

Frank A. D'Agnese

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EDUCATION

Colorado School of Mines, Golden, CO

- 1991-1994 **Doctor of Philosophy**, Geological Engineering
Emphasis: Hydrogeology, Ground-water Modeling, and GIS
Minor: Environmental Sciences / Ecology
Thesis: *Using Geoscientific Information Systems for Three-Dimensional Modeling of Regional Ground-water Flow Systems, Death Valley Region, Nevada and California*
- 1989-1991 **Master of Engineering**, Geological Engineering
Emphasis: Engineering Geology and Applied Geomorphology
Thesis: *A Regional Aggregate Evaluation of Surficial Materials using a GIS*
- 1985-1989 **Bachelor of Science**, Geological Engineering
Emphasis: Geology and Engineering Science
Minor: Environmental Science

CONTINUING EDUCATION

U.S. Geological Survey, Water Resources Division, Lakewood, CO

- Fall 1995 **Advanced Modeling of Ground-water Flow**
Coordinator: Stan Leake (U.S. Geological Survey)
• Survey of expanded capabilities of MODFLOW; Particle tracking using MODPATH; Stream-flow routing; Rewetting of model cells; Transient leakage from confining units; Low-permeability barriers to horizontal flow; Issues of parameter estimation techniques.
- Winter 1995 **Parameter Estimation for the Modular Ground-water Flow Model**
Instructor: Mary Hill (U.S. Geological Survey)
• Capabilities of MODFLOWP; Parameter estimation using non-linear regression; Least-squares estimation; Error analysis for regression solution; Analysis of residuals; Predictive uncertainty; Field examples.

PROFESSIONAL EXPERIENCE

2003-Present **Principal**

Earth Knowledge, Inc., Tucson AZ

Founder and Co-owner of private consulting practice specializing in knowledge integration and decision management for the earth and environmental sciences.

Strategic Planning and Decision Management:

- Develop or review technical objectives and make recommendations for achieving scientific defensibility and organizational efficiency in earth-science based projects.
- Develop formal processes so that more responsive, confident, and reliable decisions can be made to support organizational objectives and to achieve strategic targets.
- Develop technical program strategies based on client organizational core competencies by engaging technical staff and management.

Knowledge Integration:

- Provide interdisciplinary solutions through effective and efficient integration of available data, information, and knowledge.
- Develop innovative methods to facilitate interdisciplinary collaboration and communication.
- Improve and formalize collaborative techniques for information management, analysis, and predictive simulation.
- Evaluate and implement appropriate information technology that enables access and sharing of resources that support technical investigations.

Technical Evaluation:

- Conduct technical evaluations or audits on previous or on-going earth and environmental science programs.
- Determine quality and scientific defensibility of scientific programs.
- Make recommendations describing steps necessary for reaching required quality and defensibility levels.

Scientific Advising:

- Advise managers and technical staff on the most appropriate methods for multidisciplinary scientific analyses that support a comprehensive investigation or characterization program.

2001-2003

Hydrologist

U.S. Geological Survey, Water Resources Division, Arizona District, Tucson AZ

Project Chief, Hydrogeologic Framework of Aquifer Systems in the Desert southwestern U.S.

- Coordinated and/or supervised USGS staff and collaborating research, academic and private consulting contractors totaling over 75 interdisciplinary scientists located throughout the United States conducting geologic, hydrologic, geophysical, geomorphologic, and ecological investigations.
- Proposed, planned, organized and monitored project progress and budget.
- Coordinated integration of multidisciplinary data and interpretations for development of surface and subsurface representation of the regional 3D hydrogeologic framework of ground-water basins in the southwestern United States.
- Developed and coordinated international strategy for development of a hydrogeologic analysis and modeling enterprise.

PROFESSIONAL EXPERIENCE (Continued)

1998-2003

Hydrologist

U.S. Geological Survey, Water Resources Division, Arizona District, Tucson AZ

Principal Investigator and Technical Lead, Death Valley Regional Ground-water Flow System (DVRFS) Project

Supervisory/Management Responsibilities include:

- Coordinate and/or supervise USGS DVRFS project staff including over 50 interdisciplinary scientists located throughout the western United States conducting geologic, hydrologic, geophysical, geomorphologic, and ecological investigations.
- Propose, plan, organize and monitor project progress and budget.
- Supervise development and maintenance of 3D GIS data base for DVRFS project.
- Organize and supervise data base documentation and distribution to public through multi-media outlets.
- Coordinate inter-Divisional geologic and geophysical investigations contributing to improved understanding of geologic framework of Death Valley region.
- Coordinate integration of multidisciplinary data and interpretations for development of surface and subsurface representation of the regional 3D hydrogeologic framework.
- Design, coordinate and monitor progress of regional hydrologic investigations, including land-water-atmosphere modeling of ground-water recharge, evapotranspiration delineation and monitoring, assessment of ground-water withdrawals, and hydrochemical sampling and analysis.

Technical/Research Responsibilities include:

- Develop 3D conceptual/numerical models of ground-water flow in the Death Valley region.
- Conduct calibration, sensitivity analyses, and predictive simulations of complex 3D numerical model using inverse, parameter estimation techniques.
- Apply advanced computer visualization techniques to aid in the construction and interpretation of 3D hydrogeologic framework models.
- Present ongoing results and conclusions at international and national organizational and programmatic review meetings.
- Assist and consult with other participating scientists from national laboratories on the adaptation of the results of the 3D regional ground-water flow model for incorporation into the site saturated zone flow model for Yucca Mountain.
- Provide expert technical advice and guidance to other principal investigators for the USGS and other participants, such as Lawrence Berkeley National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory, and the Nuclear Regulatory Commission on regional ground-water modeling studies.

Program Development/Outreach/Technology Transfer Responsibilities include:

- Participate in technology transfer activities, such as conducting workshops, guest lecturing, and writing proposals for and conducting collaborative investigations with other research and academic institutions, utilizing hydrogeologic framework and fluid flow modeling techniques to evaluate ground-water flow in complex geologic basins.
- Coordinate efforts with USGS Geologic Division staff to develop programs directed at evaluating Hydrogeologic Framework of the Desert Southwest of the United States on a regional and sub-regional basis.

PROFESSIONAL EXPERIENCE (Continued)

1990-1998

Hydrologist

U.S. Geological Survey, Water Resources Division, Yucca Mountain Project, Denver, CO
Project Chief, Three-Dimensional (3D) Regional Hydrologic Modeling Studies

Responsibilities included:

- Developed 3D conceptual and numerical models of ground-water flow for the Death Valley flow system.
- Conducted calibration, sensitivity analyses, and predictive simulations of complex 3D numerical model using inverse, parameter estimation techniques.
- Evaluated ground-water flow path hypotheses using hydrologic and hydrochemical testing.
- Developed regional vegetation map of study area using remote sensing and GIS techniques and utilized results for quantifying regional ground-water recharge and discharge.
- Applied advanced computer visualization techniques to aid in the construction and interpretation of 3D hydrogeologic framework models.
- Conducted beta-testing and developed alternative applications techniques for GIS and geologic modeling software for various commercial vendors including Intergraph Corporation, Huntsville, Alabama; Schlumberger-GeoQuest, Houston, Texas; and Landmark Graphics, Austin, Texas; and frequently interacted with software development teams to improve software for use in hydrogeologic, geophysical and environmental applications.
- Organized and developed 3D GIS data base for regional hydrogeologic assessment including all surface and subsurface data types (geology, geomorphology, soils, vegetation, well data, climate, geophysics).
- Conducted field mapping of geology, soils, and vegetation to assess accuracy of integrated GIS data.
- Organized and conducted field work for paleohydrology and geochemistry studies, including water chemistry, isotope and micro- and macro-fauna sampling of wells, springs, and playas.
- Identified sources of data, developed data base, and documented GIS data for public use.
- Compiled and integrated USGS Digital Cartographic Data Series (DEM, DLG, land-use/land cover) data.
- Managed scanning and digitizing of manuscript maps by technician and student staff.
- Assisted and consulted with others on the adaptation of the results of the 3D regional ground-water flow model for incorporation into the site saturated zone flow model for Yucca Mountain.
- Engaged in technology transfer activities such as workshops and training courses to communicate utility of 3D ground-water modeling techniques.
- Presented ongoing results and conclusions at organizational and programmatic review meetings.
- Planned and monitored monthly project progress and budget.
- Supervised project technician staff.

PROFESSIONAL EXPERIENCE (Continued)

Summer 1989 **Physical Science Technician (Engineering Geologist)**

U.S. Forest Service, San Juan National Forest, Engineering, Durango, CO

- Evaluated the distribution, quality and potential volume of gravel aggregate reserves and developed an engineering method of evaluation to be used in a forest-wide inventory.
- Assessed aggregate quality, engineering costs (operative scale and road networking), and environmental impacts (visual impact, reclamation potential, land-use suitability, and hillslope-failure potential) of aggregate development on special-use areas (wilderness, big-game winter-range, grazing, timber production, recreation, and private lands).
- Conducted soil survey analysis, air photo-interpretation, field geologic mapping and sampling, and evaluation of geotechnical properties of deposits.

1988-1989 **Hydrologic Technician**

U.S. Geological Survey, Water Resources Division, Denver, CO

- Assisted laboratory manager in the procurement, construction and calibration of prototype instrumentation used in unsaturated zone-rock infiltration testing.
- Prepared fractured-rock samples, collected and analyzed infiltration test and modeling data.

TEACHING EXPERIENCE

Aug 2003 **Lecturer, Geoscience Knowledge Integration**

General Training on Methodologies for Geologic Waste Disposal in North America

International Atomic Energy Agency Network of Centers of Excellence, Berkeley, CA

- Presented 4 hour lecture on approaches and tools for enabling geoscience knowledge integrations.

Feb 1997 **Guest Lecturer, Advanced Ground-water Modeling (HWR584)**

University of Arizona, Department of Hydrology and Water Resources, Tucson, AZ

- Presented lecture on parameter estimation and inverse modeling techniques.

Feb 1997 **Guest Lecturer, Parameter Estimation for the Modular Ground-water Flow Model**

U.S. Geological Survey, National Training Center, Lakewood, CO

- Presented lecture on development of MODFLOWP ground-water flow models using 3D hydrogeologic characterization packages, calibration of models, and assessment of uncertainty.

1996-1998 **Guest Lecturer, Engineering Geomorphology**

Colorado School of Mines, Department of Geology and Geological Engineering, Golden, CO

- Assisted faculty member in development of Environmental Processes and Engineering Geomorphology course, including lectures and lab exercises.
- Lectured on applied geomorphology for selected dates throughout semester.

1989-1991 **Teaching Assistant**

Colorado School of Mines, Department of Geology and Geological Engineering, Golden, CO

- Prepared and conducted lab exercises and field trips for undergraduate Physical Geology and Applied Geomorphology.
- Developed and presented senior-level engineering design problems for course in Water Well Design and Construction.

PROFESSIONAL AND STUDENT AFFILIATIONS

Tau Beta Pi, National Engineering Honor Society

Kappa Mu Epsilon, Mathematics Honor Society

CSM Association of Geoscience Students,

- Founder and President (1987-1989)

- "To further undergraduate participation in the geology and geological engineering program"

- Proposed and created new course directed at informing students of potential careers in geology and geological engineering

Association of Engineering Geologists

- Secretary-Treasurer, CSM Student Chapter (1989-1990)

- Organized annual Student Night Dinner for Rocky Mtn Chapter (1990)

Geological Society of America (1990-present)

American Geophysical Union (1994-present)

HONORS

USGS Ten-Years-of-Service Award, October 1999

USGS Quality Step-Increase, October 1996

USGS Special Achievement Award, January 1996

USGS Superior Performance Award, May 1995

USGS Special Achievement Award, June 1994

USGS Superior Performance Award, September 1993

Outstanding Graduating Senior-Geological Engineering, Colorado School of Mines, May 1989

Colorado Engineering Council Silver Medal-Colorado School of Mines, Graduation May 1989

Sun Exploration and Production Co. Scholarship, Colorado School of Mines, 1986; 1987

T.W. Nelson Scholarship, Mobil Oil Corporation, 1985

Colorado School of Mines President's Scholarship, 1985

COMPUTER INFORMATION TECHNOLOGY SKILLS

Geographic Information Systems: IDRISI, ArcGIS, and Intergraph's MGE.

Three-Dimensional Geoscientific Information Systems: Intergraph's MGVA (Voxel Analyst), Landmark's Stratamodel SGM (Stratigraphic Geocellular Modeling), and Lynx Geosystem's GMS (Geological Modeling System), Dynamic Graphics' Earthvision

Ground-water Modeling: MODFLOW-2000, MODPATH, MODFLOWP and RANDOM WALK

Parameter Estimation: UCODE and PEST

Graphics, Gridding, and Contouring Packages: AUTOCAD, Microstation, SURFER and Schlumberger-GeoQuest's CPS-3.

Digital Image Processing: ILWIS, TerraMar MICROIMAGE, and Intergraph's Imagation Imager

COMMITTEES, WORKSHOPS, SYMPOSIA ORGANIZED/CHAIR

- Co-organized a one-week workshop on "Hydrogeology of the Desert Southwest" for the USGS National Cooperative Geologic Mapping Program and USGS National Ground-water Resources Program, April 2002.
- Co-organized a one-day workshop on "Integrating Geologic Data for use in Ground-water models" for the USGS National Ground-water Meeting, sponsored by the USGS, Water Resources Division, Office of Groundwater, Nov. 1-5, 1999.
- Served as member of the USGS National Cooperative Geologic Mapping Program Advisory Committee to evaluate annual research proposals for Fiscal Years 2001 and 2000, August 1999 and 2000.
- Co-organized and co-chaired theme session entitled "The Death Valley Hydrogeologic System", Geological Society of America 1996 Annual Meeting, Denver, Colorado, October 1996.
- Co-organized Workshop on "New Research Frontiers: Three-Dimensional Subsurface Characterization" for the Third International Conference/Workshop on Integrating Geographic Information Systems and Environmental Modeling, sponsored by the National Center for Geographic and Information Analysis, at Santa Fe, New Mexico, January 21-25, 1996.
- Co-organized and co-chaired theme session entitled "Leading Edge Techniques in Three-Dimensional Geologic Modeling", Geological Society of America 1994 Annual Meeting, Seattle, Washington.

PRESENTATIONS

- DVRFS: The Once and Future Model*, Devil's Hole Workshop, Death Valley National Park Headquarters, Death Valley, California, May 2003.
- Steps Toward Global Geoscience Knowledge Integration*, Briefing to the Secretary, UNESCO International Hydrological Programme and Director, UNESCO Earth Sciences Division, Paris, France, September 2002.
- Development of a Universal Geoscience Business Process*, Lecture to the UNESCO-IHE Institute for Water Education, Delft, The Netherlands, September 2002.
- Knowledge integration and transfer*, USGS Workshop on the Hydrogeology of the Desert Southwest, April 2002, Tucson, Arizona.
- Uncertainty, parameter estimation, calibration of models, and managing uncertainty in subsurface characterization*, European Science Foundation Conference on New Paradigms for the Prediction of Subsurface Conditions, Characterization of the Shallow Subsurface: Implications for Urban Infrastructure and Environmental Assessment, Sol Cress Conference Center, Spa, Belgium, July 7 - 12, 2001. **(INVITED KEYNOTE)**.
- National geo-data requirements - a North American perspective*, European Science Foundation Conference on New Paradigms for the Prediction of Subsurface Conditions, Characterization of the Shallow Subsurface: Implications for Urban Infrastructure and Environmental Assessment, Sol Cress Conference Center, Spa, Belgium, July 7 - 12, 2001. **(INVITED)**.

PRESENTATIONS (Continued)

- Characterizing complex hydrogeologic basins in desert regions of the southwestern U.S.: Past successes, present limitations, and future needs*, Lecture to the British Geological Survey, Keyworth, U.K., March 2001.
- Scientific challenges for hydrogeologic investigations in the Great Basin, U.S.A.*, Lecture to the International Institute for Geo-Information Science and Earth Observation (ITC), Enschede, The Netherlands, March 2001.
- A work plan for hydrogeologic investigations in the southwestern United States*, Briefing to Netherlands Institute of Applied Geoscience TNO – National Geological Survey, Delft, The Netherlands, March 2001.
- Modeling of complex hydrogeologic systems*, Lecture to University Hydrogeology Class, Technical University, Delft, The Netherlands, March 2001. **(INVITED)**.
- Three-dimensional modeling of complex hydrogeologic systems in the desert southwestern United States*, Modeling for Management, Symposium, Technical University, Delft, The Netherlands, May 2000. **(INVITED)**.
- Status of investigations for the Death Valley regional ground-water flow system (DVRFS) project*, DVRFS Stakeholders Technical Exchange Workshop, Beatty, Nevada, November 16-18, 1999.
- Use of inverse modeling for calibrating complex geologically-based ground-water flow models*, Parameter estimation techniques workshop at the USGS National Ground-water Meeting, sponsored by the USGS, Water Resources Division, Office of Groundwater, Nov. 1-5, 1999 **(INVITED)**.
- Status of investigations for the Death Valley regional ground-water flow system (DVRFS) project*, DVRFS Stakeholders Technical Exchange Workshop, Amargosa Valley, Nevada, May 24-26, 1999.
- An integrated ground-water modeling program for the Death Valley region, Nevada and California*, Water in the Deserts: Past, Present and Future, Southern California Academy of Science Symposium, Fullerton, California, April 30, 1999 **(INVITED)**.
- Death Valley ground-water model: calibration vs. geologic conceptual model testing*, Status of Geologic Research and Mapping in Death Valley National Park, Las Vegas, Nevada, April 9-11, 1999 **(INVITED KEYNOTE)**.
- Requirements for reducing uncertainty in the DOE regional ground-water flow models of the Death Valley region, Nevada and California*, Nevada Test Site Community Advisory Board Meeting, October 1998 **(INVITED)**.
- A regional ground-water model as a water-resource management tool*, Devil's Hole Workshop, Stateline, Nevada, March 1998.
- Comparison of the Yucca Mountain and Nevada Test Site Underground Testing Areas regional ground-water flow models*, Yucca Mountain Site Characterization Senior Staff Meeting, Office of Civilian Radioactive Waste Management, Las Vegas, Nevada, October 1997 **(INVITED)**.

PRESENTATIONS (Continued)

- Death Valley regional flow model calibration using optimal parameter estimation methods and geoscientific information systems*, University of Arizona, Department of Hydrology and Water Resources Weekly Hydrology Seminar Series, August 27, 1997.
- Limitations in regional saturated-zone ground-water modeling*, Yucca Mountain Saturated-Zone Expert Elicitation Panel Program Review, Las Vegas, Nevada, August 21, 1997.
- Utilizing the Death Valley regional ground-water flow model to assess uncertainty in our knowledge of the system*, Devil's Hole Workshop, Stateline, Nevada, April 7-8, 1997 **(INVITED)**.
- Use of commercial products for developing hydrogeologic framework and numerical ground-water flow models*, USGS Ground-water Modeling Workshop, Denver, Colorado, March 18-20, 1997.
- Use of hydrogeologic framework modeling techniques and optimal parameter estimation methods for modeling of complex ground-water flow systems*, USGS District Ground-water Specialists Meetings, Northeast and Southeast Regions: Orlando, Florida, January 28-30, 1997; Central and Western Regions: Menlo Park, California, February 11-13, 1997.
- Regional 3D ground-water flow model of the Death Valley basin*, Nuclear Waste Technical Review Board Meeting, January 20-21, 1997 **(INVITED)**.
- Results of the USGS Death Valley 3D regional ground-water flow model*, Devil's Hole Workshop, Death Valley National Park Headquarters, Death Valley, California, May 8-9, 1996 **(INVITED)**.
- A progress report on modeling the Death Valley regional ground-water flow system*, Devil's Hole Workshop participants, Desert Research Institute, Las Vegas, Nevada, April 24, 1995 **(INVITED)**.
- Considerations for 3D regional hydrological modeling using geoscientific information systems*, TNO, Delft, The Netherlands, June 1992.
- Design and development of a 3D data base for regional hydrogeological modeling*, Time-Space Modeling of Bounded Natural Domains workshop, sponsored by the European Science Foundation at Lucca, Italy, June 1992.

PUBLICATIONS

Journal Articles /Book Chapters:

- Tiedeman, C.R., Hill, M.C., D'Agnese, F.A., and Faunt, C.C., in press, Methods for using ground-water model predictions to guide hydrogeologic data collection, with application to the Death Valley regional ground-water flow system: Water Resources Research.
- D'Agnese, F.A. and O'Brien, G.M., 2003. Impact of geoinformatics on the emerging Geoscience Knowledge Integration Paradigm. In: Rosenbaum, M.S. and Turner, A.K. (Eds.) Characterisation of the Shallow Subsurface: Implications for Urban Infrastructure and Environmental Assessment. Springer-Verlag, Düsseldorf. 000-000. **(INVITED)**.

PUBLICATIONS (Continued)

- D'Agnese, F.A.,** Faunt, C.C., Hill, M.C., and Turner, A.K., 1999, Death Valley regional ground-water flow model calibration using optimal parameter estimation methods and geoscientific information systems: *Advances in Water Resources*, Vol. 22, No. 8, pp. 777-790, (INVITED).
- D'Agnese, F.A.,** Faunt, C.C., and Turner, A.K., (USGS approved), An assessment of vegetation distributions in the Death Valley region, Nevada and California, using remote sensing and GIS techniques: (outlet pending).
- Leavesley, G.H., Turner, A.K., **D'Agnese, F.A.,** and McKnight, D., 1997, Regional delineation of North America for the assessment of freshwater ecosystems and climate change: *Hydrologic Processes*, Vol. 11, pp.819-824.
- D'Agnese, F.A.,** Turner, A.K., and Faunt, C.C., 1996, Using geoscientific information systems for three-dimensional regional ground-water flow modeling in the Death Valley Region, Nevada and California: *in GIS and Environmental Modeling: Progress and Research Issues* (M. F. Goodchild, L.T. Steyaert, and B.O. Parks, eds), GIS World Books, Fort Collins, Colorado, pp. 265-270.
- U.S. Geological Survey Reports:**
- D'Agnese, F.A.,** O'Brien, G.M., Faunt, C.C., Belcher, W.R., and San Juan, C.A., 2002, A three-dimensional numerical ground-water flow model of predevelopment conditions in the Death Valley regional ground-water flow system, Nevada and California: U.S. Geological Survey Water Resources Investigations Report 02-4102.
- Belcher, W.R., Faunt, C.C., and **D'Agnese, F.A.,** 2002, Three-dimensional hydrogeologic framework model for use with a steady-state numerical ground-water flow model of the Death Valley regional flow system, Nevada and California: U.S. Geological Survey Water Resources Investigations Report 01-4254, 97 p.
- Hill, M.C., Ely, D.M., Tiedeman, C.R., O'Brien G.M., **D'Agnese, F.A.,** and Faunt, C.C., 2000, Preliminary evaluation of the importance of existing hydraulic-head observation locations to advective transport predictions, Death Valley Regional Flow System, California and Nevada: U.S. Geological survey Water-Resources Investigations Report 00-4282, 62 p.
- D'Agnese, F.A.,** and Faunt, C.C., 1999, The Death Valley regional ground-water flow system (DVRFS) model - Calibration versus hydrogeologic model testing in Slate, J.L., ed., *Proceedings of Conference on Status of Geologic Research and Mapping in Death Valley National Park*, Las Vegas, Nevada, April 9-11, 1999: U.S. Geological Survey Open-File Report 99-153, p. 52.
- Faunt, C.C., W.R. Belcher, and **F.A. D'Agnese,** 1999, Using geologic data for a three-dimensional hydrogeologic framework model of the Death Valley region, in Slate, J.L., ed., *Proceedings of Conference on Status of Geologic Research and Mapping in Death Valley National Park*, Las Vegas, Nevada, April 9-11, 1999: U.S. Geological Survey Open-File Report 99-153, pp. 59-60.
- D'Agnese, F.A.,** O'Brien, G.M., Faunt, C.C., and San Juan, C.A., 1999, Simulated effects of climate change on the Death Valley regional ground-water flow system, Nevada and California: U.S. Geological Survey Water Resources Investigations Report 98-4041.
- D'Agnese, F.A.,** Faunt, C.C., and Turner, A.K., 1998, An estimated potentiometric-surface of the Death Valley region, Nevada and California, developed using geographic information system and automated interpolation techniques: U.S. Geological Survey Water Resources Investigations Report 97-4052.
- D'Agnese, F.A.,** Faunt, C.C., Turner, A.K., and Hill, M.C., 1997, Hydrogeologic evaluation and numerical simulation of the Death Valley regional ground-water flow system, Nevada and California: U.S. Geological Survey Water Resources Investigations Report 96-4300.

PUBLICATIONS (Continued)

- Faunt, C.C., **D'Agnese, F.A.**, and Turner, A.K., 1997, A hydrogeologic map of the Death Valley region, Nevada and California, developed using GIS techniques: U.S. Geological Survey Water Resources Investigations Report 95-4016.
- Luckey, Richard R., Tucci, Patrick, Faunt, Claudia C., Ervin, Elisabeth M., Steinkampf, William C., **D'Agnese, Frank A.**, Patterson, Gary L., 1996, Status of understanding of the saturated-zone ground-water flow system at Yucca Mountain, Nevada, as of 1995: U.S. Geological Survey Water Resources Investigations Report 96-4077, p. 71.
- Turner, A.K., **D'Agnese, F.A.**, and Faunt, C.C., 1996, Digital elevation model (DEM) file of the topographic elevations for the Death Valley region of the southern Nevada and southeastern California processed from U.S. Geological Survey 1-degree Digital Elevation Model files: U.S. Geological Survey Open-File Report 95-287 (A).
- Turner, A.K., **D'Agnese, F.A.**, and Faunt, C.C., 1996, Digital hydrographic (DLG), land-use cover, and hydrologic unit code files for the Death Valley region, southern Nevada and southeastern California processed from U.S. Geological Survey 1:100,000- and 1:250,000-scale digital data files: U.S. Geological Survey Open-File Report 95-287 (B).
- D'Agnese, F.A.**, Faunt, C.C., and Turner, A.K., 1995, Preliminary digital geologic maps of the Mariposa, Kingman, Trona, and Death Valley Sheets, California: U.S. Geological Survey Open-File Report 94-318, 29 p.

Conference Proceedings:

- Tiedeman, C.R., Hill, M.C., **D'Agnese, F.A.**, and Faunt, C.C., 2001, Using ground-water model predictions to guide hydrogeologic data collection: MODFLOW-2001 and other modeling odysseys Conference Proceedings, eds. H.S. Seo, E. Poeter, C. Zheng, and O. Poeter, p. 195-201.
- Hill, M.C., **D'Agnese, F.A.**, and Faunt, C.C., 1999, Guidelines for model calibration and application to simulation of flow in the Death Valley regional ground-water system: *in* Fritz Stauffer, Wolfgang Kinzelbach, Karel Kovar, and E. Hoehn, eds, Proceedings of the 1999 Model CARE Conference, Zurich, Switzerland, September, 1999, volume I, p.179-188 (INVITED).
- D'Agnese, F.A.**, Faunt, C.C., Hill, M.C., and Turner, A.K., 1996, Death Valley regional ground-water flow model calibration using optimal parameter estimation methods and geoscientific information systems: Calibration and Reliability in Ground-water Modelling, Proceedings of the ModelCARE 96 Conference held at Golden, Colorado, September 1996, IAHS Publication no. 237, 1996.
- D'Agnese, F.A.**, Faunt, C.C., and Turner, A.K., 1996, Using remote sensing and GIS techniques to estimate discharge and recharge fluxes for the Death Valley regional ground-water flow system, Nevada and California, USA: HydroGIS '96: Application of Geographic Information Systems in Hydrology and Water Resources Management, Proceedings of the Vienna Conference, April 1996, IAHS Publication no. 235, 1996.
- D'Agnese, F.A.**, Turner, A.K., and Faunt, C.C., 1996, Using geoscientific information systems for three-dimensional regional ground-water flow modeling in the Death Valley Region, Nevada and California: Proceedings International Conference/Workshop on Integrating Geographic Information Systems and Environmental Modeling, September 26-30, 1993, Breckenridge, Colorado.
- Turner, A. Keith, **D'Agnese, Frank A.**, Faunt, Claudia C., 1994, Use of three dimensional geoscientific information systems for data integration and visualization in support of regional hydrogeological studies: *in* 5th international conference on geoscience information, June 20-23, 1994, (Hruska, J., editor), Geofond of the Czech Republic, Prague, Czech Republic, Vol. 5, p. 47.

PUBLICATIONS (Continued)

- Faunt, C.C., **D'Agnese, F.A.**, Downey, J.S., and Turner, A.K., 1993, Characterizing the hydrogeologic framework of the Death Valley Region, southern Nevada-California, USA: High-Level Radioactive Waste Management, Proceedings of the Fourth Annual International Conference, Las Vegas, Nevada, April 1993, pp. 1194-1199.
- Faunt, C.C., **D'Agnese, F.A.**, and Turner, A.K., 1993, Development of three-dimensional hydrogeologic framework model for the Death Valley Region, southern Nevada-California, USA: HydroGIS '93: Application of Geographic Information Systems in Hydrology and Water Resources, Proceedings of the Vienna Conference, April 1993, IAHS Publication No. 211, pp. 227-234.
- Faunt, C.C., **D'Agnese, F.A.**, Downey, J.S., and Turner, A.K., 1993, Geoscientific information systems and 3D hydrogeologic models for the Yucca Mountain area, southern Nevada-California, USA: Waste Management '93, Proceedings of the Symposium on Waste Management at Tucson, Arizona, February 28 - March 4, 1993, pp.1317-1320.

Abstracts:

- D'Agnese, F.A.**, 2007, Utilizing internet-based community collaboration tools and geobrowsers to address issues of water resource sustainability: EOS, Transactions, American Geophysical Union, 2007 Fall Meeting, San Francisco, California.
- D'Agnese, F.A.**, 2007, Utilizing internet-based community collaboration and 3D visualization tools to address issues of water resource sustainability (abs): Geological Society of America, Abstracts with Programs, 2007 Annual Meeting, Denver, Colorado.
- D'Agnese, F.A.** and O'Brien, G.M., 2002, Impact of geoinformatics on the integration of geoscience knowledge: Geological Society of America Abstracts with Programs, vol. 34, no. 6, October 2002, p. 224. **(INVITED)**.
- O'Brien, G.M., **D'Agnese, F.A.**, and Nasser, K.H., 2002, An infrastructure and protocols to enable geoscience knowledge integration: Geological Society of America Abstracts with Programs, vol. 34, no. 6, October 2002, p. 224.
- Lagueux, F., Nasser, K.H., O'Brien, G.M., and **D'Agnese, F.A.**, 2002, An enterprise system to enable geoscience knowledge integration: Geological Society of America Abstracts with Programs, vol. 34, no. 6, October 2002, p. 225.
- Anning, D.W., **D'Agnese, F.A.**, Konieczki, A.D., Leake, S.A., Monical, J.E., O'Brien, G.M., and Rees, J.A.H., 2002, Hydrogeologic classification of basins in the Basin and Range physiographic province of the western United States: Geological Society of America Abstracts with Programs, vol. 34, no. 6, October 2002, p. 392-393.
- O'Brien, G.M., **D'Agnese, F.A.**, Turner, A.K., Nasser, K.H., 2002, Role of geoinformatics in the geoscience-business process: Proceedings of the International Association of Mathematical Geology, Annual Meeting 2002, Berlin Germany.
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