

Curriculum Vitae of Dr. Thomas Schmid

Position: Senior Researcher

Institution: CIEMAT - Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Department of Environment.

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Telephone number: +34 91 3466232

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Nationality: Spanish and Swiss

Languages: English, German and Spanish

Areas of Specialization

- Soil and wetland degradation in semi-arid and arid regions.
 - Mercury contamination in soils within mining areas.
 - Design and implementation of field campaigns, which include soil field surveys, soil sampling, planning of airborne and space-borne hyperspectral data acquisition and creating spectral libraries for regional studies using field spectroradiometry measurements.
 - Developing integrated methodologies, applying remote sensing and Geographic Information Systems techniques, to characterise and monitor ecosystem conditions affected by human induced activities in different regions in Spain (wetlands of Castilla La Mancha; mercury contamination in the area of Almadén; areas affected by coal mining activities in El Bierzo).
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Education

- 2004 PhD in Science; Faculty of Science, Autonomous University of Madrid, Spain.
- 1997 Post graduate degree work, Faculty of Science, Autonomous University of Madrid, Spain.
- 1993 MSc in Geography, Faculty of Mathematics and Natural Sciences, University of Zürich, Switzerland.
- 1993 MSc Degree work, Faculty of Mathematics and Natural Sciences, University of Zürich, Switzerland.

Scientific experience

- Senior Researcher (Investigador Titular de los Organismos Públicos de Investigación) at CIEMAT from 25/09/2007 to present.
 - Associate Professor at the Universidad Autónoma de Madrid during 1/10/06-10/2/08.
 - Contracts for Junior Researcher at CIEMAT during 14/3/2002-24/9/2007.
 - Contract for Research work at CIEMAT during 1/04/1995-31/1/2002.
 - Grant from the Spanish Exterior Ministry realised at CIEMAT during, 1/10/1994-31/3/1995.
 - Post graduate internship realised at CGG-Compagnie Général de Geophysique during 1/6/1994-8/31/1994.
 - Post graduate internship realised at NAGRA-National Cooperative for the Disposal of Radioactive Waste during 10/1/1994-15/4/1994.
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Research projects (last 5 years)

Project title: Dynamic mapping of bare soil and crop residues in Mediterranean agricultural areas using remote sensing time series (SOILMEDSEN AGL2010-17505).

Financial entity: Ministerio de Ciencia e Innovación.

Participating entities: UPM, CIEMAT, UAM.

Duration, start: 2011 to 2013

Principal investigator: Dr. Alicia Palacios

Project title: El mercurio en la interfase atmósfera-hidrosfera-edafosfera-vegetación: análisis espacial en la Comarca de Almadén y su impacto en los ecosistemas y salud (MERCURIO, CGL2009-13171-C03-02).

Financial entity: Ministerio de Ciencia e Innovación.

Participating entities: UCLM (Coordinador), CIEMAT, UAM, Universidad de Oviedo.

Duration, start: 2010 to 2013

Principal investigator: Dr. Pablo Higuera

Project title: Evaluación del Impacto Ambiental y recuperación del medio natural en emplazamientos contaminados (EIADES, S2009/AMB-1478).

Financial entity: Comunidad de Madrid.

Participating entities: IMIDRA (Coordinador), CIEMAT, CSIC, INIA, UAM, UCM, UPM, UAH and 12 associated companies (REPSOL YPF, AG Ambiental, TOLSA, Lodos Secos, Natural BIOTEC, BIOTECDES, Holmer Paper).

Duration, start: 2010 to 2014

Principal investigator: Dra. Carmen Lobo

Project title: Detección remota de los efectos del cambio global en la ecología y la biogeoquímica de las comunidades de macrófitas del Parque Nacional las

Tablas de Daimiel: diseño de medidas adaptativas y programas de seguimiento para la conservación. (DECAMERON, 001/2008).

Financial entity: Ministerio de Medio Ambiente, Medio Rural y Marino.

Participating entities: CSIC, CIEMAT, UAM, UCLM.

Duration: 12-12-2008 to 12-12-2011

Principal investigator: Dr. Salvador Sánchez Carrillo

Project title: Realización de un Plan Director para la restauración edafopaisajística y recuperación ambiental de los espacios degradados por la minería del carbón en la Comarca de El Bierzo (07/292)

Financial entity: Fundación Pública Estatal Ciudad de la Energía (CIUDEN)

Participating entity: CIEMAT

Duration: 11-2007 to 12-2008

Principal investigators: Dr. A. Alvarez and Dr. R. Millan

Project title: Dirección y supervisión de la restauración edafopaisajística de las escombreras que afectan al núcleo urbano de Tremor de Arriba (Municipio de Igüeña) en la Comarca de El Bierzo (07/289).

Financial entities: Fundación Pública Estatal Ciudad de la Energía (CIUDEN)

Participating entities: CIEMAT (in collaboration with CEDEX, IGME, ENUSA, Universidad de León)

Duration: 11-2007 to 12-2011

Principal investigators: Dr. A. Alvarez and Dr. R. Millan

Project title: Evaluación del impacto ambiental y recuperación del medio natural en emplazamientos contaminados. (EIADES, MMA S-0505/AMB/0296)

Financial entity: Comunidad Autónoma de Madrid.

Participating entities: CIEMAT, CAM, UCM, UAM . Universidad Politécnica de Madrid, Universidad de Alcalá de Henares. CSIC, INIA, REPSOL, Natural Biotec, AG Ambiental.

Duration: 1-1-2006 to 1-1-2010

Principal investigator: Dr. Rocio Millán Gómez

Project title: Extracción de Geoindicadores de Degradación en Humedales de Ambiente Mediterráneos en España mediante la Teledetección de Datos Multisensoriales (Parque Nacional de Las Tablas de Daimiel) (GEODEGTEL, CGL2005-06458-C02-02).

Financial entity: Ministerio de Educación y Ciencia.

Participating entities: UAM, CIEMAT

Duration: 31-12-2005 to 31-12-2008

Principal investigator: Dr. J. Gumuzzio Fernández

Project title: Recuperación de Suelos contaminados por mercurio: Recomendaciones de uso de suelos y plantas en la Comarca de Almadén. (REUSA, CTM2005-04809/TECNO).

Financial entity: Ministerio de Educación y Ciencia.

Participating entities: CIEMAT, UAM, CSIC (Aula Dei)

Duration: 31-12-2005 to 31-12-2008

Principal investigator: Dr. Rocio Millán Gómez

Project title: Uso sinérgico de datos hiperespectrales y multiespectrales para detección de cambios en humedales de ambientes áridos y semiáridos de España (HUDUTEL, REN2002-01771/CLI).

Financial entity: Ministerio de Ciencia y Tecnología.

Participating entities: Universidad Autónoma de Madrid

Duration: 2002 to 2005

Principal investigator: Dr. J. Gumuzzio Fernández

Publications (last 5 years)

- Millan, R., Schmid, T., Sierra, M.J., Carrasco-Gil, S., Villadóniga, M., Rico, C., Sánchez Ledesma, D.M., Díaz Puente, F.J., 2010. Spatial variation of biological and pedological properties in an area affected by a metallurgical mercury plant: Almadenejos (Spain). *Applied Geochemistry*. *In Press*.
- Martínez, P., Cristo, A., Koch, M., Pérez, R., Schmid, T., Hernández, L., 2010. Diffused Matrix Format: A New Storage and Processing Format for Airborne Hyperspectral Sensor Images. *Sensors*. 10, 4996-5013.
- Gumuzzio, J., Rodríguez Esteban, J. A., Schmid, T., Koch, M., 2009. La teledetección espacial: una aproximación multisensor en la determinación de cambios en entornos semiáridos. *Tierra y tecnología*, 34: 37-47.
- Sierra, M. J., Millán, R., Esteban, E., Cardona, A.I., Schmid, T., 2008. Evaluation of mercury uptake and distribution in *Vicia Sativa* L. Applying two different study scales: greenhouse conditions and lysimeter experiments. *Journal of Geochemical Exploration*, Elsevier, vol. 96, pp. 203–209.
- Schmid, T., Koch, M., y Gumuzzio, J., 2008. Application of hyperspectral imagery to map soil salinity. In: *Remote Sensing of Soil Salinization: Impact and Land Management*, Metternicht, G. and Zinck, A. (eds.). CRC Press, Taylor and Francis Publisher, Chapter 7: 113-139.
- Koch, M., Schmid, T., Gumuzzio, J., 2008. Multisensor study of soil and wetland degradation in semi-arid Mediterranean ecosystems. *Journal: IEEE Geoscience and Remote Sensing Society Newsletter*, 147: 10-17.
- Schmid, T. Domínguez, J. A., Solana, J., Gumuzzio, J., Koch, M., 2008. Applying multi-angle hyperspectral data to detect human-induced changes causing wetland degradation in semi-arid areas (National Park Las Tablas de Daimiel, Spain). *IGARSS IEEE International*, IV: 431- 434.
- Rico, C., Schmid, T., Millán, R., Sierra, M.J., Carrasco, S., 2008. Application of multi-sensor optical data for monitoring land uses within the mercury mining area of Almadén, Spain. *IGARSS IEEE International*, V: 208-211.
- M. Mejuto, R. Millán, A. García, T. Schmid, P.E. Martínez, 2008. Caracterización y estudio de escenarios edafopaisajísticos en zonas afectadas por actividades mineras en la Comarca de El Bierzo. *CIEMAT – ITC*, 1142: 1-87.

- Millán, R., Schmid, T., Cardona, A.I., Díaz Puente, F.J., Sierra, M.J., Carrasco, S., Rico, C., Villadóniga, M., Rodríguez, V., Mejuto, M., García, A., 2008. Suelos con altos contenidos en mercurio y estrategias de rehabilitación. *Infoenviro*, 34: 113-117.
- Schmid, T., Koch, M., DiBlasi, M. y Hagos, M., 2008. Spatial and spectral analysis of soil surface properties for an archaeological area in Aksum, Ethiopia, applying high and medium resolution data. *Catena*, 75: 93-101.
- García Álvarez, A., Millán, R., Schmid, T., Díaz Puente, F. J., 2007. Suelos, medio ambiente y acción antrópica. Retos y amenazas para un recurso esencial. *Vértices*, 4: 33-37.
- Millán, R., Carpena, R.O., Schmid, T., Sierra, M.J., Moreno, E., Peñalosa, J., Gamarra, R., Esteban, E., 2007. Rehabilitación de suelos contaminados con mercurio: estrategias aplicables en la zona minera de Almadén. *Ecosistemas*, 16.
- Koch, M., Schmid, T., Gumuzzio, J., Mather, P., 2006. Wetland feature extraction and change detection study of a playa lake environment in NE Spain using hyperspectral and multispectral images. *Second Recent Advances in Quantitative Remote Sensing* (ed. J.A. Sobrino), 284-288.
- Millán, R., Gamarra, R., Schmid, T., Sierra, M. J., Quejido, A. J., Sánchez, D. M., Cardona A. I., Fernández M. y Vera, R., 2006. Mercury content in flora and soils for the Almadén mining area (Spain). *Science of the Total Environment*, Elsevier, vol. 368, no. 1, pp. 79-87.
- Schmid, T., Koch, M. y Gumuzzio, J., 2005. Multisensor Approach to determine changes of wetland characteristics in semiarid environments (Central Spain). *IEEE Trans. Geosci. Remote Sensing*, vol. 43, no. 11, pp. 2516-2525.
- Sánchez, D. M., Quejido, A. J., Fernández, M., Hernández, C., Schmid, T., Millán, R., González, M. Aldea, M., Martín, R. y Morante R., 2005. Mercury and Trace Elements Fractionation in Almaden Soils through the Application of Different Sequential Extraction Procedures. *Analytical and Bioanalytical Chemistry*, 381 (8): 1507-1513.
- Schmid, T., 2005. Integrated remote sensing approach to detect changes in semi-arid wetland areas in central Spain. *Colección Documentos Ciemat*, Madrid, pp. 209.
- Schmid, T., Koch, M., Gumuzzio, J. and Medel, I., 2005. Field and imaging spectroscopy to determine soil degradation stages in semi-arid terrestrial ecosystems. In: B. Zagajewski y M. Sobczak (eds.), *Imaging Spectroscopy. New Quality in Environmental Studies*. Wydawnictwa Przemyslowe WEMA Sp. Warsaw, Poland, pp. 175-183.
- Koch, M., Schmid, T., Gumuzzio, J. and Mather, P., 2005. Use of image spectroscopy to assess the impact of land use changes in a semi-arid karstic landscape: Los Monegros, Spain. In: B. Zagajewski y M. Sobczak (eds.), *Imaging Spectroscopy. New Quality in Environmental Studies*. Wydawnictwa Przemyslowe WEMA Sp. Warsaw, Poland, pp. 147-155.
- Schmid, T., Millán, R., Sánchez, D., Quejido, A., Fernández, M., Sierra, M. J. and Vera, R., 2005. Mining influences on soils in the district of Almadén

- (Spain). In: O. Uhlmann, G. J. Annokée y F. Arendt (eds.), 9th International FZK/TNO Conference on soil-water systems. Forschungs-zentrum Karlsruhe GmbH, Karlsruhe, Germany, pp. 2663-2669.
- Schmid, T., Koch, M. y Gumuzzio, J., 2005. Monitoring of saline wetland soils in Central Spain using hyperspectral and multispectral data. In: A. Faz Cano, R. Ortiz Silla and A. R. Mermut (eds.), Sustainable Use and Management of Soils, Arid and Semiarid Regions, Advances in GeoEcology 36, Catena Verlag, Reiskirchen, Germany, pp. 569-578.
 - Vera, R., Millán, R., Schmid T., Tallos, A. y Recreo, F., 2005. Behaviour of mercury in the soil-plant system. Application to phytoremediation studies. In: A. Faz Cano, R. Ortiz Silla and A. R. Mermut (eds.), Sustainable Use and Management of Soils, Arid and Semiarid Regions, Advances in GeoEcology 36, Catena Verlag, Reiskirchen, Germany, pp. 527-534.

Congresses (last 5 years)

Authors: Schmid, T., Feilhauer, H., Faude, U., Schmidlein, S., Cirujano, S., Sánchez, R., Sierra, M.J., Rodríguez, M., Sánchez, S.

Title: Application of imaging spectroscopy to map indicator plant species for wetland degradation in the National Park of Las Tablas de Daimiel, Spain.

Type of presentation: Poster.

Congress: 3RD International Symposium on Recent Advances in Quantitative Remote Sensing.

Venue: Valencia, Spain.

Date: 27 September-1 October 2010.

Authors: Cristo, A., Pérez, R.M., Martínez, P., Koch, M., Schmid, T., Hernández, L.M., Carretero, J.

Title: Storage of Hyperspectral Sensor Images, Sources of Error and Footprint Analysis

Type of presentation: Poster

Congress: 3RD International Symposium on Recent Advances in Quantitative Remote Sensing.

Venue: Valencia, Spain.

Date: 27 September-1 October 2010.

Authors: Schmid, T., Palacios Orueta, A., Gumuzzio Such, A., Gumuzzio, J.

Title: Soil spectroscopy to assess sensitive areas affected by soil degradation in Los Monegros (Spain)

Type of presentation: Oral

Congress: Quantitative Applications of Soil Spectroscopy Workshop.

Venue: Potsdam, Germany.

Date: 15-16 April 2010.

Authors: Schmid, T., Gumuzzio, J., Rodríguez, M., Koch, M.
Title: Application of hyperspectral spaceborne data to identify sensitive wetland areas of Central Spain. Autores: Thomas Schmid, José Gumuzzio, Manuel Rodríguez, Magaly Koch

Type of presentation: Oral

Congress: European Space Agency (ESA) Hyperspectral Workshop 2010

Venue: Frascati, Italy. Date: 17-19 March 2010.

Authors: Gumuzzio Such, A., Palacios Orueta, A., Schmid, T., Dominguez, J.A., Gumuzzio, J.

Title: Aplicación de técnicas hiperespectrales de imagen al estudio de la degradación de suelos en ambientes áridos (Los Monegros, España).

Type of presentation: Poster

Congress: Congreso Internacional sobre Desertificación en memoria del Profesor John B. Thornes (ICOD 2009).

Venue: Murcia, Spain. Date: 16-18 September 2009.

Authors: García Álvarez, A., Mejuto Mendieta, M., Del Riego, L., Cardona, A.I., Díaz Puente, F.J., Rodríguez Gallego, V., Schmid, T., Millán Gómez, R.

Title: Activación de los procesos de edafización en la rehabilitación de zonas degradadas por actividades mineras. Un caso de estudio.

Type of presentation: Poster

Congress: Congreso Internacional sobre Desertificación en memoria del Profesor John B. Thornes (ICOD 2009).

Venue: Murcia, Spain. Date: 16-18 September 2009.

Authors: Schmid, T. Cardona, A. I., Carrasco, S., Sierra, M.J., Villadoniga, M.T., Rico, C., Garcia, A., Diaz, F.J., Millan, R.

Title: Spatial heterogeneity of biological and soil properties in an area affected by a metallurgical mercury plant: Almadenejos, Almaden (Spain).

Participation: Oral

Congress: 9th International Conference on Mercury as a Global Pollutant.

Venue: Guiyang, China. Date: 8-12 June 2009.

Authors: Rico, C., Schmid, T. Cardona, A. I., Carrasco, S., Sierra, M.J., Villadoniga, M.T., Garcia, A., Diaz, F.J., Millan, R.

Title: Characterizing and monitoring the impact of mercury mining activities applying remote sensing and geo-information technology.

Participation: Oral

Congress: 9th International Conference on Mercury as a Global Pollutant.

Venue: Guiyang, China. Date: 8-12 June 2009.

Authrs: Schmid, T. Domínguez, J.A., Solana, J., Gumuzzio, J., y Koch, M.

Title: Application of PROBA-1/CHRIS data to determine degradation indicators within the semi-arid wetland area (National Park Las Tablas de Daimiel, Spain).

Participation: Ponencia

Congress: 6th EARSeL Imaging Spectroscopy SIG Workshop.

Venue: Tel Aviv, Israel. Date: 16-18 de marzo de 2009.

Authors: Millán, R., Higuera, P., Sierra, M.J., Esbrí, J.M., López-Berdonces, M.A., Schmid, T., Carrasco, S., Cardona, A.I., García-Noguero, E.M., Llanos, W.

Title: Environmental concerns related with the presence of mercury in soils and vegetation from Almadén mercury mining district: a health risk for the population?

Participation: Poster.

Congress: 14th International Conference on Heavy metals in the Environment (14th ICHMET).

Venue: Taipei, Taiwán. Date: 16-23 November 2008.

Authors: Villadóniga, M., Millán, R., Gamarra, R., Schmid, T., Cardona, A.I., Sierra, M.J., Carrasco, S.

Title: Búsqueda de Especies Vegetales en el Distrito de Almadén, para su Posterior Uso en Técnicas de Fitorremediación de Espacios Contaminados por Mercurio.

Participation: Poster

Congress: Workshop sobre Problemática postminera derivada de la explotación de sulfuros polimetálicos.

Venue: Sevilla, Spain. Date: 17-20 November 2008.

Authors: Schmid, T., Koch, M., Solana, J. y Gumuzzio, J.

Título: Application of PALSAR data to classify vegetation in an anthropogenically affected wetland area in Central Spain (Las Tablas de Daimiel).

Tipo de participación: Ponencia

Congreso: ALOS PI Symposium 2008

Venue: Rhodes, Greece. Date: 3-7 November 2008.

Authors: Koch, M., López-Martínez, J., Schmid, T., Serrano, E., Maestro, A. y Gumuzzio, J.

Title: Applications of ALOS data in the study of glacial and periglacial and morphostructural features in the northern Antarctic Peninsula region.

Participation: Oral.

Congress: ALOS PI Symposium 2008.

Venue: Rhodes, Greece. Date: 3-7 November 2008.

Authors: Schmid, T., Domínguez, J.A., Solana, J., Gumuzzio, J., y Koch, M.

Title: Applying multi-angle hyperspectral data to detect human-induced changes causing wetland degradation in semi-arid areas (National Park Las Tablas de Daimiel, Spain).

Participation: Oral

Congress: International Geoscience and Remote Sensing Symposium (IGARSS)

Venue: Boston, USA. Date: 6-11 July 2008.

- Authors: Rico, C., Schmid, T., Millán, R., Sierra, M.J., Carrasco, S.
Title: Application of multi-sensor optical data for monitoring land uses within the mercury mining area of Almadén, Spain
Participation: Oral
Congress: International Geoscience and Remote Sensing Symposium (IGARSS)
Venue: Boston, USA. Date: 6-11 July 2008.
- Authors: Rico, C., Schmid, T., Millán Gómez, R., García Álvarez, A., Díaz-Puente, J.
Title: A characterisation of environmental impacts on a regional scale caused by mercury mining.
Participation: Oral
Congress: 12th Internacional Congress on Energy and Mineral Resources.
Venue: Oviedo, Spain. Date: 7-11 October 2007.
- Authors: Carrasco Gil, S., Sierra Herraiz, M.J., Millán Gómez, R., Esteban Fernández, E., Schmid, T., Carpena, R.
Title: Potential cultivation of crops as an alternative economical source in the Almadén mining area.
Participation: Oral
Congress: 12th Internacional Congress on Energy and Mineral Resources.
Venue: Oviedo, Spain. Date: 7-11 October 2007.
- Authors: Gumuzzio, J., Schmid, T., Koch M.
Title: Multisensor Approach to Assess Soil Degradation Stages in Semi-Arid Soils (Spain).
Type of presentation: Oral
Congress: IEEE Internacional Geoscience and Remote Sensing Symposium (IGARSS).
Venue: Barcelona, Spain. Date: 23-27 July 2007-
- Authors: R. Millán, T. Schmid, M.J. Sierra, A.I. Cardona, D.M. Sánchez, A.J. Quejido, M. Fernández, C. Hernández
Title: Long-term mercury mining activities in the soil-plant system in Almadén (Spain)
Type of presentation: Poster
Congress: 9th International Conference of the Biogeochemistry of Trace Elements (9th ICOBTE).
Venue: Beijing, China. Date: 15 – 19 July 2007.
- Authors: Schmid, T., Gumuzzio, J., Koch, M., Mather, P.M.
Title: Characterising and Monitoring Semi-arid wetlands using multi-angle hyperspectral and multispectral data.
Type of presentation: Oral
Congress: ENVISAT Symposium.
Venue: Montreux, Switzerland. Date: 23-27 April 2007.

Authors: R. Millán, D.M Sánchez, T. Schmid, A.J. Quejido, A.I. Cardona, M. Fernández, M.J. Sierra, C.

Title: Mercury availability in soils and vegetation uptake in an area with long-term mining activities

Type of presentation: Poster

Congress: 6th ANQUE International Congress of Chemistry.

Venue: Puerto de la Cruz, Tenerife, Spain. Date: 5-7 december 2006.

Authors: Koch, M., Schmid, T., Gumuzzio, J., Mather, P.

Title: Wetland feature extraction and change detection study of a playa lake environment in NE Spain using hyperspectral and multispectral images.

Type of presentation: Oral

Congress: 2nd International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS'II).

Venue: Valencia, Spain. Date: 25-29 September 2006.

Authors: Schmid, T., Gumuzzio, J., Koch, M., Mather, P.

Title: Semi-arid Wetlands: Assessment of their Degradation Status and Monitoring by Multi-Sensor Remote Sensing.

Type of presentation: Oral

Congress: 4th ESA Chris Proba Workshop, ESA-ESRIN.

Venue: Rome, Ital.y Date: 19-21 September 2006.

Authors: Koch, M., Schmid, T., Gumuzzio, J.

Title: Monitoring wetlands in semi-arid environments of Spain.

Type of presentation: Poster

Congress: Symposium RADARSAT-2.

Venue: Montreal, Canada. Date: 11-15 September 2006.

Authors: López, J., Schmid, T., Koch, M., Gumuzzio, J.

Title: Application of RADARSAT-2 for the study of periglacial, glacial and geo-structural features in the Antarctic Peninsula region.

Type of presentation: Oral

Congress: Symposium RADARSAT-2.

Venue: Montreal, Canada. Date: 11-15 September 2006.

Authors: Schmid, T., Millán, R., Sierra, M.J., Cardona, A.I.

Title: Lysimeter experiments to determine the transfer of mercury from soil to cultivation.

Type of presentation: Póster

Congress: Eighth International Conference on Mercury as a Global Pollutant.

Venue: Madison, Wisconsin, USA. Date: 6-11 August 2006.

Authors: Millán R., Carpena, R., Schmid, T., Sierra, M.J., Esteban, E., Gamarra, R., Cardona, A.I.

Title: Recommendations for rehabilitation of the Almaden mining district, Spain.

Type of presentation: Oral

Congress: Eighth International Conference on Mercury as a Global Pollutant.

Venue: Madison, Wisconsin, USA. Date: 6-11 August 2006.

Authors: Schmid, T., Millán, R., Sánchez, D., Quejido, A., Fernández, M., Sierra, M. J., Vera, R.

Title: Mining influences on soils in the district of Almadén (Spain).

Type of presentation: Póster

Congress: ConSoil 9th International FZK/TNO Conference on soil-water systems in cooperation with BRGM.

Venue: , Bordeaux, France.

Date: 3-7 October 2005.

Authors: Millán R., Sierra M.J., Schmid, T., Cardona A.I., Vera R.

Title: Mercury uptake by *Hordeum vulgare* growing in lysimeter experiment..

Type of presentation: Póster

Congress: XIII International Conference on Heavy Metals in the Environment (ICHMET).

Venue: Río de Janeiro, Brasil.

Date: 5-9 October 2005.

Authors: Sierra, M.J., Millán, R., Esteban, E., Cardona, A.I., Schmid, T.

Title: Mercury distribution in *Vicia sativa* and *Lavandula stoechas*.

Type of presentation: Póster

Congress: XIII International Conference on Heavy Metals in the Environment (ICHMET).

Venue: Río de Janeiro, Brasil.

Date: 5-9 October 2005.

Authors: Schmid, T., Koch, M., Gumuzzio, J., Medel, I.

Title: Field and imaging spectroscopy to determine soil degradation stages in semi-arid terrestrial ecosystems.

Type of presentation: Póster

Congress: 4th EARSeL Workshop on Imaging Spectroscopy.

Venue: Warsaw, Poland.

Date: 27-29 April 2005.

Authors: Koch, M., Schmid, T., Gumuzzio, J., Mather, P.

Title: Use of image spectroscopy to assess the impact of land use changes in a semi-arid karstic landscape: Los Monegros, Spain.

Type of presentation: Oral

Congress: 4th EARSeL Workshop on Imaging Spectroscopy.

Venue: Warsaw, Poland.

Date: 27-29 April 2005.

Society Memberships

- Sociedad Española de Ciencia del Suelo.
- Asociación Española de Teledetección.
- IEEE Geoscience and Remote Sensing Society.

Further merits

- Honorific Professor in the Departamento de Química, Agrícola, Geología y Geoquímica de la facultada de Ciencias de la Universidad Autónoma de Madrid during the academic course period 2005/2006.
- Tutor of the de PhD tesis in the subject “Integración de las técnicas de teledetección y Sistemas de Información Geográfica (SIG) para la caracterización y monitorización de áreas afectadas por las actividades mineras de mercurio en la zona de Almadén”. PhD student: Celia Rico (CIEMAT grant).
- Tutor of various projects for the final degree course of Environmental Sciences at the Autonomous University of Madrid.
- Teaching courses at the graduate and post graduate level at the Universidad Autónoma de Madrid.