* 2012, 114, 504–509.
112. E. Manolopoulou, A. Spinella, E. Caponetti, P. Dais, and A. Spyros. High resolution-magic angle spinning NMR study of olive leaves. In: *Magnetic Resonance in Food Science. Food for Thought*. J. van Duynhoven, P. S. Belton, G. A. Webb (Eds), Royal Society of Chemistry, 2013, pp. 164–170.
113. A. Orfanakis, E. Hatzakis, K. Kanaki, S.A. Pergantis, A.K. Rizos, and Photis Dais. Characterization of Polyglycerol Polyricinolate Formulations by Using a Combination of NMR Spectroscopy, Electrospray Mass Spectrometry, and Dynamic Light Scattering. *J. Am. Oil Chem. Soc.* 2013, 90, 39–51.
114. Photis Dais, M. Misiak, and E. Hatzakis. Analysis of marine dietary supplement using NMR Spectroscopy. *Analytical Methods* 2015, 7, 5226–5238.
115. A. Kazalaki, M. Misiak, A. Spyros and Photis Dais. Identification and quantitative determination of carbohydrate molecules in Greek honey by employing  $^{13}\text{C}$  NMR spectroscopy. *Analytical Methods* 2015, 7, 5962–5972.
116. E. Ralli, M. Amargianitaki, E. Manolopoulou, M. Misiak, G. Markakis, S. Tachtalidou, A. Kolesnikova, P. Dais and A. Spyros, NMR spectroscopy protocols for food metabolomics applications. *Springer Protocols: Metabolic profiling*, 2017, in press.

## History and Philosophy of Science

117. Photis Dais, The Stern-Gerlach experiment: the precursor of the electron spin? (in Greek) *Nefsis* 2017, 25, 71-101.

118. The double transfer of thermodynamics: from physics to chemistry and from Europe to America. *Studies in History and Philosophy of Science*, in Press.

## REVIEW ARTICLES / BOOK CHAPTERS

119. Photis Dais and A.S. Perlin. Proton spin-lattice relaxation rates in the structural analysis of carbohydrates molecules in solution. *Adv. Carbohydr. Chem. Biochem.* 1987, 45, 125-168. (Invited)

120. Photis Dais. Dynamic modeling of polysaccharides in solution. *NATO ASI Ser.* 1994, 87, 279-292.

121. Photis Dais.  $^{13}\text{C}$  nuclear magnetic relaxation of carbohydrate molecules in solution. *NATO ASI Ser.* 1994, 87, 263-278.

122. Photis Dais and A. Spyros.  $^{13}\text{C}$  relaxation and local chain dynamics of synthetic polymers in solution and in the bulk. *Progr. NMR Spectrosc.* 1995, 27, 555-633. (Πρόσκληση)

123. Photis Dais. Carbon-13 nuclear magnetic relaxation and motional behaviour of carbohydrate molecules in solution. *Adv. Carbohydrate Chem. Biochem.* 1995, 51, 63-131. (Πρόσκληση)

124. Photis Dais and A. Spyros.  $^{31}\text{P}$  NMR spectroscopy in the quality control and authentication of virgin olive oil. An Account of recent results. *Magn. Reson. Chem.* 2007, 45, 367-377.

125. Photis Dais and D. Boskou. Detection and quantification of phenolic compounds in olive oil, olives and biological fluids. In *Olive oil minor constituents and health*. D Boskou (ed.), CRC Press/Taylor & Francis group, Boca Raton, Chapter 5, 2008. (Πρόσκληση)

126. A. Spyros and Photis Dais.  $^{31}\text{P}$  NMR Spectroscopy in food analysis. *Progr. NMR Spectrosc.* 2009, 54, 195-207. (Πρόσκληση)

127. Photis Dais.  $^{31}\text{P}$  NMR spectroscopy on olive oil quality control and authentication. *INFORM* 2009, 20, 725-728. (Πρόσκληση)

128. Photis Dais. NMR measurements of free and esterified sterols. *Lipid Technology* 2010, 22, 274-276. (Πρόσκληση)

129. Photis Dais. Nuclear Magnetic Resonance: methodologies and applications. In: *Handbook of Olive oil: Analysis and Properties*. R. Aparicio, J. Hardwood (eds.), AOCS Press, Chapter 11, 2012.. (Πρόσκληση)

130. Photis Dais and A. Spyros. Nuclear Magnetic Resonance. In: *Chemical Analysis of Food: Techniques and Applications*. Y. Picó (ed.), Elsevier, Chapter 4, 2012. (Πρόσκληση)

131. Photis Dais and E. Hatzakis. Quality assessment and authentication of virgin olive oil by NMR spectroscopy: a critical review. *Anal. Chim. Acta.* 2013, 765, 1-27. (Πρόσκληση).

132. P. Dais, E. Hatzakis, Analysis of Bioactive microconstituents in olives, olive oil, and olive leaves by NMR spectroscopy. An overview of the last decade. In: *Analysis and Characterization of Bioactives in Olea Europaea. A challenge for Analytical Chemistry*, D. Boskou (ed.), AOCS Press, Chapter 10, 2015. (Πρόσκληση).

## PARTICIPATION IN CONFERENCES

1. **Photis Dais**, W.F. Reynolds, M.A. Winnik, and A. Mar  
*NMR studies on the conformation of linear hydrocarbons in aromatic solvents.*

61<sup>st</sup> Conference of the Technical Institute of Canada. Macromolecular Science Division, June 4-7, 1979, Winnipeg, Manitoba, Canada.

2. C.M. Paleos, **Photis Dais**, S. Voliotis and G. Margomenou-Leonidopoulou  
*Radiation induced polymerisation of 3N-dodecyl-1-vinylimidazolium iodide in micellar aggregates.*  
IUPAC, 26<sup>th</sup> International Symposium on Macromolecules, Sept. 17-21, 1979, Mainz, W. Germany.

3. C.M. Paleos and **Photis Dais**  
*Organic reactions in oriented systems.*  
4<sup>th</sup> Chemical Week, Nuclear Research Centre Demokritos, February 1979, Athens, Greece.

4. C.M. Paleos, G Margomenou-Leonidopoulou, S. E. Philipakis and **Photis Dais**  
*Further examples on liquid crystalline polymer synthesis by the interaction of poly(acryloylchloride) with mesogenic compounds.*  
IUPAC, 28<sup>th</sup> Macromolecular Symposium, July 12-16, 1982, Amherst, MA, USA.

5. C.M. Paleos and **Photis Dais**  
*Polymerisation of allyldimethyldodecylammonium bromide in micellar and isotropic media.*  
IUPAC MACRO83, Sept. 5-9, 1983, Bucharest, Romania.

6. **Photis Dais**  
Participation in the Discipline of Biomolecular stereodynamics. June 7-10, 1983, New York at Albany, USA.

7. **Photis Dais** and C.M. Paleos  
*Polymerisation of allyldimethyldodecylammonium bromide liquid crystalline monomer to its liquid crystalline polymer.*  
6<sup>th</sup> Workshop on Liquid Crystal Polymer Systems, Sept. 12-14, 1983, Bungby, Denmark.

8. **Photis Dais** and A.S. Perlin  
*Carbon-13 spin-lattice relaxation studies on carbohydrates in solution. Motional behaviour of asperlin.*  
67<sup>th</sup> Congress of the Chemical Institute of Canada, June 2-5, 1984, Montreal, Canada.

9. **Photis Dais** and A.S. Perlin  
*Stabilization of the  $\beta$ -furanose form and kinetics of the mutarotation of D-fructose in methylsulfoxide.*  
67<sup>th</sup> Congress of the Chemical Institute of Canada, June 2-5, 1984, Montreal, Canada.

10. D. Babilis, **Photis Dais** and C.M. Paleos  
*Polymerisation of allyl and diallyl vesicle forming quaternary ammonium salts.*  
ACS Symposium on Polymeric Surfactants, April 29-May 3, 1985, Miami, USA.

11. **Photis Dais**  
*Carbon-13 magnetic relaxation and local chain motions of amylose in solution.*  
69<sup>th</sup> Canadian Chemical Conference and Exhibition, June 3-6, 1986, Regina, Saskatchewan, Canada.

12. J. Michas, C.M. Paleos and **Photis Dais**  
*Polymerisation of head and tail methacrylate micelle forming surfactants and thermotropic liquid crystalline character of these monomers and their polymers.*  
12<sup>th</sup> International Liquid Crystal Conference, August 15-19, 1988, Freiburg, FRG.

13. C.M. Paleos, D. Tsiourvas and **Photis Dais**  
*Mesomorphic-like character of long-chain amine salts formed by template neutralization on polyacids.*  
12<sup>th</sup> International Liquid Crystal Conference, August 15-19, 1988, Freiburg, FRG.

14. **Photis Dais**  
Participation in the McGill Polymer Symposium on The Structure and Properties of High Performance Polymers, Sept. 22-23, 1988, Montreal, Canada.



# 15. Photis Dais

Participation in the Moot NMR Mini symposium, Sept. 25-26, 1988, Montreal, Canada.

# 16. F.G. Morin, M.H. Nedea, Photis Dais and R. H. Marchessault

*A survey of NMR relaxation data on poly ( $\beta$ -hydroxyalkanoates) (PHA).*

25<sup>th</sup> Canadian High Polymer Forum, August 23-25, 1989, Montreal, Canada.

# 17. A. Kokkinia, C.M. Paleos and Photis Dais

*Liquid crystalline behaviour of some bipolar quaternary and phosphate amphiphiles.*

International Conference of the Organic Solid State, July, 2-7, 1989, Como, Italy.

# 18. Photis Dais, A. Kokkinia and C.M. Paleos

*Liquid crystalline character of novel main-chain polyphosphates bearing lipophilic and/ or mesogenic moieties.*

198<sup>th</sup> American Chemical Society Meeting, Sept 11-15, 1990, Miami, Florida.

# 19. Photis Dais, M.H. Nedea, F.G. Morin and R. H. Marchessault

*$^{13}\text{C}$  spin-lattice relaxation and chain local motions of poly( $\beta$ -hydroxybutyrate) in tetrachloroethane.*

Greek-Italian Meeting on Chemistry of Biological Systems and Molecular Chemical Engineering, June 10-13, 1990, Loutraki, Greece.

# 20. Photis Dais, M.H. Nedea, F.G. Morin and R.H. Marchessault

*Rotational dynamics and chain local motions of poly ( $\beta$ -hydroxybutyrate) in solution.*

33<sup>rd</sup> IUPAC International Symposium in Macromolecules, July 8-13, 1990, Montreal, Canada.

# 21. A. Spyros and Photis Dais

*Structure and dynamics of poly (1-naphthyl acrylate) in solution by  $^{13}\text{C}$  NMR spectroscopy.*

13<sup>th</sup> Hellenic National Conference in Chemistry, October 21-25, 1991, Athens

# 22. D. Pissas, Photis Dais and F. Sauriol

*$^{13}\text{C}$  magnetic relaxation and dynamic behaviour of the methyl ester of fluorene-3-carboxylic acid.*

13<sup>th</sup> Hellenic National Conference in Chemistry, October 21-25, 1991, Athens.

# 23. Photis Dais, D. Pissas, and F. Sauriol

*1D and 2D NMR spectra of the methyl ester of fluorene-3-carboxylic acid.*

13<sup>th</sup> Hellenic National Conference in Chemistry, October 21-25, 1991, Athens.

# 24. Photis Dais and R.H. Marchessault

*$^{13}\text{C}$  nuclear magnetic resonance relaxation of amylose and dynamic behaviour of the hydroxymethyl group.*

4<sup>th</sup> Chemical Congress of North America, August 25-30, 1991, New York, USA.

# 25. A Spyros and Photis Dais

*Structure and dynamics of poly (1-naphthyl acrylate) in solution by carbon-13 NMR spectroscopy.*

27<sup>th</sup> Europhysics Conference on Macromolecular Physics, Sept.23-27, 1991, Iraklion, Crete, Greece.

# 26. G. Nika, C.M. Paleos, A. Malliaris and Photis Dais

*Aggregation of polymeric micelles of methacrylate functionalized quaternary ammonium salts.*

5<sup>th</sup> European Colloid and Interface Society Conference, Sept.25-28, 1991, Mainz, Germany.

# 27. D. Pissas, Photis Dais and E. Mikros

*Rotational dynamics of flexible chain molecules.  $^{13}\text{C}$  NMR relaxation study of n-alkyl esters of fluorene-3-carboxylic acid.*

26<sup>th</sup> Congress Ampere on Magnetic Resonance, Sept. 6-12, 1992, Athens, Greece.

# 28. A. Spyros, Photis Dais and R.H. Marchessault

*$^{13}\text{C}$  NMR spin-lattice relaxation and molecular dynamics in amorphous poly( $\beta$  hydroxyalkanoate)s.*

26<sup>th</sup> Congress Ampere on Magnetic Resonance, Sept.6-12, 1992, Athens, Greece.

29. T. Radiotis, **Photis Dais** and G.R. Brown

*<sup>13</sup>C nuclear magnetic relaxation and chain local motions of PVC in dibutylphthalate and tetrachloroethane solutions.*

76<sup>th</sup> Canadian Society for Chemistry Conference and Exhibition, Division: Macromolecular Science and Engineering, May 30-June 3, 1993, Sherbrooke, Quebec, Canada.

30. A. Spyros and **Photis Dais**

*Local chain dynamics of poly( $\beta$ -hydroxyalkanoate)s (PHA) in the bulk.*

NMR on Biological Macromolecules, NATO Advanced Institute Study, Aug. 23- Sept. 2, 1993, Colympari, Crete.

31. **Photis Dais**

*Dynamic modelling of polysaccharides in solution, NMR on Biological Macromolecules.*

NATO Advanced Institute Study, Aug. 23- Sept. 2, 1993, Colympari, Crete.

32. **Photis Dais**

*<sup>13</sup>C nuclear magnetic relaxation of carbohydrate molecules in solution, NMR on Biological Macromolecules.*

NATO Advanced Institute Study, Aug. 23-Sept. 2, 1993, Colympari, Crete.

33. **Photis Dais**

*<sup>13</sup>C nuclear magnetic relaxation and motional behaviour of polysaccharide molecules in solution.*

5<sup>th</sup> European Conference on the Spectroscopy of Biological Molecules, Sept. 5-10, 1993, Loutraki, Greece.

34. **Photis Dais**, A. Spyros, and F. Heatley

*Multifield, Temperature, and Viscosity Dependence of Local Motions in Poly(1-naphthylalkyl acrylate)s in Solution.*

1<sup>st</sup> European Symposium on Polymer Spectroscopy, July 20-22, 1994, Valladolid, Spain.

35. A. Spyros, **Photis Dais**, and R.H. Marchessault

*Local Segmental Dynamics and Side chain Motion of Poly( $\beta$ -hydroxyoctanoate) in the Amorphous State by <sup>13</sup>C Nuclear Magnetic Relaxation.*

International Symposium on Bacterial PHA, August 14-18, 1994, Montreal, Canada.

36. E. Tylianaklis and **Photis Dais**

*<sup>13</sup>C Nuclear magnetic relaxation and chain local motions of amylose in DMSO solutions.*

15<sup>th</sup> Hellenic National Conference in Chemistry, December 6-10, 1994, Thessaloniki, Greece.

37. I. Andre, F.R. Taravel, E. Tylianakis, and **Photis Dais**

*Rotational Dynamics of linear polysaccharides in solution . <sup>13</sup>C relaxation study of amylose and inulin.*

Eurocarb VIII, 8th European Carbohydrate Symposium, July 2-7, 1995, Seville, Spain

38. E. Tylianakis, **Photis Dais**, I. Andre, and F.R. Taravel

*Rotational Dynamics of linear polysaccharides in solution . <sup>13</sup>C relaxation study of amylose and inulin.*

12<sup>th</sup> Specialized Colloque Ampere, September 10-15, 1995, Corfu, Greece

39. E. Tylianakis, and **Photis Dais**

*Non-Kramers behavior of PVC in dilute solutions as detected by <sup>13</sup>C NMR relaxation experiments.*

16<sup>th</sup> Hellenic National Conference in Chemistry, December 5-8, 1995, Athens, Greece

40. I. Andre, F.R. Taravel, C. Gey, E. Tylianakis, and **Photis Dais**

*Dynamics of amylose and inulin in solution .*

13<sup>th</sup> European Experimental NMR Conference (EENC 96), May 19-24, 1996, Paris, France

41. **Photis Dais** and E. Tylianakis

*Chain local dynamics of PVC in dilute solutions by NMR spectroscopy. Polymer-plasticizer interactions.*

5<sup>th</sup> Conference of Chemistry Cyprus-Greece, September 4-7, 1996, Nicosia, Cyprus.

42. E. Tylianakis and **Photis Dais**

*<sup>13</sup>C magnetic relaxation studies of the local chain motions of the linear polysaccharides dextran and 1,3-glucan in dimethylsulfoxide and water solutions.*

16<sup>th</sup> Hellenic National Conference in Chemistry, December 1-4, 1996, Patra, Greece.

43. **Photis Dais**, E. Tylianakis, F.R. Taravel, A. Perico

*Motional dynamics of linear polysaccharides in solution as a function of linkage position and stereochemistry. <sup>13</sup>C NMR relaxation measurements and dynamic modeling.*

7<sup>th</sup> European Conference on Spectroscopy of Biological Molecules, September 7-12, 1996, Madrid, Spain.

44. **Photis Dais**, E. Tylianakis, F.R. Taravel, A. Perico

*Motional dynamics of linear polysaccharides in solution as a function of linkage position and stereochemistry. C-13 NMR relaxation measurements and dynamic modeling.*

XIX International Carbohydrate Symposium, August 9-14, 1998, San Diego, California, USA.

45. A. Karali, **Photis Dais**

*NMR spectral assignment and nuclear magnetic relaxation of the industrial polymer poly(N-vinylcarbazole).*

6<sup>th</sup> Conference of Chemistry Cyprus-Greece, September 2-5, 1999, Rhode, Greece.

46. **Photis Dais**, S. Christophoridou, A. Spyros

*Detection and quantification of polyphenol-containing olive oil model compounds by employing <sup>31</sup>P NMR spectroscopy.*

The 5<sup>th</sup> International Conference on Applications of Magnetic Resonance in Food Science, September 18-20, 2000, Aveiro, Portugal.

47. **Photis Dais**, A. Karali, F. Heatley

*Conformation and Chain Local Dynamics of Poly(N-vinylcarbazole) in Dilute Solutions by employing 1D and 2D NMR Spectroscopy.*

PACIFICHEM 2000, December 14-19, Honolulu, Hawaii, USA.

48. **Photis Dais**, A. Spyros, P. Fronimaki, S. Christoforidou

*Diglycerides, a useful index for the quality control of virgin olive oils.*

18<sup>th</sup> Hellenic National Conference in Chemistry, March 10-13, 2001, Piraeus.

49. A. Spyros, P. Fronimaki, S. Christoforidou, **Photis Dais**

*Classification of edible oils by employing NMR spectroscopy and chemometrics.*

18<sup>th</sup> Hellenic National Conference in Chemistry, March 10-13, 2001, Piraeus.

50. S. Christoforidou, A. Spyros, P. Fronimaki, **Photis Dais**

*NMR spectra of polyphenol-containing olive oil model compounds. A first approach to the determination of polyphenols in virgin olive oils.*

18<sup>th</sup> Hellenic National Conference in Chemistry, March 10-13, 2001, Piraeus.

51. **Photis Dais**

*Local dynamics of linear polysaccharides as a function of linkage position and stereochemistry by employing NMR spectroscopy and dynamic modeling.*

4<sup>th</sup> International Discussion Meeting on Relaxations in Complex Systems, June 17-23, 2001, Hersonissos, Heraklion, Crete.

52. **Photis Dais**, K. Fronimaki, A. Spyros, S. Christoforidou

*Determination of the diglycerides content in Greek virgin olive oils and some commercial olive oils by employing <sup>31</sup>P NMR spectroscopy.*

The 6<sup>th</sup> International Conference on Applications of Magnetic Resonance in Food Science, September 4-6, 2002, Paris, France.

53. G. Vigli, K. Fronimaki, A. Spyros, **Photis Dais**

*Classification of oils of different botanical origin by employing and NMR spectroscopy in combination with multivariate statistical analysis.*

The 6<sup>th</sup> International Conference on Applications of Magnetic Resonance in Food Science, September 4-6, 2002, Paris, France.

54. **Photis Dais**, S. Christophoridou, K. Fronimaki, A. Spyros

*A new methodology for quality control and authentication of virgin olive oil.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

55. I. Stephanaki, A. Tsatsou-Dritsa, **Photis Dais**

*Ochratoxin A Concentrations in Greek Domestic Wines and Dried Vine Fruits Determined by Immunoaffinity Clean-up and High Performance Liquid Chromatography.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

56. F. Michalopoulou, **Photis Dais**

*A new fast method for the diglycerides detection and quantitation in milk.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

57. G. Vigli, K. Fronimaki, **Photis Dais**

*Classification of oils of different botanical origin by employing and <sup>1</sup>H and <sup>31</sup>P NMR spectroscopy in combination with multivariate statistical analysis.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

58. A. Filippidis, **Photis Dais**

*Geographical classification of Greek virgin olive oils by employing NMR spectroscopy in combination with multivariate statistical analysis.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

59. S. Christoforidou, **Photis Dais**

*Quantitative determination of free and bound Tyrosol and Hydroxytyrosol in virgin olive oil by <sup>31</sup>P NMR spectroscopy. Useful indices for the oxidation stability of olive oil.*

19<sup>th</sup> Hellenic National Conference in Chemistry, November 6-10, 2002, Iraklion. Crete..

60. **Photis 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 oils adulteration in virgin olive oils.*

International Symposium the Olive tree and the environment, October 1-3, 2003, Chania, Crete.

61. **Photis 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.

62. **Photis Dais**, S. Christoforidou

*A Novel Approach for Detection and Quantification of Phenolic Compounds in Olive Oil Based on <sup>31</sup>P NMR Spectroscopy.*

3<sup>rd</sup> Euro Fed Lipid Congress, September 5-8, 2004, Edinburgh, Scotland.

63. **Photis Dais**, S. Christoforidou, Li-Hong Tseng, M. Spraul

*Identification of Phenolic Compounds in Olive Oil by Coupling Liquid Chromatography with Nuclear Magnetic Resonance Spectroscopy (LC NMR).*

The 7<sup>th</sup> International Conference on Applications of Magnetic Resonance in Food Science, September 13-15, 2004, Copenhagen, Denmark.

64. G. Fragaki, A. Spyros, G. Siragakis, **Photis 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.

65. **Photis Dais**, S. Christophoridou, M. Spraul

*A novel approach for separation and identification of phenolic compounds in olive oil by coupling high Performance liquid chromatography with post-column solid phase extraction to nuclear magnetic resonance spectroscopy (LC-SPE- NMR).*

Greek Lipid Forum, *Modern Trends in the Sector of Fats and Oils*, June 8-9, 2005, Athens, Greece.

66. Georgia Fragaki, **Photis Dais**

*<sup>1</sup>H and <sup>13</sup>C spectra of mycotoxins.*

20<sup>th</sup> Hellenic National Conference in Chemistry, September 20-24, 2005, Ioannina. Greece.

67. Vagia Tsironi, **Photis Dais**

*Detection and quantification of phenolic compounds in table olives with NMR spectroscopy.*

20<sup>th</sup> Hellenic National Conference in Chemistry, September 20-24, 2005, Ioannina. Greece.

68. **Photis Dais**, Georgia Fragaki, Apostolos 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.*

26<sup>th</sup> 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.

69. Emmanuel Hatzakis, **Photis Dais**

*A Novel Approach for Detection and Quantification of Glycerol in Olive Oil and Wine Based on <sup>31</sup>P NMR Spectroscopy.*

4<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA05), October 2-6, 2005, Heraklion, Crete, Greece.

70. Stella Christophoridou, **Photis Dais**

*A novel approach for detection and quantification of phenolic compounds in Olive Oil Based on <sup>31</sup>P NMR Spectroscopy.*

4<sup>th</sup> International Conference on Instrumental Methods of Analysis (IMA05), October 2-6, 2005, Heraklion, Crete, Greece.

71. **Photis Dais**

*<sup>31</sup>P NMR spectroscopy in authentication and quality assessment of extra virgin olive oil.*

4<sup>rd</sup> Euro Fed Lipid Congress, October 1-4 2006, Madrid, Spain.

72. **Photis Dais**

*Analysis of virgin olive oil by NMR spectroscopy.*

Days of Food Chemistry, December 16-17 2006, Thessaloniki, Greece.

73. **Photis Dais** and Emmanuel Hatzakis

*<sup>31</sup>P NMR spectroscopy in authentication and quality assessment of extra virgin olive oil.*

Trace Meeting, Traceability: Perspectives from science, supply chain and consumer, April 26-27, 2007, Hersonissos, Crete, Greece.

74. **Photis Dais** and Emmanuel Hatzakis

*Moisture determination in extra virgin olive oil by using <sup>31</sup>P NMR spectroscopy.*

Greek Lipid Forum, *Fats, oils, Lipids: Present and Future*, June 7-8, 2007, Athens, Greece.

75. **Photis Dais**

*<sup>31</sup>P NMR spectroscopy in the quality control and authentication of extra virgin olive oil*

98<sup>th</sup> AOCS Annual Meeting& Expo, May 13-16 2007, Quebec City, Quebec, Canada.

76. **Photis Dais** and Emmanuel Hatzakis

*Moisture determination in olive oil by  $^{31}\text{P}$  NMR spectroscopy.*

5<sup>th</sup> Euro Fed Lipid Congress, September 16-19, 2007, Gothenburg, Sweden.

**77. Photis Dais**

*$^{31}\text{P}$  NMR spectroscopy in authentication and quality assessment of extra virgin olive oil.*

5<sup>th</sup> Euro Fed Lipid Congress, September 16-19, 2007, Gothenburg, Sweden.

**78. E. Hatzakis, Photis Dais, A. Koidis, and D. boskou**

*Determination of Phospholipids in Olive Oil by  $^{31}\text{P}$  NMR Spectroscopy.*

6<sup>th</sup> Euro Fed Lipid Congress, September 07-10, 2008, Athens, Greece.

**79. A. Agiomyrgianaki, Photis Dais, and P. V. Petrakis**

*Classification of Greek olive cultivars based on compositional analysis of olive oils by NMR spectroscopy and multivariate statistical analysis.*

6<sup>th</sup> Euro Fed Lipid Congress, September 07-10, 2008, Athens, Greece.

**80. P. V. Petrakis, A. Agiomyrgianaki, and Photis Dais**

*On the classification of Greek oils (geographical and botanical origin): fatty acids and biophenols as markers and protection units.*

6<sup>th</sup> Euro Fed Lipid Congress, September 07-10, 2008, Athens, Greece.

**81. Photis Dais and S. Christophoridou**

*Detection and Quantification of Phenolic Compounds in Olive Oil by High Resolution  $^1\text{H}$  Nuclear Magnetic Resonance Spectroscopy. A proposal for on-line screening.*

6<sup>th</sup> Euro Fed Lipid Congress, September 07-10, 2008, Athens, Greece.

**82. A. Agiomyrgianaki, P. V. Petrakis and Photis Dais**

*Detection of the presence of refined hazelnut oil in refined olive oil by employing NMR spectroscopy and multivariate statistical analysis.*

Modern trends in the lipid field, Greek Lipid Forum, 3<sup>rd</sup> panhellenic Conference, June 15, 2009, Athens, Greece.

**83. E Hatzakis, A. Agiomyrgianaki, and Photis Dais**

*Quantitative determination of sterols in olive oil by using NMR spectroscopy*

10<sup>th</sup> Congress Greece-Cyprus, Chemical Awareness in the 21<sup>st</sup> Century, July, 2-4, 2009, Heraklion, Crete.

**84. Photis Dais**

*Έλεγχος ποιότητας και αυθεντικότητας παερθένου ελαιόλαδου. (2010).*

Υπουργείο Αγροτικής Ανάπτυξης & Τροφίμων, 1<sup>ο</sup> Συνέδριο Κρητική Διατροφή & Υγεία, 22-23 Μαΐου, Χανιά, Κρήτη.

**85. Photis Dais, Adreas Orfanakis, Emmanuel Hatzakis, Spyros Pergantis, Apostolos K. Rizos.**

*Characterization of polyglycerol polyricinolate formulations by using a combination of NMR spectroscopy, electrospray mass spectrometry, and dynamic light scattering.*

9<sup>th</sup> Euro Fed Lipid Congress, September 18-21, 2011, Rotterdam, Netherlands.

**86. Photis Dais. A. Agiomyrgianaki, P. V, Petrakis**

*Influence of harvest year, cultivar and geographical origin on Greek extra virgin olive oils composition: a study by NMR spectroscopy and biometric analysis.*

9<sup>th</sup> Euro Fed Lipid Congress, September 18-21, 2011, Rotterdam, Netherlands.

**87. Photis Dais**

*Characterization of olive oil with NMR spectroscopy.*

11<sup>th</sup> Conference Greece-Cyprus. October, 26-30 2011, Limassol, Cyprus.

**88. A. Spyros, Manolopoulou, Photis Dais, A. Spinella, E. Caponetti**

*High resolution-magic angle spinning NMR study of olive leaves*

11<sup>th</sup> International Conference in Magnetic Resonance in Food Science, June 26-29, 2012, Wageningen, Netherlands.

89. **Photis Dais**, A. Spyros

*NMR spectroscopy in food analysis-A short account of recent progress at the University of Crete.*

Bulding Trust through Authentic Food and Safety (BuTRaFoS), 29-31 October 29-31 2012, Limassol, Cyprus.

90. **Photis Dais**, A. Orfanakis, E. Hatzakis, K. Kanaki, S.A. Pergantis, A. Rizos

*Structure and morphology of the emulsifier polyglycerol ricinileate (PGPR)*

Recent trends in the field of lipids, Greek Lipid Forum, 5<sup>rd</sup> panhellenic Conference, March 29-30, 2013, Athens, Greece.

91. A. Spyros, **Photis Dais**, M. Amarhianitaki, Evangelia Ralli, Maria Miziak

*Small Molecule Analysis in Food: an Overview and Some Recent Applications*

Small Molecule NMR Conference (SMASH), September, 22 - 25, 2013, Santiago de Compostela, Spain.

92. **Photis Dais**, M. Amargianitaki, A. Spyros

*Assessment of Cretan wines maturation using NMR spectroscopy, sensory testing and chemometrics*

**105th AOCS Annual Meeting & Expo**, May 4-7 2014, San Antonio, Texas USA.

93. M. Amargianitaki, A. Spyros, **Photis 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, May, 20-23, 2014, Cesena, Italy.

94. E. Hatzakis, M. Misiak, **Photis Dais**

*Compositional Analysis of Encapsulated Fish Oil Supplements using Multinuclear and Multidimensional NMR Spectroscopy*

Small Molecule NMR Conference, September 7 - 10, 2014, Atlanta, Georgia, USA.

95. **Photis Dais**, M. Misiak, E. Hatzakis

*Compositional Analysis of Encapsulated Fish Oil Supplements using Multinuclear and Multidimensional NMR Spectroscopy*

13<sup>th</sup> Congress of the European Federation of Lipids, September 27-30, 2015, Florence, Italy.

96. Photis Dais

*The Stern-Gerlach experiment: Confirmation of a wrong theory*

9<sup>th</sup> Hellenic Conference of History, Philosophy and Didactics of Physical Sciences, 11-13 November 2016, Athens Greece

97 A. Spyros, M. Amargianitaki, E. Ralli, M. Miziak, **Photis Dais**

*Food quality control and authentication using NMR spectroscopy and metabolomics*

10<sup>th</sup> International Conference on Instrumental Methods of Analysis. Modern Trends and Applications. 17-21 September 2017, Heraklion, Crete, Greece.

## INVITED TALKS

1. *Rotational dynamics of small and medium sized molecules in solution*, (1982) University of Patras, Patra, Greece.

2. *<sup>13</sup>C NMR spectroscopy and microstructure determination of synthetic polymers*, (1982) University of Patras, Patra, Greece.

3. *Structure determination of organic molecules by using selective and nonselective <sup>1</sup>H spin-lattice relaxation rates*, (1983) Universite de Montreal, Montreal, Canada

4. *Structure determination of organic molecules by using selective and nonselective <sup>1</sup>H spin-lattice relaxation rates*, (1984) McGill University, Montreal, Canada.

5. *<sup>13</sup>C spin-lattice relaxation and chain local motions in polymer systems*, (1986) McGill University, Montreal, Canada.
6. *<sup>13</sup>C spin-lattice relaxation and chain local motions in polymer systems*, (1987) Pulp and Paper Institute, Montreal, Canada.
7. *Nuclear magnetic resonance and dynamic behaviour of macromolecules in solution*, (1989) University of Crete, Crete, Greece.
8. *Nuclear magnetic resonance and dynamic behaviour of macromolecules in solution*, (1989) N. R. C. Demokritos, Athens, Greece.
9. *Carbon-13 nuclear magnetic relaxation and rotational dynamics of synthetic and biological polymers in solution*, (1993) CEMAG, Genova, Italy.
10. *NMR spectroscopy: A short course of NMR theory and Application*, (Summer School 1993) N. R. C. Demokritos, Athens, Greece.
11. *Dynamic modelling of polysaccharides in solution, NMR on Biological Macromolecules*, (1993) NATO Advanced Institute Study, Colympari, Crete.
12. *<sup>13</sup>C nuclear magnetic relaxation of carbohydrate molecules in solution, NMR on Biological Macromolecules*, (1993) NATO Advanced Institute Study, Colympari, Crete.
13. *<sup>13</sup>C nuclear magnetic relaxation and motional behaviour of polysaccharide molecules in solution*, (1993) 5th European Conference on the Spectroscopy of Biological Molecules, Loutraki, Greece.
14. *NMR imaging in medicine* (1994) 15th Hellenic National Conference in Chemistry, Thessaloniki, Greece.
15. *NMR methods for the clinical diagnoses of diseases*, (Summer School 1995) N. R. C. Demokritos, Athens, Greece.
16. *Study of structure and morphology of synthetic polymer systems by employing liquid and solid state NMR spectroscopy*, (1995) 16th Hellenic National Conference in Chemistry, Athens, Greece.
17. *Structure, morphology and dynamics of synthetic polymeric systems. A short presentation of practical applications of the NMR spectroscopy*, (1996) 1st Symposium of the Institute of Physical Chemistry, Research and Chemical Industry, July 3-5, Research Center Demokritos, Athens.
18. *Structure and morphology of synthetic polymeric systems by employing liquid and solid state NMR spectroscopy*, (1996), University of Cyprus, Department of Natural Sciences, Nicosia, Cyprus.
19. *Nuclear Magnetic Relaxation and dynamics of synthetic and biological polymers in solutions*. (1997), University of Cyprus, Department of Natural Sciences, Nicosia, Cyprus.
20. *Motional dynamics of linear polysaccharides in solution as a function of linkage position and stereochemistry. C-13 NMR relaxation measurements and dynamic modelling*. (1998), CERMAV, Grenoble, France.
21. *Motional dynamics of linear polysaccharides in solution as a function of linkage position and stereochemistry. C-13 NMR relaxation measurements and dynamic modelling*. (1998), XIX International Carbohydrate Symposium, San Diego, California, USA.
22. *NMR Spectroscopy, a new methodology in food analysis*. (1998), symposium on Foods' Safety and Hygiene, Iraklion, Crete, Greece.
23. *Applications of NMR Spectroscopy in food analysis*. (1999), University of Crete, Crete.



24. *<sup>31</sup>P NMR spectroscopy in food analysis*. (2000) Bruker NMR Users Meeting, Athens, Greece.
25. *NMR Spectroscopy. Introducing the research activities of the NMR laboratory of the University of Crete*. (2000), E.I.T.X.H.D, Thessaloniki, Greece.
26. *Conformation and Chain Local Dynamics of Poly(N-vinylcarbazole) in Dilute Solutions by employing 1D and 2D NMR Spectroscopy*. (2000) PACIFICHEM 2000, December 14-19, Honolulu, Hawaii, USA.
27. *Local dynamics of linear polysaccharides as a function of linkage position and stereochemistry by employing NMR spectroscopy and dynamic modelling*. (2001) 4th International Discussion Meeting on Relaxations in Complex Systems, June 17-23, Hersonissos, Heraklion, Crete.
28. *Foundation of Chemistry as a Science*, (2002) Symposium of the Chemistry Department celebrating the Day of Chemistry, April 13, Heraklion, Crete.
29. *Authentication of Greek extra virgin olive oils by employing NMR spectroscopy*. (2004) Meeting on process development for an integrated olive oil mill waste, March 30, Gergeri, Crete, Greece.
30. *A novel methodology for detection and quantification of some minor compounds in olive oil. Applications to olive oil quality control and authentication*. (2004) Second EU Workshop for the EU Wine Databank and the application of Isotopic Methods for anti-fraud (PECO and MS workshop), European Commission Joint Research Centre, June 9-11, Ispra, Italy.
31. *Novel methodologies for the quality control and authentication of extra virgin olive oil*, (2005) Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
32. *<sup>31</sup>P NMR spectroscopy in authentication and quality assessment of extra virgin olive oil*. (2007) 5<sup>th</sup> Euro Fed Lipid Congress, September 16-19, 2007, Gothenburg, Sweden.
33. *Quality control and authentication of virgin olive oil by <sup>31</sup>P NMR spectroscopy*. (2008) Department of Chemistry, University of Bari, Italy.
34. *Quality control and authentication of virgin olive oil. The need for innovative analytical techniques*. (2008) CRETACERT 2<sup>o</sup> International conference for the quality and marketing of agricultural products, September 25-27, Chersonisos, Crete, Greece.
35. *Quality control and authentication of virgin olive oil*. (2009). Technological University of Cyprus, Lemessos, Cyprus.
36. *Quality control and authentication of virgin olive oil. The need for innovative analytical techniques* (2009). Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
37. *Authentication of Greek extra virgin olive oils by employing NMR spectroscopy*. (2009). Department of Pharmaceutical Chemistry, University of Athens.
38. *Quality control and authentication of virgin olive oil* (2010) 1<sup>st</sup> Symposium on Cretan diet and health 1<sup>o</sup> Συνέδριο Κρητική Διατροφή & Υγεία, May 22-23, Chania, Crete.
39. *Food analysis with emphasis to olive oil by using NMR spectroscopy* (2010). Department of Chemistry, University of Cyprus, Nicosia, Cyprus.
40. *Olive oil characterization with NMR spectroscopy* (2011). 11<sup>th</sup> Conference Greece-Cyprus; the contribution of Chemistry to the human civilization-Past, present and future, October, 26-30, Limassol, Cyprus.
41. *A long journey with vehicle the NMR spectroscopy*. (2012) Department of Chemistry, University of Crete, Heraklion, Crete.

42. The penetration of thermodynamics in chemistry: The birth of chemical thermodynamics in Europe and America (2017) Department of Chemistry, University of Crete.

43. From molecular beams and Radar to the Nuclear Magnetic Resonance. (2019) Department of Chemistry, University of Crete.