

Family Name SOL MARTINEZ
First Name David Ricardo
Married
Sex Male
Date of birth October 15, 1962
Languages: English, French, Spanish

Address
Lateral Recta a Cholula 3811, Quetzalcoatl
Calle Chimalma No. 120
72070 Cholula, Puebla, Mexico
Tel. +52 (222) 225 6588, +52 (222) 444 5755
email: davidr.sol@gmail.com,
david.sol@geosistemas.com.mx

I. EDUCATION

PhD in Computer Science
Université de Savoie, France
1993-1997

Computing Engineering
UDLA, Universidad de las Américas, Puebla, Mexico
1981-1986

II. SKILLS

- Development on Geographical Information Systems (GIS)
- Teaching and Research
- Technical skills in GIS
- Administrator
- Leadership in GIS projects
- Academical Leadership
- Leadership in collaboration projects between universities and the industry

III. EXPERIENCE

- Informática y GeoSistemas Chair 2005-
- Department Chair, Computing Engineering, UDLA. 2001-2005
- CENTIA Chair (Centro de Investigación en Tecnologías de Información y Automatización), UDLA. 2001
- Finance Chair SMCC (Sociedad Mexicana de Ciencia de la Computación). 2003-
- Teaching and Research, Computing Engineering, UDLA. 1997-2005
- Software Development and Construction, 1987-1992

IV. TEACHING AND RESEARCH

- Courses: Object Oriented Programming, Databases, Multimedia Databases, GeoSpatial Databases, Geographical Information Systems, Distributed Systems, Information Retrieval
- Twenty international papers on GIS, five of them in journals
- Director of 20 undergraduate final projects, 14 master thesis and 2 PhD thesis (the PhD thesis in collaboration with INSA de Lyon, France). All the thesis and final projects on GIS.
- Director of five research projects funded by CONACyT (Consejo Nacional de Ciencia y Tecnología in Mexico), the BMBF (Bundesministerium für Bildung und Forschung) from Germany and the LAFMI (Laboratoire France-Mexique en Informatique)

V. JOURNAL PUBLICATIONS

2005 Sol D. Schmidt M. Marin J. Animated Cartography, a visual Interface to simulate car traffic. Virtual Concept 2005, Springer Verlag.

2001 Sol D. Gómez H. Guenet M. *Urban Data Representation and Analysis*. Knowledge Based Information Systems, KES'2001. IOS Press (September 2001)

2001 Sol D. Ayala G. Sánchez A. *Improving the Quality of Digital Services and Collections for Large Communities*. Knowledge Based Information Systems, KES'2001. IOS Press (September 2001)

2001 Sol D. Razo A. *Natural Hazards in the Popocatepetl Volcano Zone*. ESRI PRESS. San Diego CA, USA (July 2001)

2000 Sol D. Posada N. *Object Oriented Database for a GIS*. GIS and Remote Sensing. WIT Press (Junio 2000)

VI. INTERNATIONAL PUBLICATIONS

2004 Osorio M., Zepeda C., Sol D. and Lazzeri G. *A decision support system for disaster situations. e-Environment: Progress and Challenge*. Ed. Prastacos, P. and Cortés, U. and Díaz de León, J. L. and Murillo, M. IPN publisher. México 2004. Series Research on Computing Science. Vol. 11, Pp.98-117, ISBN 970-36-0215-0, ISSN: 1665-9899.

2004 Pech M. Tchounikine A. Laurini R. Gonzalez J. Sol D. *Graph-based Representation for Spatial Data Mining: A Proposal*. Proceedings of the CASSINI'04, 7ème Conférence du GDR SIGMA, Géomatique et Analyse Spatiale, Grenoble, France, pp. 53-58 (June 2004)

2004 Zepeda C. Sol D. Solnon C. *Planning Operation: An Extensión of a Geographical Information System*. Workshop on Non-Monotonic Reasoning. MICAI 2004 (Abril 2004)

2003 Pech M. González J. Sol D. *Graph-Based Knowledge Representation for GIS Data*. International Conference on Computer Science ENC 03. IEEE Computer Society. Tlaxcala, Mexico (Septiembre 2002)

2002 Pech M. González J. Sol D. *Spatial and non Spatial Data Mining*. International Workshop Semantic Processing of Spatial Data. Mexico, DF (Diciembre 2002)

2002 Razo A. Sol D. *GISELA: a web based interface for a risk management GIS using XML*. International Workshop Semantic Processing of Spatial Data. Mexico, DF (Diciembre 2002)

2002 Zepeda C. Sol D. *An implementation of spatio-temporal annotated constraint logic programming*. International Workshop Semantic Processing of Spatial Data. Mexico, DF (Diciembre 2002)

2001 Razo A. Sol D. *Standard 2D and 3D geospatial data formats for a Volcano GIS*. Tercer Encuentro Internacional de Ciencias de la Computación. Aguascalientes, México, pp. 737-744 (Septiembre 2001)

2001 Gómez H. Guenet M. Sol D. *Modeling and Analyzing Urban Data*. Tercer Encuentro Internacional de Ciencias de la Computación. Aguascalientes, México, pp. 745-755 (Septiembre 2001)

2000 Sol D. Loyo E. Razo A. *Risk Management in the Popocatepetl Volcano Zone*. Workshop on advanced techniques for the Assessment of Natural Hazards in Mountain Areas. Innsbruck, Austria (Junio 2000)

2000 Posada N. Sol D. *Bases de datos orientada a objetos para un GIS*. MICAI 2000. Conferencia de Inteligencia Artificial. Acapulco, Mex. (Abril 2000)

1999 Sol D. García F. *Geographic Services in a Digital Library*. First NSF-CONACyT workshop on Digital Libraries. Albuquerque NM, USA. (July 1999)

1999 Romero M. Alvarez G. Sol D. *Esquemas de integración en sistemas de bases de datos distribuidas heterogéneas*. Segundo encuentro nacional de computación. Pachuca, Mex. (Septiembre 1999)

1998 López E. Sol D. *Modelado de información espacial y geográfica utilizando la geometría de Peano*. CIC '98, Simposium Internacional de Computación, México D.F. pp 242-246 (Noviembre 1998).

1998 Sol D, Siklóssy L. *Representación e interpretación de escenarios dinámicos*. Iberamia '98, Lisboa, Portugal pp. 55-68 (Octubre 1998).

VII. RESEARCH PROJECTS

- 2000-2001 *Base de datos geográfica para el apoyo a la toma de decisiones en la zona del volcán Popocatepetl*
Funded by CONACYT, reference R31971-A
- 2001-2002 *Servicios y Colecciones Digitales para grandes Comunidades de Usuarios*
Funded by CONACYT, reference 35804-A
- 2002-2004 *Habitar y Vivir, zona urbana de la ciudad de Puebla, análisis histórico urbano utilizando cartografía*
Funded by CONACYT, reference 38257-H
- 2002-2005 *Controlling the evacuation if the habitants Popocatepetl area using cars*
Funded by BMBF (Bundesministerium für Bildung und Forschung), reference J200-I058
DLR-Deutschland
- 2004-2005 *Sistema de Información de Riesgos del Popocatepetl*
Funded by LAFMI, Laboratoire France-Mexique en Informatique

VIII. RESEARCH VISITS

1999 Universidad Politécnica de Cataluña, Spain. Departamento de Inteligencia Artificial. June 1999.

2000 INSA de Lyon, France. LIRIS, Laboratoire d'Informatique en Images et Systèmes d'Information. June 2000. Several visits between 2001 and 2005.

2003-2005 Four research visits to Fraunhofer FIRST (Fraunhofer Institut Rechnerarchitektur und Softwaretechnik) in Berlin, Germany.

IX. DOCTORAL THESIS DIRECTED

2005 Spatial Data Modeling and Mining Using a Graph-based Representation. Jointly delivered by INSA de Lyon, France and Universidad de las Américas, Puebla. Presented by Manuel Alfredo Pech Palacio.

2005 Evacuation Planning Using Answer Set Programming. Jointly delivered by INSA de Lyon, France and Universidad de las Américas, Puebla. Presented by Claudia Zepeda Cortés.

X. MASTER THESIS DIRECTED

1. Data Integration schemes in a distributed context.
2. Data Translation from the OpenGIS Specification.
3. Methodology for constructing a GIS.
4. Information Retrieval in a Distributed GIS.
5. Spatial Analysis in a Distributed GIS.
6. Voronoi Diagrams in GIS.
7. 3D Visualization for volcanic applications in GIS.
8. Case Based Reasoning to analyze geographic information.
9. Automatic generation of geographical query's.
10. Spatial Data Mining for GIS
11. Geographical Services in a Digital Library.
12. Geographic Data Visualization in a PDA.
13. Topological relationships in GIS.
14. GIS to analyze urban catastrophe.

XI. COLLABORATIONS WITH THE INDUSTRY AND GOVERNMENT

1. **SIGSA**, Sistemas de Información Geográfica. Software and Digital Cartography management.
2. **CENAPRED**, Centro Nacional de Prevención de Desastres. Popocatepetl Geographical Database.
3. **INEGI**, Instituto Nacional de Estadística Geografía e Informática. National Committee for standards and interoperability on geographical data.
4. **SAP**, UDLA Alliance Program.
5. **SUN**, UDLA Java Campus.
6. **CISCO**, UDLA-CISCO Network Academy Program.
7. **MICROSOFT**, Imagine Cup Program.

XII. PROJECTS RELATED WITH STUDENTS

1. **ACM**, Association for Computer Machinery. International Contest Programming. Two participations in the International Contest, Los Angeles in 2003 and Praga in 2004.
2. **UPE**, Upsilon Pi Epsilon. Honor Society in Computing Sciences.
3. **Academic conferences**. Every year invited speakers present the new trends in Computing Science

XIII. ASSOCIATIONS

1. **ACM**, Association for Computer Machinery
2. **SMCC**, Sociedad Mexicana de Ciencia de la Computación