CURRICULUM VITAE

ANTONIS D. KOUSSIS

Researcher Emeritus, Institute for Environmental Research & Sustainable Development, National Observatory of Athens
I. Metaxa & Vas. Pavlou, GR-15236 Palea Penteli, Greece
Tel. +30-210-810 9125, Fax +30-210-810 3236
e-mail: akoussis@noa.gr

PERSONAL DATA Born 25 May 1946, in Athens, Greece; married, 2 sons

EDUCATION

February 1975	Dr.-Ing., Technische Hochschule Darmstadt, Germany (Water resources engineering: hydraulics, hydromechanics, hydrology)
November 1970	Dipl. Ing., Technische Hochschule Darmstadt (Civil Eng.)

FIELDS OF INTEREST

Water Resources Engineering & Management: Modelling Flow & Solute Transport in Groundwater; Flood Routing & Watershed Hydrology; Regulatory: Civil Protection/Flood Emergencies – EC WFD

POSITIONS HELD AND RELATED EXPERIENCE

11/1995 – 12/2013	Director of Research, National Observatory of Athens (>2014 Emeritus)
2/2012 – 7/2012	Visiting Researcher, Dept. Natural Geography & Quaternary Geology, Stockholm University
9/2006 – 1/2007	Visiting Professor, Dept. Civil & Env. Eng., The University of Cyprus
6/1998 –10/2000	Director General, Institute of Geology & Mineral Exploration, Greece.
1995	Visiting Professor, Dept. Ingeniería Química, Universidad de Málaga
1991 – 1994	Professor of Hydrogeology & Water Resources Engineering, The University of Kansas, USA.
1/ – 6/1985	Visiting Fellow, Dept. Civil Engineering, Princeton University, USA.
1980 – 1991	Associate Professor of Civil and Environmental Engineering (1980-1982 Assistant Professor), Vanderbilt University, Nashville, Tennessee, USA.
1979 – 1980	Assistant Professor of Civil Engineering, University of Florida, Gainesville, Florida, USA.
1976 – 1979	Assistant Professor of Civil Engineering, Northeastern University, Boston, Massachusetts, USA.
3/ – 6/1976	Visiting Fellow, Department of Mechanical Engineering, Wayne State University, Detroit, Michigan, USA.
1975	Military Service, Greek Air Force.
1970 – 1975	*Dozent* (1973-75) and Instructor (1970-73), Institut für Hydraulik und Hydrologie, Technische Hochschule Darmstadt, Germany.

PROFESSIONAL SOCIETIES

American Geophysical Union; American Society of Civil Engineers; National Ground Water Association; European Geophysical Union

PROFESSIONAL LICENSE

Federal Republic of Germany (VDI); Greece TEE License Nr. 68535 (1994).

DISTINCTIONS

Scholarship (1968-1970), German Academic Exchange Service (DAAD)
Chi Epsilon "$\chi\varepsilon$" Honour Society Membership (Civil Engineering)
Scholarship (1995), Direccíon General de Investigaciones Científicas y Técnicas, Spain

TEACHING

U-graduate: Fluid Mechanics; Hydraulic Engineering; Hydrology; Water Resources Science.
Graduate: Groundwater Hydrology; Open-Channel Hydraulics; Hydraulic Transients; Water Resources Engineering; Contaminant Transport; Flow & Transport in Env. Systems.

SERVICE

Professional Service

- Member, Hydraulics Group Executive Committee of the Boston Society of Civil Engineers Section, ASCE, 1978-1979.
- Member, Grants Review Panel for Environmental Chemistry and Physics/Water, US Environmental Protection Agency, 1980-1983, 1990-1993.
- Member, Committee on Use of Models, Urban Storm Drainage joint Section of IAHR and IAWPRC, 1981-85.
- Reviewer, R.S. Kerr Laboratory, EPA, Research Co-operative Agreements.
- ASCE Committees: *Groundwater* 1989-91; *Education Comput. Hydraulics*, 1991-94.
- Member, Surface & Ground Water Panel, Engineering Response to Global Climate Change; Planning & Research & Development Agenda, ASCE, 1990.
- National Contact-Point, Task Force Environment-Water, DG *Research*, EEC.
- EC-Expert: *Desertification of the Mediterranean*, DG *"Research"*; *Towards a Sustainable/Strategic Management of Water Resources: Evaluation of Present Policies and Orientation for the Future*, DG *"Regional Development"*.
- Advisor, Ministry for the Environment, Physical Planning & Public Works for the EC/ DG *"Environment"* programmes CARACAS (1997-1998), Working Group *Models*, and CLARINET (1999), Working Group *Soil Contamination*.
- Member of Greek National Hydrology Committee, UNESCO, 1999-2000.
- Institute of Geology & Mineral Exploration of Greece, Governing Board: Vice-president 2/96-6/98; Director General 6/98-10/00; member *Eurogeosurveys* 1998-2000.
- Reviewer for EC: DG "*Research*", Water Resources Research proposals, 1998 & 2000 (5th FP also extended panel member), 2004; DG *IST* 1999-2002; WaterWorks 2014-15, 2018, and Member of Follow-up Panel WW2015 (project evaluations 2019-2021).
- Reviewer of research proposals for the Swedish Research Agency FORMAS 2014-21.
- Expert to *CEDEX*, Ministries of Environment & Public Works, Spain, for the study *Inland Waters in the Mediterranean European Union Countries*, 1999-2002.

University Service

- TH Darmstadt, Member, Gov. Board, Institut für Hydraulik & Hydrologie, 1973-75.
- Univ. Florida: Reviewer, Coastal & Oceanographic Eng. Research Proposals, 1980.
- Vanderbilt University:
  School of Engineering Committees: Computing, 1983-85, Curriculum, 1982-84;
  Chair, Speakers Committee, McTyeire International House, 1983-1986;
  Committee Member: Student Activity Fee, 1986; Holiday Program, 1987;
  Elected to the Faculty Senate, 1986-89: Member, Academic Services & Policies Committee, 1986-1988. Chair, Student Affairs Committee, 1988-1989.
- University of Kansas: Dept. Geology Committees: Grad. Studies & Program Admissions.

JOURNAL REVIEWER – SERVICE ON EDITORIAL BOARDS

- ASCE: *Journal of Hydraulic Eng.*; occasional reviews for *J. Irrigation & Drainage Eng.*; *J. Environmental Eng.*; *J. Water Resources Planning & Management; J. Hydrologic Eng.*
- *Water Resources Research*, AGU
- *Journal of Hydrology*
- *Hydrology & Earth Systems Sciences* (*HESS*)
- Occasional reviews for: *Advances in Water Resources*; *Computers and Geosciences*; *Soil Science*; *J. Computational & Applied Mathematics*; *Hydrogeology Journal*; *Natural Hazards & Earth System Sciences* (*NHESS*).
- **Associate Editor** (2007-2013) ***Hydrological Sciences Journal*** (Reviewer since 2006).

RESEARCH GRANTS

1. *Flood Routing in Open Channels with Normalised Unsteady Flow Rating Curves*, German Research Foundation (DFG), DM 80.000, 1973-75, Principal Investigator.
2. Research Associate in the study *Engineering Evaluation of Cooling Pond Designs* at the R.M. Parsons Laboratory, MIT, 1978-1979.
3. *Evaluation of Mathematical Models of Performance of Waste Treatment Plants*, Union Carbide/Oak Ridge National Labs/DOE, $24.000, 1981, Co-Principal Investigator.
4. *Laboratory Investigation of Sediment Transport in Sewer Lines*, Vanderbilt University Research Council, $2,675, 1981-1982, Principal Investigator.
5. *Evaluation of Hydraulic Models for Dredged Material Containment Areas*, U.S. Army Corps of Engineers, $10,000, 1981, Contract DACW 39-81-M-3911, Co-PI.
6. *Unified Computation of Water Quantity and Water Quality in Sewer Systems*, Vanderbilt University Research Council, $ 3,000,1982-83, Principal Investigator.
7. *Cumberland River Basin Hydrologic Routing Study*, U.S. Army Corps of Engineers, $35,678, 1983-1984, Principal Investigator.
8. *Irregular Grid Finite Difference Method: Computation of Circulation in Dredged Material Containment Areas*, Vanderbilt University Research Council Summer Research Fellowship, $3,000, Summer, 1983.
9. *Real-Time Flood Forecasting for the Upper Cumberland River with On-Line Optimally Estimated Routing Parameters*, U.S. Army Corps of Engineers, $40,376, January 1984 - April 1985, Principal Investigator.
10. *Modelling of Solar Radiation Resources in Rough Terrain*, DG 12 of the European Economic Community (EEC), ECU 60,000, 1/1986-12/1987, Investigator, Contract to Lamda Technical Ltd., Athens, Greece.
11. *Computation of Three-dimensional Advection-Dominated Solute Transport in Saturated Aquifers*, U.S. Geological Survey, $160,674, 9/1986-12/1988, Principal Investigator.
12. *Signal Identification in Stream BOD/DO Analysis*, Vanderbilt University Research Council, $3,500, 1988-89, Principal Investigator.

13. *Intelligent Hyper-tutoring: A New Methodology for Undergraduate Engineering Laboratory Instruction*, U.S. National Science Foundation, $349,954, September 1989 – August 1991, Investigator.

14. *Evaluation of the Role of Stream-Aquifer Interaction in the Administration of Water Rights and Minimum Streamflow Standards*, Principal Investigator, Kansas Water Resources Institute, $82,590, 4/1992-4/1994.

15. *Republican River Stream/Aquifer Study*, Principal Investigator (M. A. Sophocleous, Co-PI), Kansas Water Office, Contract Nr. 94-9, $170,000, 7/1993-6/1996.

16. *Development of an Interface for the Integration of GIS and Hydrologic Modelling*, Co-PI (Ling Bian, Principal Investigator) General Research Fund, The University of Kansas, $8,000; The Republican River GIS Study, Kansas Water Office, Contract Nr. 94-30, $25,000, 6/1994-4/1995.

17. *Neosho River Geomorphology Inventory*, Principal Investigator, Kansas Water Office, Contract Nr. 94-28, $30,000, 1994-1995.

18. *Development of an Assessment Tool for Groundwater Contamination from Bio-geochemically Reactive Substances*, Principal Investigator, General Secretariat of Research & Technology (ΓΓΕΤ), Hellenic Ministry for Development, Contract 836/ΠΕΝΕΔ/1996, Drs. 8.000.000, 06/1996-06/1998.

19. *Development of infrastructure for monitoring of compliance with the environmental legislation in the projects and activities of the country* (INSPECTORATE), member of the team of the National Observatory of Athens, D. P. Lalas project leader, Ministry for the Environment, Physical Planning and Public Works, Drs. 50.000.000, 1996-1997.

20. *Investigation of the Aerodynamic Interaction between Wind Turbine Rotor Blades and the Tower and its Impact on Wind Turbine Design* (ROTOW), DG 12 (Climate & Environment), Contract Nr. JOR3-CT98-0237, 83.6 k€, 10/1998-9/2000.

21. *Utilisation of Groundwater Desalination and Wastewater Reuse in the Water Supply of Seasonally-Stressed Regions* (WASSER), Co-ordinator, DG 12 (Climate & Environment), Contract Nr. ENV4-CT97-0459, 1 M€, 2/1998-3/2001.

22. *Telematics-Assisted Handling of Flood Emergencies in Urban Areas* (TELEFLEUR), Co-ordinator, DG 13 (Telematics-Environment), Contract Nr. EN4003, 0.95 M€, 1/1998-12/2000 (closure of expenditures 2002).

23. *Management of coastal aquifers in an optimisation framework with economic and environmental criteria: Combining recharge of treated wastewater with desalination of brackish groundwater*, General Secretariat of Research & Technology, Hellenic Ministry of Development, ΠΕΝΕΔ 03ΕΔ147, Co-PI, 61.800 €, 2005-09.

24. *Supervision, monitoring and evaluation of the project for the development of an Integrated Monitoring Programme and related Data Bases that support the implementation of the Water Framework Directive 2000/60 of the European Union in Cyprus,* Ministry of Agriculture, Natural Resources and Environment (Water Development Department) of the Republic of Cyprus, role of *Expert* in the Consortium "National Observatory of Athens - ELXIS Consulting Engineers Inc.- Styliani Kaimaki", 135000 €, 2006.

25. *Observations, Analysis & Modeling of Lightning Activity in Thunderstorms, for use in Short Term Forecasting of Flash Floods* (*FLASH*), DG *Research* CEC. In charge of the

hydrologic application for the National Observatory of Athens, 75.000 €, 10/2006-3/2010.

26. *Particle Representation in Modeling Applications* (*PRIMA*), DG *Research* CEC; Marie Curie Reintegration Grant of E. Akylas, € 45000, 9/2008 – 8/2011; A.D. Koussis Supervising Scientist.

27. *Estimation of flood discharges in Greece under conditions of hydroclimatic variability: Development of physics-based conceptual-probabilistic framework and computational tools* (project *DEUCALION*), General Secretariat of Research & Technology, Hellenic Ministry for Education, Contract 09ΣΥΝ-31-798 – € 460800, 3/2011–7/2014; € 120000 National Observatory of Athens – hydrometry & flood forecasting.

28. *Hydro-Telemetric Networks of Surface Waters: Gauging instruments, smart technologies, installation and operation*, (12/2017-12/2020, NOA budget € 210000), 1st stage of the 'large research infrastructure' project **HIMIOFoTS**, Hellenic Integrated Marine and Inland Water Observing, Forecasting and Offshore Technology System (MIS 5002739), Action "Strengthening Research & Technology Infrastructures", Business Plan "Competitiveness, Entrepreneurship and Innovation".

Participation in COST and Concerted Actions of the CEC:

COST Programme 621: *Groundwater Management of Coastal Karstic Aquifers*, 1999.
Harmoni-CA: *Harmonised Modelling Tools for Integrated River Basin Management*, 2004.
COST Action ES0601 **HOME**: *Advances in homogenisation methods of climate series: an integrated approach*, 2007 – 2008 (A. Argyriou, University of Patras, Greek representative).

INFRASTRACTURE GRANTS

1. Library of the National Observatory of Athens, Drs. 50.000.000 (~€ 147.000), financed by the programme "Infrastructure Enhancement", General Secretariat of Research & Technology (ΓΓΕΤ), Hellenic Ministry for Development, 1/1996-12/1997.

2. Library of the National Observatory of Athens - Electronic Network, Drs. 65.500.000 (~€ 192.000), financed by the programme for "Infrastructure Enhancement", General Secretariat of Research & Technology (ΓΓΕΤ), Hellenic Ministry for Development, 8/1996-12/1998.

GOVERNMENT FUNDING for RESEARCH INFRASTRUCTURES

Operational Programme of the Hellenic Institute for Geology & Mineral Exploration 2000-2006: Secured funding of ~M€ 52.8 from the 3rd European Community Support Framework (CSF) for the Institute's activities, as well as for the construction of a new facility to house the administration, the scientific and the technical support units of the Institute. Also secured Drs. 1 Billion (~M€ 3), from the 2nd CSF, for establishing the Greek Groundwater Monitoring Network.

PUBLICATIONS

Book Chapters

A.D. Koussis, A. Kotronarou, G. Destouni & C. Prieto: Intensive groundwater development in coastal zones and small islands, Chapter 6, ***Intensive Use of Groundwater****: Challenges and Opportunities*, R. Llamas and E. Custodio (eds), Balkema, 2003.

A. D. Koussis, Basic flow and mass transport concepts for the sustainable use of groundwater resources, Chapter 5 in **Hacia un uso sostenible de los recursos naturales**, Universidad Internacional de Andalucía, Spain (ISBN 978-84-7993-050-0); abridged edition) April 2008.

Guest Co-Editor: *Hydrological Sciences Journal* **54**(4)-2009, Special Issue, Groundwater and Climate in Africa

Refereed Papers in International Journals (SCI *h index* = 22)

1. Euler, G. and A. Koussis (1973) Berechnung von Hochwasserablaeufen mit Naeherungs-verfahren und ihre Anwendung, *Die Wasserwirtschaft*, **63**(8), pp. 235-240.

2. Koussis, A. D. (1978) Theoretical Estimations of Flood Routing Parameters, *J. Hydraulics Division*, ASCE, **104**(HY1), pp. 109-115.

3. Koussis, A. D. (1979) Transient Reservoir-Aquifer Interaction, *J. Hydraulics Division*, ASCE, **105**(HY6), pp. 637-645.

4. Koussis, A. D. and R. Watson (1980) Ground-Water Flow Computations by Method of Lines, *J. Irrigation and Drainage Division*, ASCE, **106**(IR1), pp. 1-8.

5. Koussis, A. D. (1980) Comparison of Muskingum Method Difference Schemes, *J. Hydraulics Division*, ASCE, Vol. **106**(HY5), pp. 925-929.

6. Koussis, A. D. and S-L. Chow (1980) Analytical-Numerical Computation of Infiltration, *J. Irrigation and Drainage Division*, ASCE, **106**(IR2), pp. 123-134.

7. Adams, E.E. and A. D. Koussis (1980) Transient Analysis for Shallow Cooling Ponds, *J. Energy Division*, ASCE, **106**(EY2), pp. 141-153.

8. Koussis, A. D. (1981) Nonlinear Sorption of Water in Soil, *Soil Science*, **132**(4), pp. 262-266.

9. Koussis, A. D., and L-T. Lien (1982) Linear Theory of Subsurface Stormflow, *Water Resources Research*, **18**(6), pp. 1738-1740.

10. Chang, C-N., Singer, da Motta E. and A. D. Koussis (1983) On the Mathematics of Storage Routing, *Journal of Hydrology*, **61**(4), pp. 357-370.

11. Koussis, A. D., M. A. Saenz and I.G. Tollis (1983) Pollution Routing in Streams, *J. Hydraulic Engineering*, ASCE, **109**(12), pp. 1636-1651.

12. Koussis, A. D. (1983) Unified Theory for Flood and Pollution Routing, *J. Hydraulic Engineering*, ASCE, **109**(12), pp. 1652-1664.

13. Koussis, A. D. and B. J. Osborne (1986) A Note on Nonlinear Storage Routing, *Water Resources Research*, **22**(13), pp. 2111-2113.

14. Brown, K. G. and A. D. Koussis (1987) LOTUS Spreadsheet Design For Storm Drain Networks, *J. Computing in Civil Engineering*, ASCE, **1**(3), pp. 197-213.

15. Bowers, A. R., R. Robinson and A. D. Koussis (1987) Estimation of BOD Parameters by an Integral Method, *Environmental Technology Letters*, **8**, pp. 317-326.

16. Getty, D. B., A. D. Koussis and F. L. Parker (1987) CAD Comparisons for Wastewater Treatment Facilities, *Environmental Technology Letters*, **8**, pp. 405-418.

17. Syriopoulou, D. and A. D. Koussis (1988) Two-Dimensional Modeling of Advection-Dominated Solute Transport in Groundwater, *Hydrosoft*, **1**(2), pp. 63-70.

18. Hoos, A. B., A. D. Koussis and G. O. Beale (1989) A Channel Dynamics Model for Real-Time Flood Forecasting, *Water Resources Research*, **25**(4), pp. 691-705.

19. Bowen, J. D., A. D. Koussis, and D. T. Zimmer (1989) Storm Drain Design - Diffusive Flood Routing for PCs, *J. Hydraulic Engineering*, ASCE, **115**(8), pp. 1135-1150.

20. Bourne, J. R., J. Cantwell, A. Brodersen, B. Antao, A. Koussis and Y. Huang (1989) Intelligent Hypertutoring in Engineering, *Academic Computing*, **4**(1).

21. Koussis, A. D., P. Kokitkar and A. Mehta (1990) Modeling DO Conditions in Streams with Dispersion, *J. Environmental Engineering*, ASCE, **116**(3), pp. 601-614.

22. Boero, V. J., A. D. Koussis and A. R. Bowers (1990) Modeling Transient Substrate Loads in Completely Mixed Aeration Basins at Hydraulic Steady State, *Environmental Technology*, **11**, pp. 695-708.

23. Syriopoulou, D. and A. D. Koussis (1991) 2-D Modeling of Advection-Dominated Solute Transport in Groundwater by the Matched Artificial Dispersivity Method, *Water Resources Research*, **27**(5), 865-872.

24. Ramanujam, G., and A. D. Koussis (1991) Comparison of a Locally One Dimensional with a Fractional Time Stepping Algorithm for Modeling 2-D Solute Transport in Groundwater, *Advances in Water Resources*, **14**(4), 183-191.

25. Koussis, A. D. (1992) A Linear Conceptual Subsurface Storm Flow Model, *Water Resources Research*, **28**(4), 1047-1052.

26. Kalatzis, A., R. A. Garcia-Delgado, T-K. Pang, A. D. Koussis and A. R. Bowers (1993) 2-D Groundwater Transport of Reactive Solutes with Competitive Adsorption, *Water Resources Research*, **29**(7), 2241-2248.

27. Sophocleous, M., A. D. Koussis, J. L. Martin and S. P. Perkins (1995) Evaluation of simplified stream-aquifer depletion models for water rights administration, *Ground Water*, **33**(4), 579-588.

28. Bian, L., H. Sun, C. Blodgett, S. Egbert, W. Li, L. Ran and A. Koussis (1995) An integrated GIS and knowledge-based decision support system in assisting farm-level agronomic decisionmaking, *J. Geograph. Syst.*, **3**, 49–67.

29. Perkins, S. P. and A. D. Koussis (1996) A stream-aquifer interaction model with diffusive wave routing, *J. Hydraulic Engineering*, **122**(4), 210-219.

30. Zou, S., J. Xia and A. D. Koussis (1996) Analytical solutions to non-Fickian subsurface dispersion in uniform groundwater flow, *J. Hydrology*, **179**, 237-258.

31. García-Delgado R. A. and A. D. Koussis (1997) Groundwater solute transport with hydro-geochemical reactions, *Ground Water*, **35**(2), pp. 243-249.

32. Koussis, A. D. and J. Rodríguez-Mirasol (1998) Hydraulic estimation of the dispersion coefficient for streams, *J. Hydraulic Engineering*, **124**(3), pp. 317-320.

33. Koussis, A. D., M.E. Smith, E. Akylas and M. Tombrou (1998) Groundwater drainage from a soil layer resting on an inclined leaky bed, *Water Resources Research*, **34**(11), 2879-2887.

34. Georgopoulou, E., A. Kotronarou, A. Koussis, P.J. Restrepo, A. Gomez-Gotor and J.J. Rodriguez Jimenez (2001) A methodology to investigate brackish groundwater desalination coupled with aquifer recharge by treated wastewater as an alternative strategy for water supply in Mediterranean areas, *Desalination Journal*, **136**, 307-315.

35. Koussis, A. D., S. Pesmajoglou and D. Syriopoulou (2003) Modelling biodegradation of hydrocarbons in aquifers: When is the use of the instantaneous reaction approximation justified?, *J. Contaminant Hydrology*, **60**(3-4): 287-305.

36. Koussis, A. D., K. Lagouvardos, K. Mazi, V. Kotroni, D. Sitzmann, J. Lang, H. Zaiss, A. Buzzi and P. Malguzzi, (2003) Flood forecasts for an urban basin with integrated hydro-meteorological model, *J. Hydrologic Engineering*, **8**(1), pp. 1-11.

37. Lagouvardos, K., V. Kotroni, A. Koussis, C. Feidas, A. Buzzi and P. Malguzzi (2003) The meteorological model BOLAM at the National Observatory of Athens: Assessment of two-year operational use, *J. Appl. Meteorology*, **42**(11), pp. 1667-1678.

38. Mazi, K., A. D. Koussis, P. Restrepo and D. Koutsoyiannis (2004) A groundwater-based, objective-heuristic parameter optimisation method for the PRMS model: The Akrotiri Basin, Cyprus application, *Journal of Hydrology*, **290**, pp. 243-258 (also (2004) Erratum *Journal of Hydrology* **299**, 160–161).

39. Giannakopoulos, C., P. Good, K.S. Law, K-Y. Wang, E. Akylas and A. Koussis (2004) Rainfall parameterization in an off-line chemical transport model**,** *Atmos. Sci. Let.*, **5**(5), pp. 82-88.

40. Gonzalez-Serrano, E., J. Rodriguez-Mirasol, T. Cordero, A.D. Koussis & J.J. Rodriguez, (2005) Cost of reclaimed municipal wastewater for applications in seasonally stressed semi-arid regions, *J Water Supply Research & Technology – AQUA*, **54** (6): 355-369.

41. Mazi, K. and A.D. Koussis, (2006) The July 8, 2002 storm over Athens: Analysis of the Kifissos River/Canal overflows, *Advances in Geosciences*, **7**: 301-306.

42. Akylas, E., A.D. Koussis and A.N. Yannacopoulos (2006) Analytical solution of transient flow in a sloping soil layer with recharge, *Hydrological Sciences Journal*, **51**(4): 626-641.

43. Akylas, E. and A. D. Koussis (2007) Response of sloping unconfined aquifer to stage changes in adjacent stream I. Theoretical analysis and derivation of system response functions, *Journal of Hydrology*, **338**: 85-95.

44. Koussis A. D., E. Akylas and K. Mazi (2007) Response of sloping unconfined aquifer to stage changes in adjacent stream II. Applications, *Journal of Hydrology*, **338**: 73-84.

45. Koussis, A.D. (2009) Assessment and review of the hydraulics of storage flood routing 70 years after the presentation of the Muskingum method, *Hydrol. Sci. J.*, **54**(1): 43 – 61, DOI: 10.1623/hysj.54.1.43

46. Taylor, R. G., A.D. Koussis and C. Tindimugaya (2009) Groundwater and climate in Africa —a review, *Hydrol. Sci. J.*, **54**(4) Special issue: *Groundwater and Climate in Africa*: 655-664.

47. Koussis, A.D., E. Georgopoulou, A. Kotronarou, D. P. Lalas, P. Restrepo, G. Destouni, C. Prieto, J.J. Rodriguez, J. Rodriguez-Mirasol, T. Cordero and A. Gomez-Gotor (2010) Cost-efficient management of coastal aquifers via recharge with treated wastewater and desalination of brackish groundwater: General framework, *Hydrological Sciences Journal*, **55**(7): 1217 – 1233, DOI: 10.1080/02626667.2010.512467.

48. Koussis, A.D., E. Georgopoulou, A. Kotronarou, K. Mazi, P. Restrepo, G. Destouni, C. Prieto, J.J. Rodriguez, J. Rodriguez-Mirasol, T. Cordero, C. Ioannou, A. Georgiou, J. Schwartz and I. Zacharias (2010) Cost-efficient management of coastal aquifers via recharge with treated wastewater and desalination of brackish groundwater: Application to the Akrotiri Basin and Aquifer, Cyprus, *Hydrological Sciences Journal*, **55**(7): 1234 – 1245, DOI: 10.1080/02626667.2010.512469.

49. Koussis, A. D., K. Mazi and G. Destouni (2012) Analytical single-potential, sharp-interface solutions for regional seawater intrusion in sloping unconfined coastal aquifers, with pumping and recharge, *J. Hydrology*, **416–417**: 1–11.

50. Koussis, A.D., K. Mazi, S. Lykoudis and A.A. Argiriou (2012) Reverse flood routing with the inverted Muskingum storage routing scheme, *Natural Hazards & Earth System Sciences*, **12**(1): 217–227, doi:10.5194/nhess-12-217-2012.

51. Koussis A. D. and E. Akylas (2012) Slug test analysis for confined aquifers in the over-damped case: Quasi-steady flow model, *Ground Water*, **50**(4): 608–613.

52. Mazi, K., A.D. Koussis and G. Destouni (2013) Tipping points for seawater intrusion in coastal aquifers under rising sea level, *Environ. Res. Lett.*, **8** (1) 014001 (6p.) doi 10.1088/1748-9326/8/1/014001.

53. Mazi, K., A.D. Koussis and G. Destouni (2014) Intensively exploited Mediterranean aquifers: resilience and proximity to critical points of seawater intrusion, *Hydrol. Earth Syst. Sci* **18**(5): 1663–1677, doi 10.5194/hess-18-1663-2014.

54. Efstratiadis, A., A. D. Koussis, D. Koutsoyiannis, and N. Mamassis (2014) Flood design recipes vs. reality: Can predictions for ungauged basins be trusted? *Nat. Haz. & Earth Sys. Sci.*, **14**(6): 1417-1428, doi 10.5194/nhess-14-1417-2014.

55. Rozos, E., E. Akylas and A.D. Koussis (2015) An automated inverse method for slug tests –over-damped case– in confined aquifers, *Hydrological Sciences Journal*, **60**(2): 285-293, DOI: 10.1080/02626667.2014.892207.

56. Koussis, A.D., K. Mazi, F. Riou and G. Destouni (2015) A correction for Dupuit-Forchheimer interface flow models of seawater intrusion in unconfined coastal aquifers, *J. Hydrology*, **525**: 277-285.

57. Akylas, E., E. Gravanis and A. D. Koussis (2015) Quasi-steady flow in sloping aquifers, *Water Resources Research*, **51**, 9165–9181, doi:10.1002/2014WR016651.

58. Koussis, A.D. and K. Mazi (2016) Reverse flood and pollution routing with the lag-and-route model, *Hydrol. Sci. J.*, **61**(10) 1952-1966, doi 10.1080/02626667.2015.1061194.

59. Mazi, K., A.D. Koussis & G. Destouni (2016) Quantifying a general safe operating space for human use of coastal groundwater under multiple change pressures, *Water Resources Management*, **30**(12): 4063-4080.

60. Dimitriadis, P., A. Tegos, A. Petsiou, V. Pagana, I. Apostolopoulos, E. Vassilopoulos, M. Gini, A. Koussis, N. Mamassis, D. Koutsoyiannis, and P. Papanicolaou (2017) Flood Directive implementation in Greece: Experiences and future Improvements, *European Water*, **57**: 35-41.

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KINEMATIC HYDROLOGY AND MODELING by D. Stephenson and M. E. Meadows, Developments in Water Science, Vol. 26, 1986, Elsevier; reviewed in the Journal of Hydraulic Research, IAHR, 1987, Vol. 25, No. 4, pp. 529-530.

LECTURE NOTES

1. *Wellenablaufberechnung fuer Gerinnestrecken* (Flood Routing in Open Channels), 6.Course of Continuing Education in Hydrology, German Association for Water Resources Management (DVWW), Bad Herrenalb, October 1974.

2. *Computation of Water Surface Profiles for Steady Gradually Varied Flow*, Specialty Conference on Personal Programmable Calculators, ASCE-Florida Section, 1979.

3. *Fundamentals of River Hydraulics* (19 p.), for the Short Course *River Hydraulics Using HEC-2* held at Vanderbilt University, Nashville, Tennessee, March 1988.

4. *Derivation of one-dimensional open channel flow equations* (31 p.), Notes for the graduate course *Open Channel Hydraulics*, 1985.

5. *Groundwater Contamination Modeling* (37 p.), Short Course held in May 1990 for the U.S. Army Corps of Engineers, Nashville Section.

6. Notes for the graduate course *Flow and Transport in Environmental Systems* (129 p.).

7. Notes for the "*Seminario Taller sobre Manejo Integral de la Cuenca Urbana del Rio Medellín",* Medellin, Colombia. Aug.1994.

8. *Aguas Subterraneas* in graduate course *Contamination de Suelos y Aguas Residuales – Tecnicas de Limpieza*, Universidad de Gran Canaria, Spain, March 1995.

9. *Groundwater Contamination*, Graduate Programme, Department of Geology, University of Patras, Greece, 1999.

10. Notes (249 slides MS Powerpoint) *Floods* for the Graduate Course *Risk Management & the Environment*, Ecole des Mines, Alés, France, November 2002.

11. Notes (117 slides MS Powerpoint) *Criterios y herramientas para la preservación y recuperación de las aguas subterráneas***,** graduate programme Gestión Compatible de los Recursos Industriales, Universidad Internacional de Andalucía (Campus Antonio Machado), Baeza, Spain, August 2003.

12. Notes (and 74 MS Powerpoint slides) *Bases para el control y la recuperación de aguas subterráneas*, graduate programme Hacia un Uso Sostenible de los Recursos Naturales, Universidad Internacional de Andalucía, Campus Málaga, Spain, July 2007.

OTHER INVITED LECTURES IN CONFERENCES & WORKSHOP MEETINGS

1. *Water Resources Management in Greece: Obligations, announcements, expectations and reality"*, BIOMET Meeting, University of Patras, 4 June 2010.
2. *Cost-efficient management of coastal aquifers in water-stressed regions*, invited lecture, Workshop on *Cleaning technologies for sustainable use of water in industry*, 24 – 25 September 2009, Madrid.
3. *Flood hazards and their management* (**Κίνδυνοι από Πλημμύρες και η Διαχείρισή τους**), lecture given at the Conference "Assessment and Handling of Natural Hazards" organized by the National Centre for Public Administration and Local Government – Institute of Continuing Education, 21-23 November 2007, Athens.
4. *On the Status of Monitoring the Water Resources of Greece*, **Harmoni-CA** (Harmonised Modelling Tools for Integrated River Basin Management) WP 2 / WP 4

Workshop: *Joint use of modelling and monitoring for implementing the Water Framework Directive*, Ghent, Belgium, April 3-5, 2005, and also participation in the Workshop: *Potential modelling support*, Vilnius, Lithuania, September 19-21, 2005.

5. *Contaminant transport in soils and groundwater*, ***Key Note address***, *4th European Congress of Chemical Engineering (ECCE – 4), Topic 4, Safety, Health & Environmental Engineering*, September 2003, Granada, Spain.
6. *Utilisation of coastal aquifers with special consideration of islands*, **Invited Talk**, Workshop on Intensively Exploited Aquifers *(WINEX)*, organised by the *Ministry of Science & Technology of Spain*, the Regional Government of Valencia, *Instituto Geológico y Minero de Espanã* and *Fundación Marcelino Botín,* held at *Academia Real de Ciencias,* 13-15 December 2001, Madrid, Spain.
7. *The TELEFLEUR System*, Special Meeting, 15 January 2001, Athens.
8. *The management of water resources in Greece: Issues, laws and problems*, Workshops/Seminars "Aguas Continentales en los Países Mediterráneos de la Unión Europea", organised by CEDEX – Ministerio de Fomento, 15-16 July 1999 and 4-6 October 2000, Madrid, Spain.
9. Koussis, A. D., K. Lagouvardos and V. Kotroni, *The Telefleur Project*, The International Course on Prevention-Forecast and Early Warning of Flash Floods, organized by the General Secretariat for Civil Defence, Hellenic Ministry of the Interior, June 2000, Syros.
10. *Transport of reactive solutes in aquifers: Application of mathematical models*, 6th Management Committee Meeting, COST Programme 621 Groundwater Management of Coastal Karstic Aquifers, NTUA, 29-30 October 1999.
11. Co-Convener, Workshop 5: Environmental Monitoring and Assessment (Concepts and Results), Report of the International Workshop "Water-Related Conflicts of Interests in the Alpine Environment – Research Deficits", Demands and Solutions, H. Zojer (ed.), pp. 69-82, Warmbad Villach, Austria, 28 September – 1 October 1998.
12. *Management of water resources in demand-stressed regions: A Mediterranean Perspective*, lecture given at the Seminar *Preparing the Future: The European Spatial Development Perspective*, Topical area: An integrated approach for water management: floods, drought and sustainability of water resources, Session: "Towards a spatially integrated approach", organisers DG 16/ECC and the Hellenic Ministry for the Environment, Physical Planning and Public Works, 2-3 July 1998, Thessaloniki.
13. Presentation of results of test problems, Colloquium on the Solution of the Transport Equation, E. Eric Adams and Antonio Baptista Conveners, 7th Conference on Computational Methods in Water Resources, MIT, Cambridge, Mass., July 1988.

MEMBERSHIP in CONFERENCE ORGANISING/SCIENTIFIC COMMITTEES

1. 12th International Conference of *Meteorology, Climatology and Physics of the Atmosphere* –COMECAP 2014– Herakleion, Crete, 28-31 May, 2014, Member of Scientific Committee.
2. 11th International Conference of *Meteorology, Climatology and Physics of the Atmosphere* –COMECAP 2012– Athens, Greece, Member of Scientific Committee.

3. 8th EGU Plinius Conference *Mediterranean Storms*, 17-20 October 2006, Dead Sea, Israel, Member of Scientific Committee.
4. 7th EGU Plinius Conference *Mediterranean Storms*, 5-7 October 2005, Rethymnon, Crete, Member of Scientific Committee.
5. Conference *Hydrological Perspectives for Sustainable Development* (HYPESD-2005), Indian Institute of Technology (I.I.T.) Roorkee, February 23-25, 2005, Member of the International Advisory Committee.
6. 3rd International Conference of Mineral Resources, Athens, Greece, November 2000, Technical Chamber of Greece, Member of Organising Committee.

MAJOR CONSULTANCIES

US Army Corps of Engineers, Nashville District: a) Planning for the management of the Cumberland River Basin's water resources, through Warterfield Goodwin Associates Architects, 1987 and b) Training for Hazardous Waste Disposal, 1990.

Review of the design of a surface water quality monitoring network for runoff from surface coal mining operations in Kentucky, USA, 1983.

Hydraulic analysis of the wastewater treatment plant of Clarksville, Tennessee, Barge Waggoner Sumner & Cannon Engineers & Planners, 1984.

Study of the cool-water network of the business center of Nashville, Tennessee, I.C. Thomasson Associates Inc. Consulting Engineers, Nashville, Tenn., 1986.

Greek Ministry of Public Works, through the National Technical University of Athens: Off-shore wastewater diffuser at Psittalia, modeling of circulation in the Saronic Bay.

US EPA: research reviews; evaluation of Groundwater Research Center, Ada, Oklahoma.

Association of Municipalities of Attica: 1) Hydrologic analysis of the Municipal Landfill in Ano Liossia, Greece, through the University of Athens and Lambda Technical Ltd., 1989 and 2) Modelling of contaminant transport and dispersion in Thriasion Plane, 1996.

Instituto Mi Rio, Medellin, Colombia: Contamination analysis for Rio Medellin, 1994.

Public Power Corporation of Greece, subcontract to the University of Athens, Review and Assessment of the Environmental Impact Statement Requirements for the Construction of Hydropower Stations in Countries of the European Union, May 1999.

Ministry of Agriculture, Natural Resources and Environment (Water Development Department), Republic of Cyprus, Implementation of the Water Framework Directive 2000/60 of the European Union in Cyprus, 2006.

"Flooding in Kifissos from the storm of July 8th 2002: Analysis of the rainfall records and the hydrologic-hydraulic impacts", Report to the court-appointed expert, Summer 2006.

The responsibilities and the role of the local administration in the handling of natural disasters, Study for the Institute of Local Administration, member of the experts' team headed by D.P. Lalas, Athens, Greece, 2007-2008.

Design of a Hydrometric Network for Kephisos River & its major tributaries; Modelling of the hydrologic response of the Kephisos River Basin, NEB Ltd., Athens, 2009-2010.

OTHER PROFESSIONAL ACTIVITIES

Evaluation of the textbook HYDROLOGY: An Introduction to Hydrologic Science by R. Bras, for Addison-Wesley Publishing Co, 1989.