

Curriculum Vitae of Basil Symeopoulos

First Name	Basil
Family Name	Symeopoulos
Academic Position	Assist. Professor of Radiochemistry
Phone	2610 997119
e-mail address	bds@chemistry.upatras.gr
Present Address	UNIVERSITY OF PATRAS, Department of Chemistry, Patras -26 504- Patras, GREECE
Marital Status	Married, two children

Education-Training and Previous Employment

1974-1979 Graduate studies in the Department of Chemistry of the University of Patras

1981-85 Research Assistant, Department of Chemistry, University of Patras

1985-1987 Hellenic Air Force, Chemical Laboratory of the Aircraft Industry

1987 Ph.D. in Radiochemistry.

1988-1990 and 1991-94, Lecturer in Chemistry Department, University of Patras

1990-91 Sabbatical leave at Department of Chemistry of Florida State University, USA

1994-now Assistant Professor, Department of Chemistry, University of Patras

Courses

Undergraduate

- a) Principles and Applications of Nuclear Chemistry (for students of Department of Chemistry).
- b) Physical Chemistry for students of Department of Biology
- c) Radiobiology for students of Department of Biology
- d) General Chemistry for students of Department of Geology

Post-Graduate

Participation to the course entitled "Technological Applications of Functional Materials" for the M.Sc. program of the department entitled "Chemistry and Technology of Materials with Applications in Industry, Energy and the Environment".

Research Interests

1) Sorption of heavy metals or radionuclides from liquid phase onto solid substrate being formed from:

- i) micro-organisms, which co-exist in foods aiming to investigate the uptake mechanism of pollutant and the potential usage of these microorganisms as detoxification means.
- ii) by products or even wastes from agro-industrial processes aiming at:
 - a) exploration of the process, by means of determination of its kinetic and thermodynamic parameters.

b) effective removal of heavy metals and radionuclides from liquid ecosystems and exploitation of these materials as low cost sorbents.

2) Monitoring of natural and artificial environmental radioactivity by determination of long lived α - and γ - emitters especially in liquid ecosystems (e.g. medicinal/therapeutic baths, drinking water) or soil samples (peat, fertilizers)

3) Development of rapid methods for radionuclides' separation and determination applied under urgent conditions.

Participation to Research Projects

Participant in a research project entitled "Atmospheric Pollution from Particulate Matters in the city of Patras" during the years 1997-99, financed by the Greek Ministry of Environment (ΠΕ.ΧΩ.Δ.Ε.), budget 7 500 euro.

Scientific Supervisor of the project: "Recent Applications of Radioisotopes in determination of pesticides and in biosorption" financed by the European Social Fund (ESF), Operational Program for Educational and Vocational Training II (EPEAEK II), and particularly the Program PYTHAGORAS II, budget 50 000 euro, during the years 2006-8.

Scientific Supervisor of the project: "Removal of Radioisotopes from aquatic ecosystems using Biological Materials" financed by the European Community and National Funds, Operational Program "Western Greece-Peloponnese-Ionian Islands" budget 33 000 euro, during the years 2011-14.

Reviewer in International Journals

1) Journal of Radioanalytical and Nuclear Chemistry

(Manuscript Number: JRNC-1560 in 2010

JRNC-D-12-03520 in 2012

JRNC-D-12-03570 in 2012

JRNC-D-13-00092 in 2013

JRNC-D-13-00251 in 2013

JRNC-D-13-00456 in 2013

JRNC-D-15-00131 in 2015

JRNC-D-17-00617 in 2017)

2) Environmental Engineering and Management Journal

(Manuscript Number: 467_Sepehr_11 in 2012)

3) Environment and Pollution in 2012

4) Bioresource Technology,

(Manuscript Number: BITE-D-12-01010R1 in 2012)

5) Desalination and Water Treatment

(Manuscript I. D.: TDWT-2014-1320)

6) Journal of Chemical Engineering and Materials Science,

(Manuscript I. D.: JCEMS-22.08.15-0232)

7) Journal of Applied Chemistry, (Manuscript Number 6254683 in 2017)

8) The Scientific World Journal, (Research Article 3070962 in 2017)

List of Publications

A. Papers published in international peer reviewed journals

1) Oscillation Phenomenon in the Annealing of Neutron Irradiated or Doped Crystalline Compounds K_2CrO_4 , Na_2CrO_4 .

P.N. Dimotakis and **B.Symeopoulos**

Radiochem. Radional. Letters, **52(3)**, 185-192 (1982).

2) Oscillation Annealing and Temperature Effect of Neutron Irradiated Crystalline Chemical Compounds.

P.N. Dimotakis, H.Papaefthymiou, **B.Symeopoulos**

Radiation Effects **91**, 39-51 (1985).

3) Temperature and Dose Effect in the Oscillatory Transfer Annealing of $^{51}Cr(III)$ in K_2CrO_4

P. N. Dimotakis and **B. Symeopoulos**

J. Radioanal. Nucl. Chem., Letters, **103 (2)**, 127-136 (1986).

4. Oscillation Annealing Phenomenon in Neutron Irradiated Chromates

P. N. Dimotakis and **B. Symeopoulos**

Radiochimica Acta **39**, 65-68 (1986).

5) Monotonous and Oscillatory Recombination in Neutron Irradiated Crystalline Chromates

P. N. Dimotakis and **B. D. Symeopoulos**

Radiation Effects in Defects and Solids **108**, 285-294 (1989).

6) Monotonic Transfer Annealing Kinetics Associated with an Oscillatory Phenomenon in $^{51}Cr(III)$ -Doped Potassium Chromate

P. N. Dimotakis, **B. D. Symeopoulos**, M. N. Demetriou

Journal of Radioanalytical and Nuclear Chemistry, Articles, **139(2)**, 373-379 (1990).

7) Spontaneous Precipitation of Barium Sulphate in Aqueous Solution

B. Symeopoulos and P. Koutsoukos

J. Chem. Soc. Faraday Trans., **88 (20)**, 3063-3063 (1992).

8) The Use of Radioanalytical Methods in Nucleation and Crystal Growth Studies. The Barium Sulphate System.

B. Symeopoulos and P. Koutsoukos.

Appl. Radiat. Isot., **44 (5)**, 894 (1993).

9) Radioanalytical Monitoring of the Formation of Barium Sulphate in Aqueous Solution

B. Symeopoulos and P. Koutsoukos

Journal of Radioanalytical and Nuclear Chemistry, Articles, **173 (1)**, 23-36 (1993).

10) Oscillatory Annealing Behaviour of three Neutron Irradiated Inorganic Crystalline Compounds

B. Symeopoulos, H. Papaefthymiou and M. Soupioni

Radiat. Phys. Chem., **44 (4)**, 399-407 (1994).

11) Solubility of Nd in Brine

F. Khahili, **V. Symeopoulos**, J-F Chen and G. R. Choppin

Radiochimica Acta **66/67**, 51-54 (1994).

12) Neodymium sorption by Clay minerals and Zeoliferous rocks

B. Symeopoulos, M. Soupioni, P. Misaelides, A. Godelitsas, N. Barnayiannis

J. Radioanal. Nucl. Chem., Letters **212(6)**, 421-429 (1996)

13) A Preliminary Study of Mercury Uptake by a Greek Zeoliferous Rock

M. Soupioni, **B. Symeopoulos**, J. Athanasiou, A. Giolis, P. Koutsoukos and P. Tsolis-Katagas

in "Natural Microporous Materials in Environmental Technology" ed by P. Misaelides et al., NATO Science Series, Series E, Vol. 362, p.365 (1999).

14) Determination of trace elements in bottled water in Greece by instrumental and radiochemical neutron activation analysis

M. J. Soupioni, **B. D. Symeopoulos**, H. V. Papaefthymiou

Journal of Radioanalytical and Nuclear Chemistry, **268(3)**, 441-444 (2006)

15) Neutron activation analysis and natural radioactivity measurements of lignite and ashes from Megalopolis basin, Greece

H. Papaefthymiou, **B.D. Symeopoulos**, M. Soupioni

Journal of Radioanalytical and Nuclear Chemistry, **274(1)**, 123-130 (2007)

16) A comparative study of neodymium sorption by yeast cells

A. Vlachou, **B. D. Symeopoulos**, A. A. Koutinas

Radiochimica Acta **97**, 437-441 (2009)

17) Effect of growth conditions on biosorption of Cadmium and Copper by yeast cells.

V.A. Anagnostopoulos, **B.D. Symeopoulos**, M.J. Soupioni

GLOBAL NEST J. **12(3)**, 288-295, (2010)

http://www.gnest.org/Journal/Vol12_no3/288-295_725_Symeopoulos_12-3.pdf

18) Kordulis, Ch., Lycourghiotis, A., Karapanagioti, H.K., **Symeopoulos, B.**, Papaefthymiou, H., Koutsoukos, P., Chrysikopoulos, C., Manariotis I.D., Christanis K., Bouropoulos, N.

University of patras intranetwork arys "Development and Evaluation of Sorbent Materials for Environmental Applications"

GLOBAL NEST J. **12 (3)**, 340-342 (2010)

19) Contribution to interpretation of metal uptake dependence upon the growth phase of microorganisms. The case of uranium (VI) uptake by common yeasts, cultivated at different temperatures, with or without aeration

V.A. Anagnostopoulos., A. Bekatorou, **B.D. Symeopoulos,**

Journal of Radioanalytical and Nuclear Chemistry, **287(2)**, 665-671 (2011),

DOI 10.1007/s10967-010-0811-2

<http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s10967-010-0811-2>

20) Selective separation of radium and uranium from aqueous solutions by Chelex-100

Tasoula Kiliari, Ioannis Pashalidis, **Basil D. Symeopoulos**

Journal of Radioanalytical and Nuclear Chemistry, **292**, 1273–1276 (2012)

DOI 10.1007/s10967-012-1689-y

21) Sorption of europium by malt spent rootlets, a low cost biosorbent: effect of pH, kinetics and equilibrium studies

V.A. Anagnostopoulos., **B.D. Symeopoulos,**

Journal of Radioanalytical and Nuclear Chemistry, **295(1)**, 7-13 (2013)

DOI 10.1007/s10967-012-1956-y

22) Immobilization of *Saccharomyces cerevisiae* on low-cost lignocellulosic substrate for the removal of Cd²⁺ from aquatic systems.

V. A. Anagnostopoulos, At. Vlachou, **B. D. Symeopoulos**

Journal of Environment & Biotechnology Research, **1 (1)**, 23-29 (2015)

http://www.vinanie.com/doc/JEBR_Anagnostopoulos_et_al_102015.pdf

23) Removal of U(VI) from Aquatic Systems, Using Winery By-Products as Biosorbents: Equilibrium, Kinetic and Speciation Studies

Vasileios A. Anagnostopoulos, Petros G. Koutsoukos and **Basil D. Symeopoulos**

Water Air Soil Pollut **226(4)**, 107 (2015)

DOI 10.1007/s11270-015-2379-5

24) Biosorption of U(VI) from aqueous systems by Malt Spent Rootlets. Kinetic, equilibrium and speciation studies

V. Anagnostopoulos, **B. Symeopoulos,** K. Bourikas, A. Bekatorou

International Journal of Environmental Science and Technology **13(1)**, 285-296

(2016)

DOI: 10.1007/s13762-015-0872-4

<http://link.springer.com/article/10.1007%2Fs13762-015-0872-4>

25) Significance of age, temperature, and aeration of yeast cell culture for the biosorption of europium from aquatic systems

Anagnostopoulos, V.A., **Symeopoulos, B.D.**

Desalination and Water Treatment **57(9)**, 3957-3963 (2016)

DOI: 10.1080/19443994.2014.987177

<http://dx.doi.org/10.1080/19443994.2014.987177> ή

<http://www.tandfonline.com/doi/full/10.1080/19443994.2014.987177>

26) Studies on the separation of Ra(II), U(VI) and Eu(III) from aqueous solution using MnO₂-resin
Athina Fidaki, **Basil D. Symeopoulos**, Melpomeni Prodromou and Ioannis Pashalidis
Journal of Radioanalytical and Nuclear Chemistry, **318(3)**, 2189–2192 (2018)

B. Presentations in peer-reviewed international conferences

1) Solubility of Uranyl in Brine

H. Yamazaki, **V. Symeopoulos**, B. Lagerman and G.R. Choppin
Proceedings of Conference organized by the American Nuclear Society with the title “International High Level Radioactive Waste Management Conference”, Las Vegas, Nevada U.S.A., 12-16 April, 1992.

2) Solubility of Thorium in Brine

G.R. Choppin, B. Lagerman, H. Yamazaki and **B. Symeopoulos**
ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 1993,
Vol 205, Iss MAR, pp 95.

3) The removal of mercury (II) ions from aqueous solutions using zeolite (mordenite rich) tuff from Samos island, Greece.

B. Symeopoulos, A. Gioulis, J. Athanasiou, M. Soupioni, P. Tsolis-Katagas, P. Koutsoukos
Book of Abstracts of the 1st International Conference of the Chemical Societies of the South-East European Countries, Halkidiki, Greece, Vol. I., p. P-137 (1998).

4) A Preliminary Study of Mercury Uptake by a Greek Zeoliferous Rock

M. Soupioni, **B. Symeopoulos**, J. Athanasiou, A. Giolis, P. Koutsoukos and P. Tsolis-Katagas
in “*Natural Microporous Materials in Environmental Technology*” ed by P. Misaelides et. al., NATO Science Series, Series E, Vol. 362, p.365 (1999).

5) INAA of Trace Elements in Atmospheric Particulates of Patras, Greece, During January and February of 1999.

M. Soupioni, **B. Symeopoulos**, H. Papaefthymiou
Proceedings of the 7th International Conference on Environmental Science and Technology, 3-6 September 2001, Ermoupolis, Syros island, Volume C, p. 486-489, (2001).

6) Trace Elements in Wheat Flour in Greece, by Instrumental and Radiochemical Neutron Activation Analysis

L. Katerinopoulos, O. Galanakis, M. Soupioni, **B. Symeopoulos**
Proceedings of the 3rd International Symposium on Trace Elements in Human: New Perspectives, Athens, Greece, 4-6 October 2001, p. 727

7) Determination of Trace Elements in Bottled Water in Greece, by Instrumental and Radiochemical Neutron Activation Analysis

Th. Stefou, **V. Symeopoulos**, H. Papaefthymiou, M. Soupioni
Proceedings of the 3rd International Conference on Instrumental Methods of Analysis. Modern Trends and Applications. Thessaloniki, Greece, 23-27 Sept. 2003, p. 363.

8) A Preliminary Study of Europium Uptake By Yeast Cells. The Case of *Kluveromyces Marxianus*

Anagnostopoulos V. and **Symeopoulos B.**

Proceedings of the 1st International Workshop on “Nuclear Proficiency Testing” in Applications of the Ionizing Radiation and Nuclear Analytical Techniques in Industry, Health and Environment at High Performance, 6-9 October 2007, Bucharest, Romania, p. 203.

9) Neodymium uptake by kefir yeasts

A. Vlachou, **B. Symeopoulos**

Poster number PP30 presented at the 4th International Biotechnology Forum, which was held at Zappeion Megaron in Athens, on February 2-3, 2008

10) Effect of growth conditions on the removal of cadmium and copper from aqueous solutions by *Saccharomyces cerevisiae*

V. Anagnostopoulos, **B. Symeopoulos**

Poster number PP17 presented at the 4th International Biotechnology Forum, which was held at Zappeion Megaron in Athens, on February 2-3, 2008.

11) Uptake of uranium from aqueous solutions by barley rootlets

V. Anagnostopoulos, V. Ntzola, **B. Symeopoulos**, A. Bekatorou.

Poster number PA55 presented at the 7th International Conference on Nuclear and Radiochemistry, 24-29 August 2008, Budapest, Hungary.

12) A Comparative Study of Neodymium Uptake by Yeast Cells

A. Vlachou, **B. Symeopoulos**, K. Bourikas, A. A. Koutinas

Oral presentation during the 7th International Conference on Nuclear and Radiochemistry, 24-29 August 2008, Budapest, Hungary.

13) Uranium removal from aqueous solutions using spent grains as biosorbent

V. Anagnostopoulos, E. Papafotopoulou–Patrinou, **B. Symeopoulos**, A. Bekatorou

Poster number PB49 presented at the 7th International Conference on Nuclear and Radiochemistry, 24-29 August 2008, Budapest, Hungary.

14) Effect of growth conditions on biosorption of Eu, U and Th by yeast cells

V. Anagnostopoulos, **B. Symeopoulos**

Poster number PB69 presented at the 7th International Conference on Nuclear and Radiochemistry, 24-29 August 2008, Budapest, Hungary.

15) Europium removal from aqueous solutions using barley rootlets as biosorbent

V. Anagnostopoulos, M. Anzaoui, **B. Symeopoulos**

Oral presentation, during 3rd International Conference Towards Sustainable Development : assessing the footprint of resource utilization and hazardous waste management, held in Athens, 7-9 September 2009.

For this presentation, Mr. V. Anagnostopoulos was awarded a prize in the framework of Young Researchers' Competition.

16) Removal of Uranium (VI) from Aqueous Solutions Using a Low-cost, Green Biosorbent - the Case of Grape Stalks

V. Anagnostopoulos, L. Boutsika, A. Diakou, **B. Symeopoulos**
Poster presented during the "Second International Symposium on Green Chemistry for Environment and Health", which was held in Mykonos island, Greece, from September 27 to 29, 2010.

17) Removal of uranium (VI) from aqueous solutions using chemically modified malt spent rootlets as biosorbents

V. Anagnostopoulos, V. Ntzola, D. Papadatos - Gigantes, **B. Symeopoulos**
Poster number P140 presented at the 11th European Meeting on Environmental Chemistry, 8-11 December 2010, Portorož, Slovenia

18) Exploration of the ability of a probiotic bacterium to bind U(VI). The case of *Lactobacillus casei*

A. Vlachou, A. Psarra, K. Bourikas, **B. Symeopoulos**
Poster number P184 presented at the 11th European Meeting on Environmental Chemistry, 8-11 December 2010, Portorož, Slovenia

19) Determination of Trace Elements in Rice consumed in Greece

M. Soupioni, **B. Symeopoulos** and E. Giorgas
Poster presented at the 4th International IUPAC Symposium on Trace Elements in Food (TEF-4), June 19-22, 2011, Aberdeen, Scotland, UK, Abstract Book, p. 85

20) Removal of Uranium(VI) from Aqueous solutions using Chemically Modified Brewer Spent Grains as Biosorbents

V. Anagnostopoulos, E. Papafotopoulou - Patrinoi, T. Tsavlidou, **B. Symeopoulos**
Oral presentation during the Third International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) & SECOTOX. Skiathos, Greece, June 19-24, 2011.

21) Brewery By-Products as Low cost Sorbents for Uranium removal from aquatic systems.

V. Anagnostopoulos, K. Bouikas, **B. Symeopoulos**
Oral presentation during the 12th International Conference on Environmental Science & Technology (CEST 2011), Rhodes Island, Greece, 8-10 September 2011.

22) A Probiotic Bacterium, *LACTOBACILLUS CASEI*, as potential checking agent against radioactive contamination of Food Chain.

A. Vlachou, S. Tsantis, G. Daskalou, A. Bekatorou, L.A. Bosnea, K. Bourikas, **B. D. Symeopoulos**

Poster presented (with reference number B50) at the 12th International Conference on Environmental Science & Technology (CEST 2011), Rhodes Island, Greece, 8-10 September 2011.

23) Probiotics as potential checking agents against contamination in the food chain.

The case of uranium and *Saccharomyces boulardii*

A. Vlachou, K. Bourikas, A. Bekatorou, C. Anninos, A. Paplas and **B. Symeopoulos**
Oral presentation by Vlachou, during the 13th International Conference on Environmental Science & Technology (CEST 2013), Athens, Greece, 5-7 September 2013

24) Probiotic microorganisms against a possible radium contamination of drinking water

D. Athanasopoulos, K. Bourikas and **B. D. Symeopoulos**

Poster presented (with reference number A48) at the 14th International Conference on Environmental Science & Technology (CEST 2015), 3-5 September 2015, Rhodes Island, Greece.

(http://cest.gnest.org/cest15proceedings/public_html/papers/cest2015_00504_poster_paper.pdf)

25) Determination of Uranium in Drinking Water of the Third Biggest Town of Greece (Patras, NW Peloponnese) and in three Famous Spa Waters.

D. Athanasopoulos, M. Efstathiou, C. Balikos, I Pashalidis and **B. D. Symeopoulos**

Poster presented (with reference number A49) at the 14th International Conference on Environmental Science & Technology (CEST 2015), 3-5 September 2015, Rhodes Island, Greece.

(http://cest.gnest.org/cest15proceedings/public_html/papers/cest2015_00506_poster_paper.pdf)