

**STAVROS PAVLOU**  
Curriculum vitae

April 2016

**PERSONAL DATA**

DATE OF BIRTH : July 23, 1954  
PLACE OF BIRTH : Thessaloniki, Greece  
CITIZENSHIP : Greek  
MARITAL STATUS : Married  
HOME ADDRESS : Ipirou 19-21, GR-26223 Patras, Greece  
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OFFICE ADDRESS : Department of Chemical Engineering,  
University of Patras, GR-26110 Patras, Greece  
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**EDUCATION**

1. Diploma in Chemical Engineering: National Technical University of Athens, Greece (1973-78)  
Thesis advisor: G. Saravacos  
Thesis title: "Energy Conservation in Distillation"  
Diploma grade: 8.99/10.00
2. Ph.D. in Chemical Engineering: University of Minnesota, U.S.A. (1978-83)  
Thesis advisor: A. G. Fredrickson  
Thesis title: "Mathematical Modeling of the Dynamics of Protozoan Suspension Feeding"  
Grade Point Average: 3.95/4.00

**POSITIONS**

- 15/9/1978 - 15/6/1983 : Research Assistant  
Department of Chemical Engineering and Materials  
Science  
University of Minnesota, U.S.A.
- 24/10/1983 - 17/1/1985 : Adjunct Lecturer  
Department of Chemical Engineering  
University of Patras, Greece
- 18/1/1985 - 12/10/1987 : Lecturer  
Department of Chemical Engineering  
University of Patras, Greece
- 13/10/1987 - 20/2/1992 : Assistant Professor  
Department of Chemical Engineering  
University of Patras, Greece

- 1/9/1988 - 28/2/1989 : Visiting Assistant Professor  
Department of Chemical Engineering and Materials  
Science  
University of Minnesota, U.S.A.  
(on sabbatical from the University of Patras)
- 21/2/1992 - 2/9/1996 : Associate Professor  
Department of Chemical Engineering  
University of Patras, Greece
- 1/10/2005 - 31/5/2006 : Visiting Professor  
Faculty of Technology and Metallurgy, University of  
Belgrade, Serbia  
(on sabbatical from the University of Patras)
- 1/3/2010 - 31/8/2010 : Visiting Professor  
Faculty of Technology and Metallurgy, University of  
Belgrade, Serbia  
(on sabbatical from the University of Patras)
- 3/9/1996 - present : Professor  
Department of Chemical Engineering  
University of Patras, Greece
- 1/7/1985 - present : Research Scientist  
Institute of Chemical Engineering and High Temperature  
Chemical Processes, Patras, Greece

## **RESEARCH INTERESTS**

Mathematical modeling and analysis of chemical and biochemical engineering systems with emphasis on:

1. Dynamics and stability of biochemical reactors. Study of the dynamics of reactors with mixed cultures of interacting microorganisms. Reactors with periodically varying inputs.
2. Construction and analysis of mathematical models of growth of microbial populations on multiple nutrients.
3. Analysis of system dynamics. Bifurcation theory. Numerical methods.

## **TEACHING EXPERIENCE**

Teaching Assistant, Department of Chemical Engineering and Materials Science, University of Minnesota:

1. Thermodynamics and Kinetics (Juniors), Winter quarter 1980.

2. Mathematical Methods in Chemical Engineering (Seniors), Spring quarter 1981.
3. Advanced Mathematics for Chemical Engineers (Graduate), Fall quarter 1981.
4. Biological Engineering Analysis (Seniors-Graduate), Spring quarter 1983.

Adjunct Lecturer (24/10/1983 - 17/1/1985), Lecturer (18/1/1985 - 12/10/1987), Assistant Professor (13/10/1987 - 20/2/1992) and Associate Professor (21/2/1992-present), Department of Chemical Engineering, University of Patras. Courses taught:

*Undergraduate:*

1. Inorganic Chemical Technology (Fourth-year students), Fall semester 1983, Spring semester 1985.
2. Process Simulation and Control (Fourth-year students), Fall semester 1984, 1985, 1986, 1987, 1989, 1990, 1991, 1992, Spring semester 1984, 1994, 1995, 1996, 1997, 1998.
3. Material and Energy Balances (Second-year students), Spring semester 1986, 1987, 1988, 1989, 1990, 1991, 1999, 2000, Fall semester 1986, 1987.
4. Biochemical Processes (Fifth-year students), Spring semester 1986, 1987, 1988, 1989.
5. System Dynamics (Fourth and Fifth-year students), Spring semester 1992, 2001, 2002, 2003, 2004, 2005, 2008, 2009, 2011, Fall semester 1994, 1995, 1996, 1997, 1998, 2014, 2015.
6. Special Topics in Biotechnology (Fourth and Fifth-year students), Spring semester 1998, 1999, 2000.  
Analysis and Design of Bioreactors (Fourth and Fifth-year students), Fall semester 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2014, 2015, Spring semester 2012.
7. Introduction to Computers (First-year students), Fall semester 1993.
8. Basic Principles of Biochemical Engineering (Fourth-year students), Fall semester 1994, 1995, 1996, 1999.  
Biochemical Processes (Fourth-year students), Fall semester 2001, 2003, 2011, 2012, 2013.

*Graduate:*

1. System Dynamics, Fall semester 1994, 1995, 1996, 1997, 1998, 2000, 2002, 2004, 2006, 2008, 2009, 2014, 2015, Spring semester 2011.
2. Biochemical Processes, Fall semester 2015, Spring semester 1995, 1997, 1998, 1999, 2001, 2003, 2005, 2008, 2012.

## HONORS

### Undergraduate:

Scholarship from the State Scholarship Foundation of Greece (awarded to top 5% of each class), 1974-78.

Labor Community Award for rank during studies, 1974-78.

ESSO Award for outstanding Diploma Thesis, 1978.

Chrysoverghion Award for highest Diploma grade, 1978.

### Graduate:

Doctoral Dissertation Fellowship from the University of Minnesota Graduate School, 1981-82.

## INVITED TALKS

1. "Dynamic behavior of biological reactors", Department of Chemical Engineering, University of Patras, Patras, Greece, 29/10/1984.
2. "Dynamics of predator-prey interactions in bioreactors", Center for Nonlinear Studies and Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM, U.S.A., 2/9/1987.
3. "Optimization of activity distribution in catalyst pellets", Department of Chemical Engineering, Tufts University, Medford, MA, 5/12/1988.
4. "Dynamic behavior of biochemical reactors: competition of two microbial populations in a periodically operated reactor", Department of Chemical Engineering, University of Thessaloniki, 16/4/1991.
5. "Microbial competitive interactions in bioreactors", School of Chemical Engineering, Georgia Institute of Technology, Atlanta, GA, 26/11/1991.
6. "Dynamics of microbial competition in bioreactors", Faculty of Technology and Metallurgy, University of Belgrade, Belgrade, Serbia, 2/12/2005.

## PUBLICATIONS

### A. Articles in Refereed Journals

- A1. D. A. Ratnam, S. Pavlou, A. G. Fredrickson, "Effects of attachment of bacteria to chemostat walls in a microbial predator-prey relationship", *Biotechnology and Bioengineering*, **24**(12), 2675-2694 (1982).
- A2. S. Pavlou, A. G. Fredrickson, "Effects of the inability of suspension-feeding protozoa to collect all cell sizes of a bacterial population", *Biotechnology and Bioengineering*, **25**(7), 1747-1772 (1983).

- A3.** S. Pavlou, “Dynamics of a chemostat in which one microbial population feeds on another”, *Biotechnology and Bioengineering*, **27**(11), 1525-1532 (1985).
- A4.** M. Stoukides, S. Pavlou, “Ethylene oxidation on silver catalysts: effect of ethylene oxide and of external transfer limitations”, *Chemical Engineering Communications*, **44**(1-6), 53-74 (1986).
- A5.** A. Sambanis, S. Pavlou, A. G. Fredrickson, “Analysis of the dynamics of ciliate-bacterial interactions in a CSTR”, *Chemical Engineering Science*, **41**(6), 1455-1469 (1986).
- A6.** A. Sambanis, S. Pavlou, A. G. Fredrickson, “Coexistence of bacteria and feeding ciliates: growth of bacteria on autochthonous substrates as a stabilizing factor for coexistence”, *Biotechnology and Bioengineering*, **29**(6), 714-728 (1987).
- A7.** C. G. Vayenas, S. Pavlou, “Optimal catalyst distribution for selectivity maximization in pellets: parallel and consecutive reactions”, *Chemical Engineering Science*, **42**(7), 1655-1666 (1987).
- A8.** S. Pavlou, “Dynamics of chemostat in which one microbial population grows on multiple complementary nutrients”, *Biotechnology and Bioengineering*, **30**(3), 413-419 (1987).
- A9.** C. G. Vayenas, S. Pavlou, “Optimal catalyst activity distribution and generalized effectiveness factors in pellets: single reactions with arbitrary kinetics”, *Chemical Engineering Science*, **42**(11), 2633-2645 (1987).
- A10.** C. G. Vayenas, S. Pavlou, “Optimal catalyst distribution for selectivity maximization in nonisothermal pellets: the case of parallel reactions”, *Chemical Engineering Science*, **43**(10), 2729-2740 (1988).
- A11.** C. G. Vayenas, S. Pavlou, A. D. Pappas, “Optimal catalyst distribution for selectivity maximization in nonisothermal pellets: the case of consecutive reactions”, *Chemical Engineering Science*, **44**(1), 133-145 (1989).
- A12.** G. N. Angelopoulos, S. Pavlou, D. C. Papamantellos, “Simplified model of the electro reduction furnace process for the production of ferronickel from laterite ores”, *Erzmetall: Journal for Exploration, Mining and Metallurgy*, **42**(3), 107-113 (1989).
- A13.** S. Pavlou, A. G. Fredrickson, “Growth of microbial populations in non-minimal media: some considerations for modeling”, *Biotechnology and Bioengineering*, **34**(7), 971-989 (1989).
- A14.** S. Pavlou, I. G. Kevrekidis, G. Lyberatos, “On the coexistence of competing microbial species in a chemostat under cycling”, *Biotechnology and Bioengineering*, **35**(3), 224-232 (1990).

- A15.** S. Pavlou, C. G. Vayenas, "Optimal catalyst activity profile in pellets with shell-progressive poisoning: the case of fast linear kinetics", *Chemical Engineering Science*, **45**(3), 695-703 (1990).
- A16.** S. Pavlou, C. G. Vayenas, "Optimal catalyst activity distribution in pellets for selectivity maximization in triangular nonisothermal reaction systems. Application to cases of light olefin epoxidation", *Journal of Catalysis*, **122**(2), 389-405 (1990).
- A17.** E. Tsangaropoulou, S. Pavlou, "Effects of spatial heterogeneity on the dynamics of a microbial feeding interaction", *Biotechnology and Bioengineering*, **35**(10), 1024-1033 (1990).
- A18.** S. Pavlou, I. G. Kevrekidis, "Microbial predation in a periodically operated chemostat: a global study of the interaction between natural and externally imposed frequencies", *Mathematical Biosciences*, **108**(1), 1-55 (1992).
- A19.** V. Hatzimanikatis, G. Lyberatos, S. Pavlou, S. A. Svoronos, "A method for pulsed periodic optimization of chemical reaction systems", *Chemical Engineering Science*, **48**(4), 789-797 (1993).
- A20.** S. Dikshitulu, B. C. Baltzis, G. A. Lewandowski, S. Pavlou, "Competition between two microbial populations in a sequencing fed-batch reactor: theory, experimental verification, and implications for waste treatment applications", *Biotechnology and Bioengineering*, **42**(5), 643-656 (1993).
- A21.** P. Lenas, S. Pavlou, "Periodic, quasiperiodic and chaotic coexistence of two competing microbial populations in a periodically operated chemostat", *Mathematical Biosciences*, **121**(1), 61-110 (1994).
- A22.** M. A. Taylor, S. Pavlou and I. G. Kevrekidis, "Microbial predation in coupled chemostats: a global study of two coupled nonlinear oscillators", *Mathematical Biosciences*, **122**(1), 25-66 (1994).
- A23.** P. Lenas, S. Pavlou, "Coexistence of three competing microbial populations in a chemostat with periodically varying dilution rate", *Mathematical Biosciences*, **129**(2), 111-142 (1995).
- A24.** S. Liakou, S. Pavlou, G. Lyberatos, "Ozonation of azo dyes", *Water Science and Technology*, **35**(4), 279-286 (1997).
- A25.** D. V. Vayenas, S. Pavlou, G. Lyberatos, "Development of a dynamic model describing nitrification and denitrification in trickling filters", *Water Research*, **31**(5), 1135-1147 (1997).
- A26.** U. Zissi, G. Lyberatos, S. Pavlou, "Biodegradation of p-aminobenzene by *Bacillus subtilis* under aerobic conditions", *Journal of Industrial Microbiology and Biotechnology*, **19**(1), 49-55 (1997).

- A27.** D. V. Vayenas, S. Pavlou, G. Lyberatos, “Transient modeling of trickling filters for biological ammonia removal”, *Environmental Modeling and Assessment*, **2**(3), 221-226 (1997).
- A28.** K. Stamatelatos, G. Lyberatos, C. Tsiligiannis, S. Pavlou, P. Pullammanappallil, S. A. Svoronos, “Optimal and suboptimal control of anaerobic digesters”, *Environmental Modeling and Assessment*, **2**(4), 355-363 (1997).
- A29.** G. D. Manolis, R. P. Shaw, S. Pavlou, “A first order system solution for the vector wave equation in a restricted class of heterogeneous media”, *Journal of Sound and Vibration*, **209**(5), 723-752 (1998).
- A30.** P. Lenas, N. A. Thomopoulos, D. V. Vayenas, S. Pavlou, “Oscillations of two competing microbial populations in configurations of two interconnected chemostats”, *Mathematical Biosciences*, **148**(1), 43-63 (1998).
- A31.** N. A. Thomopoulos, D. V. Vayenas, S. Pavlou, “On the coexistence of three microbial populations competing for two complementary substrates in configurations of interconnected chemostats”, *Mathematical Biosciences*, **154**(2), 87-102 (1998).
- A32.** G. D. Manolis, R. P. Shaw, S. Pavlou, “Elastic waves in nonhomogeneous media under 2D conditions: I. Fundamental solutions”, *Soil Dynamics and Earthquake Engineering*, **18**(1), 19-30 (1999).
- A33.** G. D. Manolis, R. P. Shaw, S. Pavlou, “Elastic waves in nonhomogeneous media under 2D conditions: II. Numerical implementation”, *Soil Dynamics and Earthquake Engineering*, **18**(1), 31-46 (1999).
- A34.** S. Pavlou, “Computing operating diagrams of bioreactors”, *Journal of Biotechnology*, **71**(1-3), 7-16 (1999).
- A35.** D. V. Vayenas, S. Pavlou, “Coexistence of three microbial populations competing for three complementary nutrients in a chemostat”, *Mathematical Biosciences*, **161**(1-2), 1-13 (1999).
- A36.** G. D. Manolis, S. Pavlou, “Fundamental solutions for SH-waves in a continuum with large randomness”, *Engineering Analysis with Boundary Elements*, **23**(9), 721-736 (1999).
- A37.** D. V. Vayenas, S. Pavlou, “Chaotic dynamics of a food web in a chemostat”, *Mathematical Biosciences*, **162**(1-2), 69-84 (1999).
- A38.** D. V. Vayenas, S. Pavlou, “Chaotic dynamics of a microbial system of coupled food chains”, *Ecological Modelling*, **136**(2-3), 285-295 (2001).
- A39.** D. V. Vayenas, E. Michalopoulou, G. N. Constantinides, S. Pavlou, A. C. Payatakes, “Visualization experiments of biodegradation in porous media and calculation of the biodegradation rate”, *Advances in Water Resources*, **25**(2), 203-219 (2002).

- A40.** G. D. Manolis, S. Pavlou, “A Green’s function for variable density elastodynamics under plane strain conditions using Hormander’s method”, *Computer Modeling in Engineering and Sciences*, **3**(3), 399-415 (2002).
- A41.** G. Aggelis, D. V. Vayenas, V. Tsagou, S. Pavlou, “Prey-predator dynamics with predator switching regulated by a catabolic repression control mode”, *Ecological Modelling*, **183**(4), 451-462 (2005).
- A42.** D. V. Vayenas, G. Aggelis, V. Tsagou, S. Pavlou, “Dynamics of a two-prey-one-predator system with predator switching regulated by a catabolic repression control-like mode”, *Ecological Modelling*, **186**(3), 345-357 (2005).
- A43.** S. Pavlou, “Microbial competition in bioreactors”, *Chemical Industry and Chemical Engineering Quarterly*, **12**(1), 71-81 (2006).
- A44.** I. A. Vasiliadou, S. Pavlou, D. V. Vayenas, “A kinetic study of hydrogenotrophic denitrification”, *Process Biochemistry*, **41**(6), 1401-1408 (2006).
- A45.** I. N. Sgountzos, C. A. Paraskeva, S. Pavlou, A. C. Payatakes, “Growth kinetics of *Pseudomonas fluorescens* in sand beds during biodegradation of phenol”, *Biochemical Engineering Journal*, **30**(2), 164-173 (2006).
- A46.** I. Vasiliadou, S. Siozios, I. T. Papadas, K. Bourtzis, S. Pavlou, D. V. Vayenas, “Kinetics of pure cultures of hydrogen-oxidizing denitrifying bacteria and modeling of the interactions among them in mixed cultures”, *Biotechnology and Bioengineering*, **95**(3), 513-525 (2006).
- A47.** A. Kavadia, D. V. Vayenas, S. Pavlou, G. Aggelis, “Dynamics of free-living nitrogen-fixing bacterial populations in antagonistic conditions”, *Ecological Modelling*, **200**(1-2), 243-253 (2007).
- A48.** M. Milivojevic, S. Pavlou, I. Pajic-Lijakovic, B. Bugarski, “Dependence of slip velocity on operating parameters of air-lift bioreactors”, *Chemical Engineering Journal*, **132**(1-3), 117-123 (2007).
- A49.** G. Tziotzios, G. Lyberatos, S. Pavlou, D. V. Vayenas, “Modelling of biological phenol removal in draw-fill reactors using suspended and attached growth olive pulp bacteria”, *International Biodeterioration and Biodegradation*, **61**(2), 142-150 (2008).
- A50.** A. Kavadia, D. V. Vayenas, S. Pavlou, G. Aggelis, “Dynamics of free-living nitrogen-fixing bacterial populations and nitrogen fixation in a two-prey-one-predator system”, *Ecological Modelling*, **218**(3-4), 323-338 (2008).
- A51.** A. Gaki, A. Theodorou, D. V. Vayenas, S. Pavlou, “Complex dynamics of microbial competition in the gradostat”, *Journal of Biotechnology*, **139**(1), 38-46 (2009).
- A52.** I. A. Vasiliadou, S. Pavlou, D. V. Vayenas, “Dynamics of a chemostat with three competitive hydrogen oxidizing denitrifying microbial populations and their efficiency for denitrification”, *Ecological Modelling*, **220**(8), 1169-1180 (2009).



- A53.** I. A. Vasiliadou, K. A. Karanasios, S. Pavlou, D. V. Vayenas, “Experimental and modelling study of drinking water hydrogenotrophic denitrification in packed-bed reactors”, *Journal of Hazardous Materials*, **165**(1-3), 812–824 (2009).
- A54.** I. A. Vasiliadou, K. A. Karanasios, S. Pavlou, D. V. Vayenas, “Hydrogenotrophic denitrification of drinking water using packed-bed reactors”, *Desalination*, **248**(1-3), 859–868 (2009).
- A55.** C. N. Economou, A. Makri, G. Aggelis, S. Pavlou, D. V. Vayenas, “Semi-solid state fermentation of sweet sorghum for the biotechnological production of single cell oil” (short communication), *Bioresource Technology*, **101**(4), 1385-1388 (2010).
- A56.** K. A. Karanasios, I. A. Vasiliadou, S. Pavlou, D. V. Vayenas, “Hydrogenotrophic denitrification of potable water: A review”, *Journal of Hazardous Materials*, **180**(1-3), 20-37 (2010).
- A57.** C. N. Economou, G. Aggelis, S. Pavlou, D. V. Vayenas, “Modeling of single-cell oil production under nitrogen-limited and substrate inhibition conditions”, *Biotechnology and Bioengineering*, **108**(5), 1049-1055 (2011).
- A58.** C. N. Economou, I. A. Vasiliadou, G. Aggelis, S. Pavlou, D. V. Vayenas, “Modeling of oleaginous fungal biofilm developed on semi-solid media”, *Bioresource Technology*, **102**(20), 9697-9704 (2011).
- A59.** C. N. Economou, G. Aggelis, S. Pavlou, D. V. Vayenas, “Single cell oil production from rice hulls hydrolysate”, *Bioresource Technology*, **102**(20), 9737-9742 (2011).
- A60.** K. A. Karanasios, M. K. Michailides, I. A. Vasiliadou, S. Pavlou, D. V. Vayenas, “Potable water hydrogenotrophic denitrification in packed-bed bioreactors coupled with a solar-electrolysis hydrogen production system”, *Desalination and Water Treatment*, **33**(1-3), 86-96 (2011).
- A61.** A. Kavadia, D. V. Vayenas, S. Pavlou, G. Aggelis, “Dynamics of a free-living nitrogen-fixing bacteria population lacking of competitive advantage towards an antagonistic population”, *The Open Environmental Engineering Journal*, **4**, 190-198 (2011).
- A62.** M. Milivojevic, S. Pavlou, B. Bugarski, “Liquid velocity in a high-solids-loading three-phase external-loop airlift reactor”, *Journal of Chemical Technology and Biotechnology*, **87**(11), 1529-1540 (2012).
- A63.** A. G. Tekerlekopoulou, M. Tsiflikiotou, L. Akritidou, A. Viennas, G. Tsiamis, S. Pavlou, K. Bourtzis, D. V. Vayenas, “Modelling of biological Cr(VI) removal in draw-fill reactors using microorganisms in suspended and attached growth systems”, *Water Research*, **47**(2), 623-636 (2013).

- A64.** A. G. Tekerlekopoulou, S. Pavlou, D. V. Vayenas, "Removal of ammonium, iron and manganese from potable water in biofiltration units: A review", *Journal of Chemical Technology and Biotechnology*, **88**(5), 751-773 (2013).
- A65.** A. K. Md. Muktedirul Bari Chowdhury, C. S. Akratos, D. V. Vayenas, S. Pavlou, "Olive mill waste composting: A review", *International Biodeterioration and Biodegradation*, **85**, 108-119 (2013).
- A66.** A. K. Md. Muktedirul Bari Chowdhury, M. K. Michailides, C. S. Akratos, A. G. Tekerlekopoulou, S. Pavlou, D. V. Vayenas, "Composting of three phase olive mill solid waste using different bulking agents", *International Biodeterioration and Biodegradation*, **91**, 66-73 (2014).
- A67.** M.-Y. Sultana, C. S. Akratos, S. Pavlou, D. V. Vayenas, "Chromium removal in constructed wetlands: A review", *International Biodeterioration and Biodegradation*, **96**, 181-190 (2014).
- A68.** M. K. Michailides, A. G. Tekerlekopoulou, C. S. Akratos, S. Coles, S. Pavlou, D. V. Vayenas, "Molasses as an efficient low cost carbon source for biological Cr(VI) removal", *Journal of Hazardous Materials*, **281**, 95-105 (2015).
- A69.** M.-Y. Sultana, C. S. Akratos, D. V. Vayenas, S. Pavlou, "Constructed wetlands in the treatment of agro-industrial wastewater: A review", *Hemijaska Industrija*, **69**(2), 127-142 (2015).
- A70.** I. A. Vasiliadou, A. K. Md. Muktedirul Bari Chowdhury, C. S. Akratos, A. G. Tekerlekopoulou, S. Pavlou, D. V. Vayenas, "Mathematical modeling of olive mill waste composting process", *Waste Management*, **43**, 61-71 (2015).
- A71.** T. I. Tatoulis, A. G. Tekerlekopoulou, C. S. Akratos, S. Pavlou, D. V. Vayenas, "Aerobic biological treatment of second cheese whey in suspended and attached growth reactors", *Journal of Chemical Technology and Biotechnology*, **90**(11), 2040-2049 (2015).
- A72.** M. Michailides, T. Tatoulis, M.-Y. Sultana, A. Tekerlekopoulou, I. Konstantinou, C. S. Akratos, S. Pavlou, D. V. Vayenas, "Start-up of a free water surface constructed wetland for treating olive mill wastewater", *Hemijaska Industrija*, **69**(5), 577-583 (2015).
- A73.** T. I. Tatoulis, S. Zapantiotis, Z. Frontistis, C. S. Akratos, A. G. Tekerlekopoulou, S. Pavlou, D. Mantzavinos, D. V. Vayenas, "A hybrid system comprising an aerobic biological process and electrochemical oxidation for the treatment of black table olive processing wastewaters", *International Biodeterioration and Biodegradation*, **109**, 104-112 (2016).

## **Book Chapters and Articles in Conference Proceedings**

### **B. International**

- B1.** T. Bacaros, S. Bebelis, S. Pavlou, C. G. Vayenas, "Optimal catalyst distribution in pellets with shell progressive poisoning: the case of linear kinetics", in *Catalyst*

*Deactivation*, pp. 459-468, B. Delmon and G. F. Froment, Eds. (Elsevier Science Publishers, Amsterdam, 1987).

- B2.** P. Lenas, S. Pavlou, “Chaotic response of a periodically forced system of two competing microbial species”, in *Chaotic Dynamics: Theory and Practice, NATO ASI Series, Series B: Physics*, vol. 298, pp. 283-295, T. C. Bountis, Ed. (Plenum Press, New York, 1992).
- B3.** D. V. Vayenas, E. Michalopoulou, P. Dromazou, G. Sioulas, G. N. Constantinides, S. Pavlou, A. C. Payatakes, “Visualization experiments of intrinsic biodegradation and calculation of biodegradation rates”, *Proceedings of the 1st European Conference on Pesticides and Related Organic Micropollutants in the Environment*, pp. 177-180 Ioannina, October 2000.
- B4.** D. V. Vayenas, G. Kapellos, I. Sgountzos, E. Michalopoulou, G. N. Constantinides, S. Pavlou, A. C. Payatakes, “Biofilm dynamics during biodegradation of pollutants in porous media”, *Proceedings of the 26th General Assembly of the European Geophysical Society*, Nice, France, March 2001.
- B5.** D. V. Vayenas, G. Kapellos, I. Sgountzos, E. Michalopoulou, G. N. Constantinides, S. Pavlou, A. C. Payatakes, “Biofilm dynamics in soil”, *Proceedings of the 1st European Bioremediation Conference*, pp. 389-392, Chania, Crete, July 2001.
- B6.** G. D. Manolis, S. Pavlou, “Computation of elastic waves in materials with variable density”, *Proceedings of the 4th GRACM Congress on Computational Mechanics*, Patras, June 2002.
- B7.** G. E. Kapellos, T. S. Alexiou, S. Pavlou, A. C. Payatakes, “Hierarchical modeling approach for the prediction of effective hydraulic permeability and diffusion coefficient in biofilms”, *Proceedings of the International Conference Biofilms 2004: Structure and Activity of Biofilms*, p. 255-260, Las Vegas, Nevada, U.S.A., 2004.
- B8.** G. E. Kapellos, T. S. Alexiou, S. Pavlou, A. C. Payatakes, “Hierarchical simulation of biofilm dynamics during the biodegradation of organic pollutants in porous media”, *Proceedings of the 3rd European Bioremediation Conference*, Chania, Greece, July 2005.
- B9.** G. E. Kapellos, T. S. Alexiou, S. Pavlou, A. C. Payatakes, “Hierarchical simulation of the spatiotemporal evolution of heterogeneous biofilms and their impact on the flow pattern and mass transport in 3-D porous media”, *Proceedings of the 16th International Conference, Computational Methods in Water Resources*, Copenhagen, Denmark, June 2006.
- B10.** M. Milivojevic, S. Pavlou, V. Nedovic, B. Bugarski, “Analysis of hydrodynamic parameters of air lift bioreactors with immobilized cells”, *Proceedings of the 14th International Workshop on Bioencapsulation & COST 865 Meeting*, Lausanne, Switzerland, October 2006.

- B11.** G. E. Kapellos, T. S. Alexiou, S. Pavlou, A. C. Payatakes, “Hierarchical simulation of biofilm growth dynamics in porous media”, *Proceedings of the 3rd International Conference on Environmental Science and Technology (ICEST2007)*, pp. 497-502, Houston, Texas, U.S.A., August 2007.
- B12.** G. Tziotzios, G. Lyberatos, S. Pavlou, D. V. Vayenas, “Modelling of biological phenol removal in draw-fill reactors using suspended and attached growth olive pulp bacteria”, *Proceedings of the 10th International Conference on Environmental Science and Technology (CEST2007)*, pp. A1481-A1488, Kos, Greece, September 2007.
- B13.** K. A. Karanasios, M. K. Michailidis, I. A. Vasiliadou, S. Pavlou, D. V. Vayenas, “Potable water denitrification”, *Proceedings of the 2nd International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 09) & SECOTOX Conference*, pp. 667-673, Mykonos, Greece, June 2009.
- B14.** G. E. Kapellos, T. S. Alexiou, S. Pavlou, A. C. Payatakes, “Effect of biofilm formation on particle transport and deposition in porous media” *Proceedings of the 18th International Conference, Computational Methods in Water Resources*, Barcelona, Spain, June 2010.
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