

**Constantinos V. Chrysikopoulos**

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**EDUCATION**

**Ph.D.:** Civil Engineering (Environmental Engineering & Science), 1991

Dissertation Title: "Solute transport in porous media: Investigation of well-to-well recirculation and analysis of spatially-variable retardation"

Dissertation Advisors: Paul V. Roberts & Peter K. Kitanidis

Minor: Petroleum Engineering

Minor Advisor: Henry J. Ramey, Jr.

STANFORD UNIVERSITY

**Engineer Degree:** Civil Engineering (Geothermal Program), 1986

Thesis Title: "Chelated indium activable tracers for geothermal reservoirs"

Thesis Advisor: Paul Kruger

STANFORD UNIVERSITY

**Master of Science:** Chemical Engineering, 1984

STANFORD UNIVERSITY

**Bachelor of Science:** Chemical Engineering, 1982

UNIVERSITY OF CALIFORNIA, SAN DIEGO

**ACADEMIC EXPERIENCE**

(2013– ) PROFESSOR, School of Environmental Engineering, Technical University of Crete, Greece.

(2004–13) PROFESSOR, Department of Civil Engineering, University of Patras, Greece.

(2001–04) PROFESSOR, Department of Civil and Environmental Engineering, UC Irvine, USA.

(1996–01) ASSOCIATE PROFESSOR, Department of Civil and Environmental Engineering, UC Irvine, USA.

(1991–96) ASSISTANT PROFESSOR, Department of Civil and Environmental Engineering, UC Irvine, USA.

(1990–91) POSTDOCTORAL FELLOW, Department of Civil and Environmental Engineering, Stanford University, USA.

**GUEST EDITOR**

[2] Guest Editor in special issue on: Fate and Transport of Biocolloids and Nanoparticles in Soil and Groundwater Systems, *Journal of Contaminant Hydrology*, 181, 2015.

[1] Guest Editor in special double issue: *Transport in Porous Media*, 38(1/2), 2000.

**ASSOCIATE EDITOR**

[1] Clean Technologies, 2019–present.

**MEMBER EDITORIAL BOARD**

[5] Water, 2018–present.

[4] Frontiers in Water – Water Quality, 2018–present.

[3] Chemical Engineering and Nanotechnology, 2018–present.

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**\* STATISTICS AT A GLANCE**

Total number of articles published in peer review journals: **111**

Other publications total: **220**

*h*-index: **37** (Web of Science), **45** (Google Scholar)

Times cited: **3183** (Web of Science), **4583** (Google Scholar)

URLs: [[Google Scholar](#)], [[ORCID](#)], [[TUCeeL](#)]

[2] Journal of Multidisciplinary Science, 2018–present.

[1] International Journal of Earth & Environmental Sciences, 2015–present.

## TEACHING EXPERIENCE

### UC Irvine (1991–2004)

Introduction to Fluid Mechanics (CEE170A: Undergraduate Course)

Groundwater Hydrology (CEE172: Undergraduate Course)

Stochastic Geohydrology (CEE272: Graduate Course)

Transport Phenomena in Saturated Porous Media (CEE274A: Graduate Course)

Transport Phenomena in Unsaturated Porous Media and Fractures (CEE274B: Graduate Course)

Mathematical Methods in Engineering Analysis (CEE283: Graduate Course)

### U Patras (2004–2013)

Water Quality (Undergraduate Course)

Special Topics in Environmental Engineering (Undergraduate Course)

Contaminant Transport in Porous Media (Graduate Course)

### Technical University of Crete (2013–)

Wastewater Treatment (Undergraduate Course)

Heat and Mass Transfer (Undergraduate Course)

Contaminant Transport in Porous Media (Graduate Course)

### Hellenic Open University (2006–2018)

Wastewater Treatment (Graduate Course)

## SELECTED RESEARCH EXPERIENCE

(2019– ) Estimation of pharmaceuticals in municipal sewage.

(2018– ) Use of nanoparticles against soil-borne plant pathogens.

(2012– ) Fate and transport of biocolloids and nanoparticles in groundwater.

(2012–15) Investigation of the consequences of CO<sub>2</sub> leakage on the quality of potable groundwater and aquifer properties.

(2011–14) Interaction between biocolloids and clays under various static and dynamic conditions.

(2010–12) New methods for *in situ* concentration measurements.

(2010–11) Degradation of PAHs and inactivation of biocolloids by high frequency ultrasound.

(2009–12) Theoretical and experimental investigation of the co-transport of biocolloids and clays in water saturated porous media.

(2006–10) Groundwater contamination by viruses during infiltration of recycled water. Removal of biocolloids suspended in reclaimed wastewater by injection in fractured aquifers.

(2005–08) Reduction of environmental pollution with the employment of solar powered reactor for anaerobic wastewater treatment.

(2004–07) Acoustically enhanced contaminant and colloid migration in porous media.

(2001–06) Field-scale investigation of virus fate and transport during aquifer recharge with recycled water.

(1999–05) Investigation of the effects of acoustic pressure waves in aquifer remediation and mobilization of entrapped organic liquids.

(1997–04) Modeling the transport of polydisperse colloids in fractures with uniform as well as spatially variable aperture.

(1997–03) Fate and transport of viruses in unsaturated porous media, accounting for soil moisture fluctuations. Development of analytical models for virus adsorption and inactivation in unsaturated porous media.

(1995–02) Experimental determination of dissolution kinetics of single- and multi-component nonaqueous phase liquid pools in saturated three-dimensional porous media. Development of mass transfer correlations applicable to dissolving nonaqueous phase liquid pools in saturated porous media.

(1992–97) Modeling the transport of viruses in physicochemically heterogeneous multidimensional porous media, accounting for first-order inactivation of suspended and adsorbed (or filtered) viruses with

- different inactivation constants, and nonequilibrium reversible adsorption which is applicable to viruses behaving as solutes or irreversible filtration which is suitable for viruses behaving as colloids.
- (1992–95) Modeling of contaminant transport in saturated multi-dimensional fractured media in the presence of colloids, with emphasis on the effects of spatially variable fracture aperture.
- (1991–94) Mathematical modeling of contaminant migration from single- and multi-component nonaqueous phase liquid pools in multi-dimensional, saturated, homogeneous porous media.
- (1990–91) Atmospheric dispersion modeling of volatile organic emissions from aeration of contaminated groundwater treatment facilities, with emphasis on the effects of wind velocity gradients close to the ground and the magnitude of eddy diffusion in the boundary layer as well as the stability of the atmosphere.
- (1988–90) Development of an analytical solution of the one-dimensional stochastic advection-dispersion model that relates the ensemble solute concentration to the statistics of a stationary, spatially-variable retardation factor. Analysis of the impact of spatially-variable sorption on solute movement and spreading in porous media. Investigation of the macroscopic behavior of sorbing solute transport in three-dimensional formations with spatially-periodic geochemical characteristics and velocity field.
- (1986–88) Pilot plant operation for *in-situ* biotransformation and mineralization field tests of chlorinated solvents. Development of a solute transport model incorporating well-to-well recirculation. Exploration of parameter estimation techniques for solute transport in porous media.
- (1984–86) Identification of activable tracers with good activation analysis sensitivity retaining most of the advantages of radioactive tracers without health or environmental risk and low natural background concentration for groundwater and hydrothermal studies; evaluation of their thermal stability and sorption characteristics.

## AWARDS AND HONORS

- UCOWR Best Dissertation Award, as Research Advisor to Youn Sim, 1998
- UCI Pregraduate Mentorship Award, as Research Advisor to Olga Reyes, 1997
- UCI Faculty Career Development Award, 1996
- UCI “Celebration of Teaching” Undergraduate Teaching Award, 1996
- UCOWR Best Dissertation Award, as Research Advisor to Assem Abdel-Salam, 1996
- CEE Outstanding Teaching Award, 1995
- UCI Research Faculty Fellowship, 1993, 1995
- Leon Reynolds Foundation Fellowship, 1990
- Marx Moreno Foundation Fellowship, 1989
- San Jose Branch ASCE Award, 1987

## PUBLICATIONS

### (a) Publications in Peer Review Journals:

- A112 ZHENG, L., L. WANG, S.C. JAMES, and C.V. CHRYSIKOPOULOS, Colloid transport through a variable-aperture fracture under unfavorable attachment conditions: Characterization with a continuous time random walk model, *Journal of Hydrology*, Submitted, 2020.
- A111 GEORGOPOULOU, M.P., V.I. SYNGOUNA, and C.V. CHRYSIKOPOULOS, Influence of graphene oxide nanoparticles on the transport and cotransport of biocolloids in saturated porous media, *Colloids and Surfaces B: Biointerfaces*, 189, 110841, doi.org/10.1016/j.colsurfb.2020.110841, 2020.
- A110 KATSIKAROS, A.G., and C.V. CHRYSIKOPOULOS, Estimation of urine volume in municipal sewage originating from patients receiving antibiotics at a private clinic in Crete, Greece, *Science of the Total Environment*, 705, 134858, doi.org/10.1016/j.scitotenv.2019.134858, 2020.
- A109 SYNGOUNA, V.I., G.I. GIANNADAKIS, and C.V. CHRYSIKOPOULOS, Interaction of graphene oxide nanoparticles with quartz sand and montmorillonite colloids, *Environmental Technology*, 41(9), 1127–1138, doi: 10.1080/09593330.2018.1521876, 2020.
- A108 MALANDRAKIS, A.A., N. KAVROULAKIS, and C.V. CHRYSIKOPOULOS, Synergy between Cu-NPs and fungicides against *Botrytis cinerea*, *Science of the Total Environment*, 703, 135557, doi.org/10.1016/j.scitotenv.2019.135557, 2020.
- A107 LOUKOPOULOS-KOUSIS, V., and C.V. CHRYSIKOPOULOS, Use of GreenZyme® for remediation of porous media polluted with jet fuel JP-5, *Environmental Technology*, 41(3), 277–286, doi:10.1080/09593330.2018.1497092, 2020.
- A106 KATZOURAKIS, V.E. and C.V. CHRYSIKOPOULOS, Two-site colloid transport with reversible and irreversible attachment: Analytical solutions, *Advances in Water Resources*, 130, 29–36, doi:10.1016/j.advwaters.2019.05.026, 2019.

- A105 SYNGOUNA, V.I., and C.V. CHRYSIKOPOULOS, Bacteriophage MS2 and titanium dioxide heteroaggregation: Effects of ambient light and the presence of quartz sand, *Colloids and Surfaces B: Biointerfaces*, 180, 281–288, doi:10.1016/j.colsurfb.2019.04.052, 2019.
- A104 MALGARESI, G., H. ZHANG, C.V. CHRYSIKOPOULOS, and P. BEDRIKOVETSKY, Cotransport of suspended colloids and nanoparticles in porous media, *Transport in Porous Media*, 128(1), 153–177, doi:10.1007/s11242-019-01239-5, 2019.
- A103 MALANDRAKIS, A.A., N. KAVROULAKIS, and C.V. CHRYSIKOPOULOS, Use of copper, silver and zinc nanoparticles against foliar and soil-borne plant pathogens, *Science of the Total Environment*, 670, 292–299, doi.org.10.1016/j.scitotenv.2019.03.210, 2019.
- A102 FOUNTOULI, T.V., C.V. CHRYSIKOPOULOS, and I.K. TSANIS, Effect of salinity on formaldehyde interaction with quartz sand and kaolinite colloid particles: batch and column experiments, *Environmental Earth Sciences*, 78, 152, doi:10.1007/s12665-019-8147-x, 2019.
- A101 GEORGOPOULOU, M.P., and C.V. CHRYSIKOPOULOS, Evaluation of carbon nanotubes and quartz sand for the removal of formaldehyde–(2,4-dinitrophenylhydrazine) from aqueous solutions, *Industrial & Engineering Chemistry Research*, 57(49), 17003–17012, doi:10.1021/acs.iecr.8b03996, 2018.
- A100 JAMES, S.C., L. WANG, and C.V. CHRYSIKOPOULOS, Modeling colloid transport in fractures with spatially variable aperture and surface attachment, *Journal of Hydrology*, 566, 735–742, doi:10.1016/j.jhyrol.2018.09.047, 2018.
- A99 KATZOURAKIS, V.E. and C.V. CHRYSIKOPOULOS, Impact of spatially variable collision efficiency on the transport of biocolloids in geochemically heterogeneous porous media, *Water Resources Research*, 54, doi:10.1029/2017WR021996, 2018.
- A98 FOUNTOULI, T.V. and C.V. CHRYSIKOPOULOS, Adsorption of pharmaceuticals, acyclovir and fluconazole, onto quartz sand under static and dynamic conditions at different temperatures, *Environmental Engineering Science*, 35(9), 909–917, doi:org/10.1089/ees.2017.0499, 2018.
- A97 CHRYSIKOPOULOS, C.V., N.P. SOTIRELIS, and N.G. KALLITHRAKAS-KONTOS, Cotransport of graphene oxide nanoparticles and kaolinite colloids in porous media, *Transport in Porous Media*, 119, 181–202, doi:10.1007/s11242-017-0879-z, 2017.
- A96 SYNGOUNA, V.I., C.V. CHRYSIKOPOULOS, P. KOKKINOS, M.A. TSELEPI, and A. VANTARAKIS, Cotransport of human adenoviruses with clay colloids and TiO<sub>2</sub> nanoparticles in saturated porous media: Effect of flow velocity, *Science of the Total Environment*, 598, 160–167, doi:10.1016/j.scitotenv.2017.04.082, 2017.
- A95 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Inactivation of MS2 bacteriophage by titanium dioxide nanoparticles in the presence of quartz sand with and without ambient light, *Journal of Colloid and Interface Science*, 497, 117–125, doi:10.1016/j.jcis.2017.02.059, 2017.
- A94 KATZOURAKIS, V.E. and C.V. CHRYSIKOPOULOS, Fitting the transport and attachment of dense biocolloids in one-dimensional porous media: ColloidFit, *Groundwater*, 55(2), 156–159, doi:10.1111/gwat.12501, 2017.
- A93 SOTIRELIS, N.P. and C.V. CHRYSIKOPOULOS, Heteroaggregation of graphene oxide nanoparticles and kaolinite colloids, *Science of the Total Environment*, 579, 736–744, doi:10.1016/j.scitotenv.2016.11.034, 2017.
- A92 SYGOUNI, V., I.D. MANARIOTIS, and C.V. CHRYSIKOPOULOS, Experimental investigation of the effect of carbon dioxide on *Pseudomonas putida* biofilms in a two-dimensional glass network micro-model, *International Journal of Greenhouse Gas Control*, 46, 240–247, doi:10.1016/j.ijggc.2016.01.016, 2016.
- A91 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Cotransport of clay colloids and viruses through water-saturated vertically oriented columns packed with glass beads: Gravity effects, *Science of the Total Environment*, 545–546, 210–218, doi:10.1016/j.scitotenv.2015.12.091, 2016.
- A90 SYGOUNI, V., G.C. DIMADIS, and C.V. CHRYSIKOPOULOS, Assessment of CO<sub>2</sub> injection in fractured calcite rock clogged by *Pseudomonas putida* biofilm, *International Journal of Green Technology*, 1, 65–72, 2015.
- A89 SOTIRELIS, N.P. and C.V. CHRYSIKOPOULOS, Interaction between graphene oxide nanoparticles and quartz sand, *Environmental Science and Technology*, 49(22), 13413–13421, doi:10.1021/acs.est.5b03496, 2015.
- A88 KATZOURAKIS, V.E., and C.V. CHRYSIKOPOULOS, Modeling dense-colloid and virus cotransport in three-dimensional porous media, *Journal of Contaminant Hydrology*, 181, 102–113, doi:10.1016/j.jconhyd.2015.05.010, 2015.
- A87 CHRYSIKOPOULOS, C.V. and V.E. KATZOURAKIS, Colloid particle size-dependent dispersivity, *Water Resources Research*, 51, 4668–4683, doi:10.1002/2014WR016094, 2015.

- A86 KOKKINOS, P., V.I. SYNGOUNA, M.A. TSELEPI, M. BELLOU, C.V. CHRYSIKOPOULOS, and A. VANTARAKIS, Transport of human adenoviruses in water saturated laboratory columns, *Food and Environmental Virology*, 7, 122–131, doi:10.1007/s12560-014-9179-8, 2015.
- A85 BELLOU, M.I., V.I. SYNGOUNA, M.A. TSELEPI, P. KOKKINOS, S.C. PAPPARODOPOULOS, A. VANTARAKIS, AND C.V. CHRYSIKOPOULOS, Interaction of human adenoviruses and coliphages with kaolinite and bentonite, *Science of the Total Environment*, 517, 86–95, doi:10.1016/j.scitotenv.2015.02.036, 2015.
- A84 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Experimental investigation of virus and clay particles cotransport in partially saturated columns packed with glass beads, *Journal of Colloid and Interface Science*, 440, 140–150, doi:10.1016/j.jcis.2014.10.066, 2015.
- A83 SYGOUNI, V. and C.V. CHRYSIKOPOULOS, Characterization of TiO<sub>2</sub> nanoparticle suspensions in aqueous solutions and TiO<sub>2</sub> nanoparticle retention in water-saturated columns packed with glass beads, *Chemical Engineering Journal*, 262, 823–830, doi:10.1016/j.cej.2014.10.044, 2015.
- A82 MARKOU, G., D. MITROGIANNIS, A. ÇELEKLI, H. BOZKURT, D. GEORGAKAKIS, and C.V. CHRYSIKOPOULOS, Biosorption of Cu<sup>2+</sup> and Ni<sup>2+</sup> by *Arthrospira platensis* with different biochemical composition, *Chemical Engineering Journal*, 259, 806–813, doi:10.1016/j.cej.2014.08.037, 2015.
- A81 CHRYSIKOPOULOS, C.V. and V.I. SYNGOUNA, Effect of gravity on colloid transport through water-saturated columns packed with glass beads: Modeling and experiments, *Environmental Science and Technology*, 48, 6805–6813, doi:10.1021/es501295n, 2014.
- A80 KATZOURAKIS, V.E. and C.V. CHRYSIKOPOULOS, Mathematical modeling of colloid and virus cotransport in porous media: Application to experimental data, *Advances in Water Resources*, 68, 62–73, doi:10.1016/j.advwatres.2014.03.001, 2014.
- A79 CHRYSIKOPOULOS, C.V. and A.F. ARAVANTINOY, Virus attachment onto quartz sand: Role of grain size and temperature, *Journal of Environmental Chemical Engineering*, 2, 796–801, doi:10.1016/j.jece.2014.01.025, 2014.
- A78 MITROPOULOU, P.N., V.I. SYNGOUNA, and C.V. CHRYSIKOPOULOS, Transport of colloids in unsaturated packed columns: Role of ionic strength and sand grain size, *Chemical Engineering Journal*, 232, 237–248, doi:10.1016/j.cej.2013.07.093, 2013.
- A77 CHRYSIKOPOULOS, C.V., I.D. MANARIOTIS, and V.I. SYNGOUNA, Virus inactivation by high frequency ultrasound in combination with visible light, *Colloids and Surfaces B: Biointerfaces*, 107, 174–179, doi:10.1016/j.colsurfb.2013.01.038, 2013.
- A76 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Cotransport of clay colloids and viruses in water saturated porous media, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 416, 56–65, doi:10.1016/j.colsurfa.2012.10.018, 2013.
- A75 ANAGNOSTOPOULOS, V.A., I.D. MANARIOTIS, H. K. KARAPANAGIOTI, and C.V. CHRYSIKOPOULOS, Removal of mercury from aqueous solutions by malt spent rootlets, *Chemical Engineering Journal*, 213, 135–141, doi:10.1016/j.cej.2012.09.074, 2012.
- A74 CHRYSIKOPOULOS, C.V. and A.F. ARAVANTINOY, Virus inactivation in the presence of quartz sand under static and dynamic batch conditions at different temperatures, *Journal of Hazardous Materials*, 233-234, 148–157, doi:10.1016/j.jhazmat.2012.07.002, 2012.
- A73 CHRYSIKOPOULOS, C.V., V.I. SYNGOUNA, I.A. VASILIOU, and V.E. KATZOURAKIS, Transport of *Pseudomonas putida* in a three-dimensional bench scale experimental aquifer, *Transport in Porous Media*, 94, 617–642, doi:10.1007/s11242-012-0015-z, 2012.
- A72 YIANNOPOULOS, A.Ch., I.D. MANARIOTIS, and C.V. CHRYSIKOPOULOS, Assessment of the effectiveness of a solar system heating an anaerobic bioreactor, *Water, Air, and Soil Pollution*, 223, 1443–1454, doi:10.1007/s11270-011-0956-9, 2012.
- A71 CHRYSIKOPOULOS, C.V. and V.I. SYNGOUNA, Attachment of bacteriophages MS2 and ΦX174 onto kaolinite and montmorillonite: extended-DLVO interactions, *Colloids and Surfaces B: Biointerfaces*, 92, 74–83, doi:10.1016/j.colsurfb.2011.11.028, 2012.
- A70 CHRYSIKOPOULOS, C.V., C.C. PLEGA, and V.E. KATZOURAKIS, Non-invasive *in situ* concentration determination of fluorescent or color tracers and pollutants in a glass pore network model, *Journal of Hazardous Materials*, 189, 299–306, doi:10.1016/j.hazmat.2011.10.042, 2011.
- A69b SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Transport of biocolloids in water saturated columns packed with sand: Effect of grain size and pore water velocity, *Journal of Contaminant Hydrology*, 129-130, 11–24, doi:10.1016/j.jconhyd.2012.01.010, 2012.
- A69 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Transport of biocolloids in water saturated columns packed with sand: Effect of grain size and pore water velocity, *Journal of Contaminant Hydrology*, 126, 301–314, doi:10.1016/j.jconhyd.2011.09.007, 2011.
- A68 JAMES, S.C. and C.V. CHRYSIKOPOULOS, Monodisperse and polydisperse colloid transport in water-saturated fractures with various orientations: Gravity effects, *Advances in Water Resources*, 34, 1249–

- 1255, doi:10.1016/j.advwatres.2011.06.001, 2011.
- A67 VASILIADOU, I.A., D. PAPOULIS, C.V. CHRYSIKOPOULOS, D. PANAGIOTARAS, E. KARAKOSTA, M. FARDIS, and G. PAPAVALASSIOLIOU, Attachment of *Pseudomonas putida* onto differently structured kaolinite minerals: A combined ATR-FTIR and <sup>1</sup>H NMR study, *Colloids and Surfaces B: Biointerfaces*, 84(2), 354–359, doi:10.1016/j.colsurfb.2011.01.026, 2011.
- A66 MANARIOTIS, I.D., H. K. KARAPANAGIOTI, and C.V. CHRYSIKOPOULOS, Degradation of PAHs by high frequency ultrasound, *Water Research*, 45, 2587–2594, doi:10.1016/j.watres.2011.02.009, 2011.
- A65 VASILIADOU, I.A. and C.V. CHRYSIKOPOULOS, Cotransport of *Pseudomonas putida* and kaolinite particles through water saturated columns packed with glass beads, *Water Resources Research*, 47(2), W02543, doi:10.1029/2010WR009560, 2011.
- A64 SYNGOUNA, V.I. and C.V. CHRYSIKOPOULOS, Interaction between viruses and clays in static and dynamic batch systems, *Environmental Science and Technology*, 44(12), 4539–4544, doi:10.1021/es100107a, 2010.
- A63 THOMAS, J.M. and C.V. CHRYSIKOPOULOS, A new method for *in situ* concentration measurements in packed-column transport experiments, *Chemical Engineering Science*, 65, 4285–4292, doi:10.1016/j.ces.2010.04.014, 2010.
- A62 CHRYSIKOPOULOS, C.V., C. MASCIOPINTO, R. LA MANTIA, and I.D. MANARIOTIS, Removal of biocolloids suspended in reclaimed wastewater by injection in a fractured aquifer model, *Environmental Science and Technology*, 44(3), 971–977, doi:10.1021/es902754n, 2010.
- A61 ANDERS, R. and C.V. CHRYSIKOPOULOS, Transport of viruses through saturated and unsaturated columns packed with sand, *Transport in Porous Media*, 76, 121–138, doi:10.1007/s11242-008-9239-3, 2009.
- A60 YIANNOPOULOS, A.Ch., I.D. MANARIOTIS, and C.V. CHRYSIKOPOULOS, Design and analysis of a solar reactor for anaerobic wastewater treatment, *Bioresource Technology*, 99(16), 7742–7749, doi:10.1016/j.biortech.2008.01.067, 2008.
- A59 MASCIOPINTO, C., R. LA MANTIA, and C.V. CHRYSIKOPOULOS, Fate and transport of pathogens in a fractured aquifer in the Salento area, Italy, *Water Resources Research*, 44(1), W01404, doi:10.1029/2006WR005643, 2008.
- A58 THOMAS, J.M. and C.V. CHRYSIKOPOULOS, Experimental investigation of acoustically enhanced colloid transport in water-saturated packed columns, *Journal of Colloid and Interface Science*, 308, 200–207, doi:10.1016/j.jcis.2006.12.062, 2007.
- A57 CHRYSIKOPOULOS, C.V. and E.T. VOGLER, Acoustically enhanced ganglia dissolution and mobilization in a monolayer of glass beads, *Transport in Porous Media*, 64, 103–121, doi:10.1007/s11242-005-1525-8, 2006.
- A56 ANDERS, R. and C.V. CHRYSIKOPOULOS, Evaluation of the factors controlling the time-dependent inactivation rate coefficients of bacteriophage MS2 and PRD1, *Environmental Science and Technology*, 40(10), 3237–3242, doi:10.1021/es051604b, 2006.
- A55 LEE, K.Y. and C.V. CHRYSIKOPOULOS, Dissolution of a multicomponent DNAPL pool in an experimental aquifer, *Journal of Hazardous Materials*, B128, 218–226, doi:10.1016/j.jhazmat.2005.08.005, 2006.
- A54 JAMES, S.C., T.K. BILEZIKJIAN, and C.V. CHRYSIKOPOULOS, Contaminant transport in a fracture with spatially variable aperture in the presence of monodisperse and polydisperse colloids, *Stochastic Environmental Research and Risk Assessment*, 19(4), 266–279, doi:10.1007/s00477-004-0231-3, 2005.
- A53 ANDERS, R. and C.V. CHRYSIKOPOULOS, Virus fate and transport during artificial recharge with recycled water, *Water Resources Research*, 41(10), W10415, doi:10.1029/2004WR003419, 2005.
- A52 SANDERS, B.F. and C.V. CHRYSIKOPOULOS, Longitudinal interpolation of parameters characterizing channel geometry by piece-wise polynomial and universal kriging methods: Effect on flow modeling, *Advances in Water Resources*, 27(11), 1061–1073, doi:10.1016/j.advwatres.2004.08.010, 2004.
- A51 KELLER, A.A., S. SIRIVITHAYAPAKORN, and C.V. CHRYSIKOPOULOS, Early breakthrough of colloids and bacteriophage MS2 in a water-saturated sand column, *Water Resources Research*, 40(8), W08304, doi:1029/2003WR002676, 2004.
- A50 CHRYSIKOPOULOS, C.V. and E.T. VOGLER, Acoustically enhanced multicomponent NAPL ganglia dissolution in water saturated packed columns, *Environmental Science and Technology*, 38(10), 2940–2945, doi:10.1021/es034665n, 2004.
- A49 PUMPHREY, K.M. and C.V. CHRYSIKOPOULOS, Non-aqueous phase liquid drop formation within a water saturated fracture, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 240, 199–109, doi:10.1016/j.colsurfa.2004.03.016, 2004.

- A48 VOGLER, E.T. and C.V. CHRYSIKOPOULOS, An experimental study of acoustically enhanced NAPL dissolution in porous media, *AIChE Journal*, 50(12), 3271–3280, doi:10.1002/aic.10221, 2004.
- A47 CHRYSIKOPOULOS, C.V. and E.T. VOGLER, Estimation of time dependent virus inactivation rates by geostatistical and resampling techniques: Application to virus transport in porous media, *Stochastic Environmental Research and Risk Assessment*, 18(2), 67–78, doi:10.1007/s00477-003-0130-z, 2004.
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**ADVISEES**

**Ph.D. Students**

**(Primary Advisor – TU Crete)**

- [13] MARIA P. GEORGOPOULOU, 2019-present.  
 [12] ANASTASIOS A. MALANDRAKIS, 2017-present.  
 [11] THEODOSIA V. FOUNTOULI, 2013-present.

**(Primary Advisor - U Patras)**

- [10] VASILEIOS E. KATZOURAKIS, Three-dimensional transport and cotransport of pollutants in porous media (Τρισδιάστατη μεταφορά και συμμεταφορά ρύπων σε πορώδη μέσα) (2018). Current Position: Postdoctoral Fellow at the Technical University of Crete.  
 [9] VASILIKI I. SYNGOUNA, Inactivation and transport of biocolloids in porous media (Αδρανοποίηση και μεταφορά βιοκolloειδών σε πορώδη μέσα) (2012). Current Position: Postdoctoral Fellow at the Technical University of Crete, Lecturer at the Ionian University, Greece.

**(Primary Advisor - UCI)**

- [8] J. MATTHEW THOMAS, Acoustically Enhanced NAPL Ganglia Mobilization and Dissolution in the Presence of Colloids (2009). Current Position: Senior Engineer in Geosyntec Consultants.  
 [7] ROBERT ANDERS, Virus fate and Transport During Field-Scale Infiltration (2006). Current Position: U.S. Geological Survey, San Diego, California, USA.  
 [6] ERIC T. VOGLER, Acoustically Enhanced Nonaqueous Phase Liquid Remediation in Porous Media (2003). Current Position: U.S. Geological Survey, Albuquerque, New Mexico, USA.  
 [5] SCOTT C. JAMES, Polydisperse Colloid Transport in Fractured Media (2001). Current Position: Assistant Professor at Baylor University, Departments of Geosciences and Mechanical Engineering.  
 [4] KENNETH Y. LEE, Dissolution of Nonaqueous Phase Liquid Pools in Saturated Porous Media (1999). Current Position: Professor, Western New England University, Department of Civil and Environmental Engineering, Springfield, MA.  
 [3] TAE-JOON KIM, Mass Transfer Correlations for NAPL Pool Dissolution and Investigation of Cosolvent-Water Displacement in Porous Media (1998). Current Position: Los Angeles County, Department of Public Works.  
 [2] YOUN SIM, Virus Transport in Physicochemically Heterogeneous Porous Media (1997). First place recipient of the Universities Council on Water Resources (UCOWR) Dissertation Award in the field of Water Processes. Current Position: Los Angeles County, Department of Public Works.  
 [1] ASSEM ABDEL-SALAM, Modeling of Contaminant/Colloid Transport and Unsaturated Flow in Fractured Media (1995). First place recipient of the Universities Council on Water Resources (UCOWR) Dissertation Award in the field of Engineering and Physical Sciences. Current Position: Hydrogeologist/Environmental Engineer, San Diego, CA.

**M.S. Students at (Thesis Option)****(Primary Advisor – TU Crete)**

- [15] MARIA P. GEORGOPOULOU, Effect of graphene oxide on biocolloid cotransport in water saturated porous media (Μελέτη επίδρασης του οξειδίου του γραφενίου στη συμμεταφορά βιοκolloειδών σε κορεσμένα πορώδη μέσα) (2018).  
 [14] NIKOLAOS P. SOTIRELIS, Investigation of graphene oxide interactions with kaolinite in batch and flow through water saturated packed-column experiments (Μελέτη αλληλεπίδρασης οξειδίου του γραφενίου και καολινίτη σε πειράματα διαλείποντος έργου και κορεσμένης στήλης) (2016).

**(Primary Advisor – U Patras)**

- [13] STAVROS BALIOUKOS, Experimental study of nonaqueous phase liquid transport in two-dimensional porous media (Πειραματική μελέτη φαινομένων μεταφοράς μάζας από υγρά μη υδατικής φάσης σε δισδιάστατα πορώδη δοκίμια) (2012).  
 [12] VASILEIOS E. KATZOURAKIS, Numerical modeling of biocolloid-colloid cotransport in three-dimensional porous media (Αριθμητική μοντελοποίηση συμμεταφοράς βιοκolloειδών-κolloειδών σε τρισδιάστατα πορώδη μέσα) (2012).  
 [11] ANDRIANA F. ARAVANTINOU, Inactivation and Attachment of Viruses in the Presence of Soil Particles with Different Size (Αδρανοποίηση και Προσρόφηση Ιών σε Εδαφικό Υλικό Διαφορετικής Κοκκομετρίας) (2011).  
 [10] POLIXENI N. MITROPOULOU, Colloid Transport in Unsaturated Porous Media (Μεταφορά Κolloειδών σε Ακόρεστα Πορώδη Μέσα) (2011).  
 [9] PLEGA CHRISTINA, Experimental Study of Contaminant Transport in Porous Media (Πειραματική Μελέτη Μεταφοράς Ρύπων σε Πορώδη Μέσα) (2009).  
 [8] MAROUPAS DIMITRIOS, Investigation of Acoustic Waves Effects on the Coagulation of Aqueous Phase Colloid Concentrations (Μελέτη Επίδρασης της Εφαρμογής Ακουστικών Κυμάτων σε Διεργασίες Συσσωμάτωσης Κolloειδών Διασπορών) (2009).

**(Primary Advisor – UCI)**



- [7] J. MATTHEW THOMAS, Acoustically Enhanced Colloid Transport in Saturated Porous Media (2005).
- [6] KENT M. PUMPHREY, Non-Aqueous Phase Drop Formation and Migration in a Uniform Water Saturated Fracture (2002).
- [5] TANYA K. BILEZIKJIAN, Colloid/Contaminant Co-Transport in Porous Fractured Media (2001). Present occupation: Project Manager at RBF Consultants.
- [4] MATTHEW W. BAO, Nonaqueous Liquid Pool Dissolution in Three Dimensional Heterogeneous Sub-surface Formations (2001). Present occupation: Project Engineer, County Sanitation Districts of Los Angeles County.
- [3] PIN-YI (CINDY) HSUAN, Determination of Mass Transfer Coefficients for a Dissolving Nonaqueous Phase Liquid Pool in Porous Media (2000). Current Position: Medical School.
- [2] MICHAEL E. TATALOVICH, Enhanced Aquifer Remediation of DNAPL Pools Using Dissolved Humic Substances (1998). Current Position: Los Angeles County Sanitation.
- [1] KENNETH Y. LEE, Numerical Modeling of Contaminant Transport from Dissolution of Stagnant Nonaqueous Phase Liquid Pools in Groundwater (1994).

### **Undergraduate Students (Theses)**

#### **(Primary Advisor – TU Crete)**

- [46] ALEXANDROS ARNOGIANNAKIS (2020)
- [45] DIMITRA FASOULETOU (2020)
- [44] ANTHI STEFANAROU (2020)
- [43] GEORGE PAMFILIS (2018)
- [42] KLEANTHI I. KOURTAKI (2018)
- [41] VALENTINOS S. LOUKOPOULOS-KOUSIS (2018)
- [40] ALEXANDROS A. PAPAIOANNOU (2017)
- [39] GEORGIOS I. GIANNADAKIS (2017)
- [38] MARIA P. GEORGOPOULOU (2016)
- [37] NIKOLAOS P. SOTIRELIS (2014)

#### **(Primary Advisor - U Patras)**

- [36] VASILEIOS E. KATZOURAKIS (2010)
- [35] CHRYSOULA KOUTSOUKOU (2010)
- [34] MARIA STERGIADI (2009)
- [33] IOANNIS BOTZAKAKIS (2008)
- [32] STAVROS BALIOUKOS (2008)
- [31] DIMITRIOS MAROUPAS (2006)
- [30] SOTIRIOS BROBONAS (2006)
- [29] VASILEIOS BOUBOURAS (2006)

#### **(Primary Advisor – UCI – Independent Studies – Honors)**

- [28] CECILY C. STOREY (2004)
- [27] JO ANN DACANA (2003)
- [26] JULIO S. FERNANDEZ (2002)
- [25] JOSE R. VALLE (2000)
- [24] JOSEPH ELKAYAM (2000)
- [23] DANIEL L. ELIAS, Spring 2000.
- [22] MATTHEW W. BAO (2000)
- [21] KENNY T. NGUYEN (2000)
- [20] ANTONIO QUIRANTE, JR. (1998)
- [19] ROBERT T. HAN (1998)
- [18] VINH N. TRAN (1998)
- [17] RAMIL C. PARIAL (1998)
- [16] THOMAS A. JELENIC (1998)
- [15] PIN-YI HSUAN (1998)
- [14] JEN P. CHEN (1998)
- [13] MIN S. LEE (1998)
- [12] OLGA REYES (1997), First-place recipient of the 8<sup>th</sup> Annual UCI Pregraduate Mentorship Program (PGMP) Conference Award for research in Engineering.
- [11] STEVE Y. SUNG (1997)
- [10] MICHAEL BERMAN (1995)
- [9] MICHAEL E. TATALOVICH (1995)
- [8] THAI T. NGUYEN (1995)
- [7] JUNE K. LOREMAN (1995)

- [6] JAIME A. FINK (1994)
- [5] NIVEEN S. TADROS (1994)
- [4] SAMAN JILANCHI (1994)
- [3] STAMATIOS ARSENIKOS (1994)
- [2] JUAN B. OSPINA (1993)
- [1] KENNETH Y. LEE (1992)

#### **Postdoctoral Fellows**

- [7] VASILEIOS E. KATZOURAKIS (2018–2019)
- [6] VASILIKI I. SYNGOUNA (2012–2019)
- [5] VARVARA SYGOUNI (2012–2015)
- [4] IOANNA VASILIADOU (2008–2010)
- [3] LIU LING (2001–2002)
- [2] YOUN SIM (1998)
- [1] ASSEM ABDEL-SALAM (1995)

### **SCIENTIFIC AND PROFESSIONAL SOCIETY MEMBERSHIPS**

American Chemical Society (ACS)  
 American Geophysical Union (AGU)  
 Association of Environmental Engineering Professors (AEEP)  
 Technical Chamber of Greece (TEE)

### **PROFESSIONAL SERVICE AND ACTIVITIES**

#### **(a) Conference Organizer:**

- [3] Chair and organizer of the European Geophysical Union session on Fate and Transport of Biocolloids and Nanoparticles in Soil and Groundwater Systems, Vienna, Austria, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019.
- [2] Chair and organizer of the European Geophysical Union session on Fate and Transport of Biocolloids in Environmental Systems, Vienna, Austria, 2011.
- [1] Organizer of the conference on Environmental Models and Experiments Envisioning Tomorrow (EnviroMEET '98), July 20-23, 1998, Irvine, CA.

#### **(b) Proposal Reviewerships:**

American Chemical Society, Petroleum Research Fund (2004, 2015)  
 ANS – American Nuclear Society – Natural Systems, USA  
 Department of Energy, Office of Energy Research (OER), USA – Review Panel 2002  
 Environmental Protection Agency, USA  
 National Science Foundation, USA  
 Netherlands Organization for Scientific Research, Vidi scheme  
 Office of Basic Energy Sciences, USA  
 Shota Rustaveli National Science Foundation, Georgia (two proposals 2014, two proposals 2015)  
 TRIAS (TRIpartite Approach of Subsurface patterns and processes), The Netherlands  
 U.S. Geological Survey & National Institutes for Water Resources, USA  
 Utah Center for Water Resources Research, USA

#### **(c) Manuscript Reviewerships**

*Reviewer of 616 papers in 100 International Journals – ( ) number of reviews:*

Advances in Environmental Research (3)	Biotechnology and Bioengineering (1)
Advances in Mathematical Physics (1)	Chemical Engineering Journal (2)
Advances in Water Resources (26)	Chemical Engineering Research and Design (1)
AIChE Journal (6)	Chemical Engineering Science (5)
Applied Geochemistry (1)	Chemosphere (3)
Applied Mathematical Modelling (1)	Cogent Geosciences (2)
Applied Mathematics and Computation (1)	Colloids and Surfaces A: Physicochemical and Engineering Aspects (15)
Applied Microbiology (4)	Colloids and Surfaces B: Biointerfaces (12)
Arabian Journal for Science and Engineering (3)	
Asia-Pacific Journal of Chemical Engineering (1)	

- Critical Reviews in Environmental Science and Technology (1)  
 Desalination and Water Treatment (3)  
 Energies (1)  
 Entropy (1)  
 Environmental Earth Sciences (10)  
 Environmental Engineering and Management Journal (1)  
 Environmental Engineering Science (1)  
 Environmental Pollution (10)  
 Environmental Science: Nano (3)  
 Environmental Science: Processes and Impacts (2)  
 Environmental Science and Pollution Research (2)  
 Environmental Science and Technology (47)  
 Environmental Technology and Innovation (1)  
 Environments (1)  
 European Journal of Environmental and Civil Engineering (1)  
 Fresenius Environmental Bulletin (1)  
 Frontiers in Sustainable Food Systems (1)  
 Frontiers in Water (2)  
 Geoderma (1)  
 Geophysical Research Letters (1)  
 Geophysics (5)  
 Geoscience Frontiers (1)  
 Global Nest Journal (3)  
 Ground Water (6)  
 Groundwater for Sustainable Development (1)  
 Hydrological Processes (2)  
 Hydrological Sciences Journal (2)  
 Hydrology and Earth System Sciences Discussions (1)  
 Industrial & Engineering Chemistry Research (2)  
 International Biodeterioration and Biodegradation (1)  
 International Journal of Engineering Science and Technology (1)  
 International Journal of Environmental Research and Public Health (2)  
 International Journal of Water Resources and Environmental Engineering (1)  
 ISH Journal of Hydraulic Engineering (1)  
 Journal of Advanced Research (1)  
 Journal of Applied Microbiology (2)  
 Journal of Chemical Technology and Biotechnology (4)  
 Journal of Colloid and Interface Science (9)  
 Journal of Contaminant Hydrology (32)  
 Journal of Engineering Mechanics (2)  
 Journal of Environmental Chemical Engineering (34)  
 Journal of Environmental Engineering-ASCE (15)  
 Journal of Environmental Management (1)  
 Journal of Environmental Quality (7)  
 Journal of Environmental Sciences (1)  
 Journal of Hazardous Materials (39)  
 Journal of Hazardous, Toxic, and Radioactive Waste-ASCE (1)  
 Journal of Hydro-environment Research (7)  
 Journal of Hydroinformatics (1)  
 Journal of Hydrologic Engineering-ASCE (3)  
 Journal of Hydrology (17)  
 Journal of Non-Equilibrium Thermodynamics (1)  
 Journal of Porous Media (2)  
 Journal of Physical Chemistry (2)  
 Journal of Physics Research and Applications (1)  
 Journal of Scientific Research and Reports (1)  
 Journal of Soils and Sediments (1)  
 Langmuir (1)  
 Mathematical and Computer Modeling (2)  
 Multidiscipline Modeling in Materials and Structures (1)  
 Multiscale Modeling and Simulation-SIAM (2)  
 NanoImpact (1)  
 Nanomaterials (2)  
 Physics and Chemistry of the Earth (1)  
 Separation Science and Technology (1)  
 Science of the Total Environment (14)  
 Scientia Iranica (1)  
 Scientific Reports (1)  
 Soil Science Society of America Journal (1)  
 Soil & Tillage Research (1)  
 Stochastic Environmental Research and Risk Assessment (3)  
 Transport in Porous Media (82)  
 Vadose Zone Journal (2)  
 Waste Management (1)  
 Water (12)  
 Water Air & Soil Pollution (2)  
 Water Environment Research (1)  
 Water Research (22)  
 Water Resources Research (51)  
 Water Science and Technology (7)  
 Water Supply (2)

**(d) Special Publication Reviewerships:**

Remediation in Rock Masses (ASCE)

**(e) Invited Lectures:**

Hellenic Cancer Society – Corfu Chapter, Greece  
 Istituto di Ricerca Sulle Acque, Bari, Italy  
 Lawrence Berkeley Laboratory, USA  
 Purdue University, USA  
 Stanford University, USA  
 Technical University of Crete, Greece

University of California, Irvine, USA  
 University of California, Los Angeles, USA  
 University of Patras, Greece  
 University of Southern California, USA  
 Uppsala University, Sweden

## UNIVERSITY SERVICE

### (a) Major Activities at University of California Irvine (UCI)

#### Campus (UCI):

Campus Delegate to the Universities Council on Water Resources, UCOWR (1995–2000)  
 Campus Fulbright Committee, (1998–1999)  
 Representative to Academic Senate Assembly (1995–1997)

#### School of Engineering:

Budget and Planning Committee, member (Fall 1998)  
 Committee on Applied Mathematics, member (Fall 1992)  
 School of Engineering Faculty & Executive Committee, Secretary (1995–1996)  
 School of Engineering Graduate Studies Committee, Chair (1996–2000)

#### Department of Civil and Environmental Engineering:

ABET Committee (2001–2004)  
 Computer Committee, Chair (1992–1993)  
 Computer Committee, member (1993–1997)  
 Committee on Teaching Quality, Chair (1997–2000)  
 Committee on Teaching Quality, member (1996–1997)  
 Environmental and Water Laboratory Committee, member (1995–2004)  
 Graduate Advisor (1996–2000)  
 Graduate Studies Committee, member (1994–2004)  
 Search Committee for Environmental Faculty Position, member (1995–1996)  
 Search Committee for Environmental Faculty Position, member (1996–1997)  
 Search Committee for Fund Administrator AA-I, member (Fall 1997)  
 Search Committee for Fund Administrator AA-III, member (Winter 1998)  
 Search Committee for Structural Engineering Faculty Position, member (1997–1998)

### (b) Major Activities at U Patras:

Director of UPeel - University of Patras Environmental Engineering Laboratory (2004–2013)  
<http://www.ypeel.civil.upatras.gr/>  
 Coordinator of Biomet network - Fate and Transport of Biocolloids in Environmental Systems (2009–2013)  
<http://biomet.upatras.gr/>

### (b) Major Activities at Technical University of Crete (TUC):

Member of the Research and Innovation Council – Region of Ionian Islands. Μέλος στο Περιφερειακό Συμβούλιο Έρευνας και Καινοτομίας - Ιονίων Νήσων (ΠΣΕΚ-IN) (2018– )  
 Director of TUceel – Technical University of Crete Environmental Engineering Laboratory (2013– )  
 President of Biomet network - Fate and Transport of Biocolloids in Environmental Systems (2013–14)  
<http://biomet.upatras.gr/>

## RESEARCH FUNDING

- EF20 “Preventing and remediating degradation of soils in Europe through land care”, EUROPEAN UNION’S SEVENTH FRAMEWORK PROGRAMME FOR RESEARCH, TECHNOLOGICAL DEVELOPMENT AND DEMONSTRATION (FP7-ENV-2013-two-stage, No. 603498), Acronym: RECARE (<http://recare-project.eu>), Project coordinator: Dr. I. Tsanis, 2013–2018, Subcontract Contributor.
- EF19 “Fate and transport of biocolloids and nanoparticles in groundwater and effects of polluted water on public health”, HELLENIC MINISTRY OF NATIONAL EDUCATION AND RELIGIOUS AFFAIRS: ARISTEIA I (No. 1185), Acronym: BioNFate (<http://tuceel.tuc.gr/bionfate>), Project coordinator: Dr. C.V. Chrysikopoulos, 2012–2015, PI (500,000 €).
- EF18 “Geomechanics and environment of CO<sub>2</sub> geological storage”, HELLENIC MINISTRY OF NATIONAL EDUCATION AND RELIGIOUS AFFAIRS: THALIS, Project coordinator: Dr. E. Papamichos (Aristotle University of Thessaloniki), 2012–2015, Co-PI (521,740 €).
- EF17 “Inactivation and transport of biocolloids in porous media”, HELLENIC MINISTRY OF NATIONAL EDUCATION AND RELIGIOUS AFFAIRS: HERACLITOS II Project, Grant No. 284, Project coordinator: Dr. C.V. Chrysikopoulos, 2011–2014, PI (45,000 €).

- EF16 “Study of virus (bacteriophage) transport in saturated and unsaturated aquifers”, University of Patras, Research Committee, “K. Karatheodori” Project, 2007–2009, PI (24,000 €).
- EF15 “Integrated actions in order to protect coastal areas from anthropogenic pollutions and for groundwater restoration by reversing the seawater intrusion in coastal aquifers,” INTERREG IIIA Greece-Italy, 2006 - 2008, Specific theme: Protection of coastal aquifers from seawater intrusion: PRIMAC (<http://primac.ba.cnr.it>), Project coordinator: Dr. Ing. C. Masciopinto, Co-PI, (932,000 €).
- EF14 “Investigation of Groundwater Contamination by Viruses During Infiltration of Recycled Water: Laboratory and Field Experiments,” HELLENIC REPUBLIC MINISTRY OF DEVELOPMENT: GENERAL SECRETARIAT FOR RESEARCH & DEVELOPMENT, 2006–2008, PI (60,000 €).
- EF13 “Reduction of Environmental Pollution with the Employment of Solar Powered Combustion of Industrial Waste,” HELLENIC MINISTRY OF NATIONAL EDUCATION AND RELIGIOUS AFFAIRS: ARCHIMEDES 2, 2005–2007, Co-PI (75,000 €).
- EF12 “Development of Methodologies for Rapid Prediction and Evaluation of River Contamination,” HELLENIC MINISTRY OF NATIONAL EDUCATION AND RELIGIOUS AFFAIRS: PYTHAGORAS 2, 2005–2007, Co-PI (50,000 €).
- EF11 “Acoustically Enhanced Remediation of Aquifers Contaminated with Nonaqueous Phase Liquids,” NATIONAL SCIENCE FOUNDATION, October 2003 – December 2006, Sole PI (\$100,000).
- EF10 “Application of Acoustic Pressure Waves in Aquifer Remediation and Mobilization of Entrapped Organic Liquids,” UNIVERSITY OF CALIFORNIA WATER RESOURCES CENTER, 2000–2002, Sole PI (\$56,000).
- EF9 “Bridge Funding Award,” UNIVERSITY OF CALIFORNIA IRVINE, 1999–2000, Sole PI (\$26,500).
- EF8 “Effect of Soil Moisture and Temperature Fluctuations on Fate and Transport of Viruses in the Subsurface,” UNIVERSITY OF CALIFORNIA WATER RESOURCES CENTER, 1997–1999, Sole PI (\$50,408).
- EF7 “Dissolution Kinetics of Single and Multicomponent NAPL Pools in Saturated Three-Dimensional Porous Media,” ENVIRONMENTAL PROTECTION AGENCY, 1995–1999, PI (\$345,368).
- EF6 “Effects of Physical and Geochemical Heterogeneity of Porous Media on Macroscopic Virus Transport,” UNIVERSITY OF CALIFORNIA WATER RESOURCES CENTER/NATIONAL WATER RESEARCH INSTITUTE, 1995–1997, Sole PI (\$48,192).
- EF5 “Colloid Transport in Saturated Fractured Systems,” UCI FACULTY RESEARCH AWARD, 1995–1995, Sole PI (\$10,673).
- EF4 “Virus Transport in Multidimensional Geochemically Heterogeneous Porous Media,” UNIVERSITY OF CALIFORNIA WATER RESOURCES CENTER, 1994–1995, Sole PI (\$5,000).
- EF3 “Effective Parameters for Flow in Saturated Heterogeneous Porous Media with Spatially Variable Hydraulic Conductivity and Specific Storage,” UNIVERSITY OF CALIFORNIA, IRVINE RESEARCH FACULTY FELLOWSHIP, 1993–1994, Sole PI (\$10,000).
- EF2 “Deposition Mechanisms and Long-Time Scale Factors Influencing Virus Transport in Porous Media,” NATIONAL WATER RESEARCH INSTITUTE/ ENVIRONMENTAL PROTECTION AGENCY, 1993–1994, Co-PI (\$137,000).
- EF1 “Dissolution Kinetics of NAPL Pools in Saturated Porous Media,” NATIONAL SCIENCE FOUNDATION, Subcontract through GEORGIA INSTITUTE OF TECHNOLOGY, 1992–1992, Sole Contributor (\$20,000).

## PERSONAL DATA

Date of Birth: March 4, 1960

Place of Birth: Jablonec nad Nisou, Czech Republic

Family Status: Married with one child

Nationality: Greek and USA