



Dr. Marina Manea

Researcher

<http://cyberdyn.geodin.ro/people/people.php>

Contact

Institutul de Geodinamica, Sabba S. Stefanescu al Academiei Romane
19-21 Jean-Louis Calderon St.,
Bucharest-37,
Romania, R-020032

tel. (4021)317.21.26
fax:(4021)317.21.20

Research Interest

My research interests are related with the interpretation of gravity and magnetic anomalies in order to understand tectonic problems related with subduction zones. Actually I used these anomalies to constrain the subduction zones geometry, to study the sediment accumulation at the deep oceanic trenches and to study the mantle wedge metamorphism (i.e serpentinization). Additionally, I am involved in studies related with flexural deformation of lithosphere at fracture zones, gravity anomalies and lithospheric flexure.

I have an interest in modeling the deformations in the continental crust by means of numerical models. Taking into account a realistic rheology for crust and mantle, these models, together with the analogic models of deformation, can be used for a better understanding of process and parameters which control de orogenesis.

Finally, one of my central scientific interests is represented by field measurements. Using GPS and tiltmeter measurements I have been studying for the last four years deformation processes related with subduction zones and plate boundaries. The main outcome from such investigations is the better understanding of the seismic cycle and plate boundary forces.

In the area of computational geodynamics I have been working in the development of 2-D and 3-D numerical models of tectonic processes related with various subduction zones along the "Ring of Fire" (Mexico, Guatemala, Kamchatka and recently Chile). Another important part of my research is related with the volcanism caused by subduction. I have been studying the propagation of magma through a convective mantle wedge using numerical models. Such models give new constraints regarding the magma viscosity and temperature inside the mantle beneath volcanic arcs. Also, I study the ascent time of molten magma blobs through the mantle and the relation with the U-Th disequilibria.

Education

♦ Postdoctoral Scholar, March 2005 - March 2006, Seismological Laboratory, Caltech (California Institute of Technology), Pasadena, USA, advisor: Dr. Mark Simons;

♦ Ph.D., September 2001 - October 21st, 2004, Instituto de Geofisica, Universidad Nacional Autonoma de Mexico, Mexico; supervisor: Dr. Vladimir Kostoglodov;

♦ M.Sc., 1997-1999, Faculty of Hydrotechnics, Specialization: G.I.S., Technical University of Civil Engineering, Bucharest, Romania;

♦ B.S., 1992-1997, Faculty of Geology and Geophysics, Specialization: Geophysics, University of Bucharest, Romania;

Research Experience

♦ Since March 2006 - part of the MexDB project, Centro de Geociencias, Campus UNAM, Juriquilla, Queretaro , Mexico;

♦ Since March 2006 - creation and maintenance of the Computational Geodynamics Laboratory, Centro de Geociencias, Campus UNAM, Juriquilla, Queretaro , Mexico;

♦ Since Dec. 2006 - Research Associate C, Centro de Geociencias, Campus UNAM, Juriquilla,

Queretaro , Mexico;
March 2006- Nov. 2006 - Data Analyst/Manager for Tectonics Observatory Project (Andean Subduction Project, Kurile Archipelago Project, Japan Project), Seismological Laboratory, Caltech;
March 2005 - March 2006 Postdoctoral Scholar, Seismological Laboratory, Caltech, Pasadena, California, USA;
14 Feb - 24 Feb 2005 - GPS campaign, Chiapas, Mexico; (a study for: Polochic - Montagua fault system and the contact between the North America and Caribbean Plates; continuation);
28 Jan - 10 Feb. 2004 - GPS campaign, Chiapas, Mexico; (a study for: Polochic - Montagua fault system and the contact between the North America and Caribbean Plates; continuation);
03 - 2 semester (Feb 2003) - Assistant, Geodynamics no. 60281;
7 - 21 February 2003 - GPS campaign, Chiapas, Mexico; (a study for: Polochic - Montagua fault system and the contact between the North America and Caribbean Plates; continuation);
July 2002 - Web page design for the Department of Seismology, Institute of Geophysics, UNAM: <http://tlacaelel.igeofcu.unam.mx/> ;
11 - 25 March 2002 - oceanographic campaign on the Justo Sierra university oceanographic boat: "PMAG01-Geophysical (Magnetic and Bathymetric Survey) Study for the Submarine Mountains in the Mexican Gulf";
August 2001: GPS campaign in Southern Mexico. (a study for: Polochic - Montagua fault system and the contact between the North America and Caribbean Plates)
1999 - 2001 - Assistant Professor, Engineering Geology, Geotechnical Department, Technical University of Civil Engineering, Bucharest, Romania
March - June 2000 - ERASMUS-SOCRATES scholarship, Salzburg University, Austria. Landslide hazard assessment using statistical methods (univariate, multivariate analysis, etc.) within a GIS software package;
September, 1999 - GEONET project, University of Civil Engineering of Bucharest, Tempus Department;
1996 - 1997, Co-worker TEMPUS Department, Technical University of Civil Engineering, Bucharest, Romania: Applicability of G.I.S. for: Archaeological Studies, Town-Planning, Vulnerability of Ground-Water, Probability of Landslides Hazard, Palaeokarst Studies.

Teaching

2010 - "Tectonica de Placas 60305-2800" 2011-1
2010 - "Aplicacion de la mecanica de fluidos en Ciencias de la Tierra" 2011-1
2010 - "Aplicacion de la mecanica de fluidos en Ciencias de la Tierra" 2010-2
2009 - "Geodinamica 60281-2800" 2010-1 (para los estudiantes de CGEO)
2009 - "Tectonica de Placas 60305-2800" 2010-1(para los estudiantes de CGEO y tambien por videoconferencia).
2008 - "Procesamiento y visualizaciï¿½n de datos geofisicos con software libre 60358-T033" 2009-1 (este curso selecto no se imparte por videoconferencia)
2008 - "Geodinamica 60281" 2008-2 (para los estudiantes de CGEO y tambien por videoconferencia)
2003 - Asistent de profesor, Geodinamica, Universidad Nacional Autonoma de Mexico, Mexico
Septembrie 1999-Mai 2001 -Asistent de profesor, Facultatea de Geotehnica si Fundatii, Universitatea Tehnica de Constructii Bucuresti, Romania: Cursul de Geologie pentru Inginieri
September-October 1998 - Colaborator, Proiectul GEONET, Universitatea Tehnica de Constructii Bucuresti, Departamentul TEMPUS Romania.

Conferences

26-31 October, 2008. UGM, Puerto Vallarta, Mexico (Convener Special Session: SE05: Geodynamics of the Mexican Subduction Zone: constraints from seismology, geochemistry and plate reconstruction)
22-24 September, 2008. Geomod 2008 (poster), Florence, Italy
13-18 July, 2008. Goldschmidt "From Sea to Sky", Vancouver, Canada (invited talk, co-author)
27-30 May, 2008. AGU, Joint Assembly, Fort Lauderdale, Florida, USA (poster)

♦13-18 April, 2008. EGU, Vienna, Austria (poster)
♦28-31 October, 2007. GSA Denver Annual Meeting, Colorado Convention Center, USA.
♦8-10 August, 2007. Simposio: "La conexion Chortis-Sur de Mexico en el tiempo y en el espacio. Teatro del campus Juriquila, Queretaro, Mexico.
♦18-22 June, 2007. MARGINS Workshop to integrate Subduction factory and Seismogenic Zone Studies in Central America. La Condesa hotel, Heredia, Costa Rica. (post conference field-trip)
♦22-25 May, 2007. AGU, Joint Assembly, Acapulco, Mexico. (oral presentation); organizer special session T32A: "Mexican and Central American Subduction Zones: Bringing Together Seismology, Petrology, Geology, Tectonics, and Geodynamics I"
♦14 February, 2007. Seminar: "Magnetic and Gravity Anomalies over the Mexican Subduction System as Constraint for Geodynamic Models" Centro de Geociencias, UNAM, Campus Juriquila, Mexico;
♦29 January - 2 February, 2007. State of the Arc (SOTA), Termas Puyehue, Chile.(poster presentation)
♦11-15 December, 2006. AGU, Fall meeting, San Francisco, USA (poster presentation).
♦29 October - 3 November, 2006, Reunion Nacional de la Union Geofisica Mexicana, Puerto Vallarta, (Jalisco, Mexico), (poster presentation);
♦3-7 April 2006. GSA Backbone of the Americas-Patagonia to Alaska, Mendoza, Mendoza Province, Argentina. Session No. 9; T3. Shallowing and Steepening Subduction Zones (oral presentation);
♦8-9 November 2005. Second Annual TO (Tectonics Observatory) Meeting (poster presentation);
♦30 October - 4 November, 2005, IVth National Meeting for Earth Sciences, Puerto Vallarta, (Jalisco, Mexico), (oral presentation); organizer special session: "Geodynamics of Subduction Zones: from numerical models to seismology and potential field methods - a session in honor of Hartmut Jodicke" ;
♦30 August - 3 September, 2005, Interdisciplinary Workshop on Earth's Mantle Composition, Structure, and Phase Transitions. Saint Malo, France (poster presentation);
♦28 August - 1 September 2005, AGU Chapman Conference on The Great Plume Debate: The Origin and Impact of LIPs and Hotspots, Ben Nevis Hotel, Fort William, Scotland (poster);
♦19-23 June 2005, Mantle Convection Workshop, Boulder, Colorado, USA;
♦24 May 2005, Tectonics Observatory Subduction Seminar, Caltech, Pasadena, USA.
♦24-29 April 2005, EGU General Assembly, Vienna, Austria (poster presentation);
♦13-17 December, 2004, AGU Fall Meeting, San Francisco, (poster presentation);
♦31 October - 5 November 2004, 4th Reunion nacional de ciencias de la Tierra, Mision Juriquila, Queretaro, Mexico (poster presentation);
♦21-27 August 2004, International Workshop on Japan-Kamchatka-Aleutian Subduction Processes - Linkages among tectonics, seismicity, magma genesis, and eruption in volcanic arcs, Petropavlovsk-Kamchatsky, Russia (poster presentation);
♦17-21 May 2004, Joint Assembly, Montreal, Canada (poster presentation);
♦25-30 April 2004, EGS - AGU - EUG Joint Assembly, Nice, France (oral presentation);
♦17 February 2004, Seminar: "Tehuantepec ridge: a compressional structure?", Geosciences Center, Campus Juriquila, Queretaro, UNAM, Mexico;
♦8-12 December, 2003, AGU Fall Meeting, San Francisco, (poster presentation);
♦4 December, 2003, Seminars in Earth Sciences 2003-2004, Geology Institute, UNAM, Mexico (oral presentation);
♦17-19 November, 2003, IX Congress Division of Fluid Dynamics; Mexican Physical Society, at the Institute for Petroleum Research (IMP) in Mexico City;
♦3-7 November, 2003, Annual Meeting, UGM, Puerto Vallarta, (Jalisco, Mexico), (oral presentation), Convenor, Special Session: "Thermal Structure, Metamorphism, Mantle Wedge and Tomography in Subduction Zones";
♦23 October 2003, Seminar, Instituto de Geofisica, UNAM, Mexico;
♦25 - 29 August, 2003, Penrose Conference; Plume IV: Beyond the Plume Hypothesis; Tests of the plume paradigm and alternatives; Hveragerdi, Iceland; <http://www.mantleplumes.org/> (poster presentation);
♦6-11 April 2003, EGS - AGU - EUG Joint Assembly, Nice, France (poster presentation);
♦1-3 April, 2003, The Geological Society of America, Cordilleran Section, Puerto Vallarta (Jalisco, Mexico), (oral presentation);
♦6-10 December, 2002, AGU Fall Meeting, San Francisco, (poster presentation);
♦4-8 November, 2002, IIIrd National Meeting for Earth Sciences, Puerto Vallarta, (Jalisco, Mexico), (oral presentation);
♦15-20 November, 1998, Japanese-Romanian Workshop on Landslide related Geohazards, Sinaia, Romania. (oral presentation);

Articles: 22

Manea, M. and Manea, V.C., 2010. 3d Visualization for Research and Teaching in Geosciences, IEEE Computer Society Press , accepted for publication, at John Wiley & Sons eds.

Manea, V.C. and Manea, M., 2010. Advanced Computing infrastructure for Research in Geodynamics, IEEE Computer Society Press , John Wiley & Sons eds.

Manea, V.C., Perez-Gussinye, M., and Manea, M., 2010. Flat-slab subduction controlled by overriding plate thickness, Unpublished, under review

Capra, L., Manea, V.C., Manea, M., and Norini, G., 2010. The importance of Digital Elevation Model resolution on granular flow simulations: a test case for Colima volcano using TITAN2D computational routine, Natural Hazards, submitted

Manea, M. and Manea, V.C., 2010. Curie point depth estimates and correlation with subduction in Mexico, Pure and Applied Geophysics, under revision

Manea, V.C. and Manea, M., 2010. Flat-slab thermal structure and evolution beneath Central Mexico, Pure and Applied Geophysics, doi 10.1007/s00024-010-0207-9

Manea, V.C., Manea, M., Leeman, W.P., and Schutt, D.L., 2009. The influence of plume head-lithosphere interaction on magmatism associated with the Yellowstone hotspot track. , Journal of Volcanology and Geothermal Research, doi: 10.1016/j.jvolgeores.2008.12.012

Manea, V.C. and Manea, M., 2009. Thermally induced stresses beneath the Vrancea area, Integrated research on the intermediate depth earthquake genesis within Vrancea zone, In Besutiu, L. (Ed.), Vergiliu Publishing House pp.172-183. ISBN 978-973-7600-59-2

Manea, M., and Manea, V.C., 2008. On the origin of El Chichon volcano and subduction of Tehuantepec Ridge: A geodynamical perspective., Journal of Volcanology and Geothermal Research, vol. 175, pp. 459-471, doi:10.1016/j.volgeores.2008.02.028

Munoz-Salinas, E., Castillo-Rodriguez, M., Manea, V.C., Manea, M., Palacios, D., 2008. Lahar flow simulations using LAHARZ program: application for the Popocatepetl Volcano, Mexico., Journal of Volcanology and Geothermal Research, vol. 175, pp. 459-471, doi:10.1016/j.volgeores.2008.02.028

Manea, V.C., and Manea, M., 2007. Thermal models beneath Kamchatka and the Pacific plate rejuvenation from a mantle plume impact., AGU Monograph: Volcanism and Subduction: The Kamchatka Region, eds.: Eichelberger, J., Gordeev, E., Izbekov, P., Ruppert, N., Kasahara, M., and Lees, J., Geophysical Monograph Series 172, pp. 81-94.

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., 2006. Intralab seismicity and thermal stress in the subducted Cocos Plate beneath Central Mexico, Tectonophysics, vol. 420, no. 3-4, pp. 389-408

Manea, V.C., and Manea, M., 2006. The origin of modern Chiapanecan volcanic arc in southern Mexico inferred from thermal models, Volcanic hazards in Central America, GSA Special Paper, Rose, W.I., Bluth, G.J.S., Carr, M.J., Ewert, J.W., Patino, L.C., and Vallance, J.W. vol. GSA Special Paper 412, no. ch2, pp. 27-38

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., 2005. Thermo-mechanical model of the mantle wedge in Central Mexican subduction zone and a blob tracing approach for the magma transport, Physics of the Earth and Planetary Interiors, vol. 149, pp. 165-186, doi:10.1016/J.PEPI.2004.08.024

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., 2005. Thermal models, magma transport, and velocity estimation beneath southern Kamchatka., Plates, Plumes and Paradigms, GSA, Foulger, G.R., Natland, J.H., Presnell, D.C., and Anderson, D.L (eds.), GSA Special paper, 388-31, pp. 517-536

Manea, M., Manea, V.C., Kostoglodov, V., and Guzmán-Speziale, M., 2005. Elastic Thickness of the Lithosphere below the Tehuantepec Ridge., Geofisica Internacional, vol. 44, no 2, pp. 157-168

Manea, M., Manea, V.C., Ferrari, L., Kostoglodov, V. and, Bandy, W., 2005. Tectonic evolution of the Tehuantepec Ridge., Earth and Planetary Science Letters, vol. 238, pp. 64-77

Franco Sánchez, S.I., Kostoglodov, V., Larson, K.M., Manea, V.C., Manea, M. and Santiago, J.A., 2005. Propagation of the 2001-2002 silent earthquake and interplate coupling in the Oaxaca subduction zone, Mexico., Earth Planets Space, vol. 57, pp. 973-985

Manea, V.C., Manea, M., Kostoglodov, V., Currie, C.A., and Sewell, G. , 2004. Thermal Structure, Coupling, and Metamorphism in the Mexican Subduction Zone beneath Guerrero, Geophysical Journal International, vol. 158, pp. 775-784

Manea, M., Manea, V.C., and Kostoglodov, V., 2003. Sediment fill of the Middle America Trench inferred from the gravity anomalies, Geofisica Internacional, vol. 42, no. 4, pp. 603-612

Kostoglodov, V., Bilham, R., Santiago, J.A., Manea, V.C., Manea, M., and Hernandez, V., 2002. Long-baseline fluid tiltmeter for seismotectonics studies of Mexican subduction zone, Geofisica Internacional, vol. 41, no. 1, pp. 11-25

Abstracts: 65

Manea, V.C., Kostoglodov, V., Curie, C.A., Manea, M., and Wang, K., 2002. Temperature Models for the Mexican Subduction Zone, GEOS, UGM, 22, No.2, Abstract GET-22, 155.

Mortera-Gutierrez, C.A., Bandy, W.L., Prol-Ledezma, R.M., Canet-Miguel, C., Cruz-Ocampo, J.C., Perez-Mortera, H., Pelaez-Gaviria, J.R., Pardo-Castro, G., Serrato-Diaz, G.S., Mendoza-Cervantes, K., Rodrigues-Chavez, F., Manea, M., Manea, V.C., Urrutia-Fucugauchi, J., Molina-Cruz, A., Machain-Castillo, M.L., Arellano-Torres, E., and Flores-Ruiz, J.H., 2002. Evidencia batimétrica y magnética de no existencia de volcanes marinos en el talud continental del Golfo de México enfrente de la Costa de Veracruz, GEOS, UGM, 22, No.2, Abstract GEOM-02, 223;

Manea, M., Manea, V.C., and Kostoglodov, V., 2002. Accretionary Prism in the Mexican Subduction Zone Inferred from Gravity Modeling. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract T62B-1304.

Manea, V.C., Kostoglodov, V., Currie, C., Manea, M., and Wang, K., 2002. Temperature Models for the Mexican Subduction Zone. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract T62B-1303

Mortera-Gutierrez, C.A., Bandy, W.L., Prol-Ledezma, R.M., Canet-Miguel, C., Ortega-Ramirez, J.R., Urrutia-Fucugauchi, J., Perez-Mortera, H., Pelaez-Gaviria, J.R., Pardo-Castro, G., Serrato-Diaz, G.S., Mendoza-Cervantes, K., Rodrigues-Chavez, F., Manea, M., Manea, V.C., Cruz-Ocampo, J.C., Molina-Cruz, A., Machain-Castillo, M.L., Arellano-Torres, E., and Flores-Ruiz, J.H., 2002. 3D Bathymetry and Magnetic Evidence of no Existence of Volcanic Edifices on the Gulf of Mexico Continental Slope Offshore the Veracruz Coast, Mexico. Eos Trans. AGU, 83(47), Fall Meet. Suppl., Abstract V11A-1362.

Manea, M., Manea, V.C., and Kostoglodov, V., 2003. Sediment fill in the Middle America Trench inferred from gravity. Paper no. 31-12, Cordilleran Section 99th Annual 1-3, 2003, Puerto Vallarta, Jalisco

Manea, V.C., Kostoglodov, V., Manea, M., Currie, C., and Wang, K., 2003. Thermal models, coupling and metamorphism for the Mexican subduction zone beneath Guerrero. Paper no. 20-2, Cordilleran Section 99th Annual 1-3, 2003, Puerto Vallarta, Jalisco.

Manea, V.C., Manea, M., Kostoglodov, V., Sewell, G., Currie, C.A., and Wang, K., 2003. Mantle wedge flow and thermal models for the Central Mexican subduction zone, Geophysical Research Abstracts, EGU 2003, vol. 5, 07450.

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., August 2003. Mantle wedge flow and thermal models fro the Central Mexican subduction zone. The hotspot handbook, Proceedings of Penrose Conference Plume IV, Beyond the Plume Hypothesis, Hveragerdi, Iceland.

Manea, M., Manea, V.C., and Kostoglodov, V., 2003. Elastic thickness of the lithosphere below the Tehuantepec ridge, GEOS, UGM, 23, No.2, Abstract GETT-18, 118.

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., 2003. Thermal, mantle wedge flow and blob tracing models for the Mexican subduction zone. GEOS, UGM, 23, No.2, Abstract TSSZ-5, 218.

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G. 2003. Thermal model for the Kamchatka subduction zone, UGM, in special session: "La estructura termica de las zonas de subducción";

Manea, M., Manea, V.C., and Kostoglodov, V., 2003. Elastic Thickness of the lithosphere below the Tehuantepec ridge. Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract T51F-0213.

Manea, V.C., Manea, M., and Kostoglodov, V., 2003. Blob Tracing Models for the Central Mexican Volcanic Belt. Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract T41F-0246.

Manea, M., Manea, V.C., and Kostoglodov, V., 2004. Tehuantepec ridge as a compressional structure. Geophysical Research Abstracts, vol. 6, 04465, Sref-ID: 1604-7962/gra/EGU04-A-04465.

Manea, V.C., Manea, M., Kostoglodov, V., and Sewell, G., 2004. New insights for the Kamchatka subduction zone: thermal models, magma transport and tomographic imaging. Geophysical Research Abstracts, vol. 6, 04473, SRef-ID: 1607-7962/gra/EGU04-A-04473.

Manea, M., Manea, V.C., and Kostoglodov, V., 2004. Tehuantepec Ridge: a compressional structure?, Eos. Trans. AGU, 85(17), Joint Assembly Suppl., Abstract, T51A-12 POSTER, JA46.

Manea, V.C., Manea, M., Kostoglodov, V., Sewell, G., and Singh, S.K., 2004. Intraslab Seismicity and Thermal in the Subducted Cocos Plate beneath Central Mexico, Eos. Trans. AGU, 85(17), Joint Assembly Suppl., Abstract, G21A-07 POSTER, JA115.

Manea, M., Manea, V.C., Kostoglodov, V., and Ferrari, L., August 21-27, 2004. Tehuantepec ridge formation and Chiapas Volcanic Arc. Linkages among tectonics, seismicity, magma genesis, and eruption in volcanic arcs, IV International Biennial Workshop on Subduction Processes emphasizing the Japan-Kurile-Kamchatka-Aleutian Arcs, Petropavlovsk-Kamchatsky, 147.

Manea, V.C., Manea, M., and Kostoglodov, V., and Sewell, G., August 21-27, 2004. The thermal structure beneath southern Kamchatka inferred from numerical models. Linkages among tectonics, seismicity, magma genesis, and eruption in volcanic arcs, IV International Biennial Workshop on Subduction Processes emphasizing the Japan-Kurile-Kamchatka-Aleutian Arcs, Petropavlovsk-Kamchatsky, 147-148.

Manea, M., Manea, V.C., and Kostoglodov, V., 2004. Unsteady mantle wedge flow beneath southern Mexico, Chiapas Volcanic Arc and Tehuantepec ridge formation. GEOS, UGM, 23, No.2, Abstract GET-59, 181-182.

Manea, V.C., Manea, M., and Kostoglodov, V., 2004. Mantle wedge thermal models constrained by the seismic P-wave velocity anomalies. GEOS, UGM, 23, No.2, Abstract GET-58, 181.

Manea, V.C., Manea, M., Kostoglodov, V., and Granville, S., 2004. Thermo-mechanical of the mantle wedge in southern Kamchatka subduction zone and a blob tracing approach for the magma transport. G05.03(86), 130-8. 32nd IGC Florence, Italy, August 20-28

Manea, M., Manea, V.C., Kostoglodov, V., 2004. Tehuantepec Ridge: a compressional structure? G05.01(130) 130-13. 32nd IGC Florence, Italy, August 20-28.

Manea, M., Manea, V.C., and Kostoglodov, V., 2004. Thermal Models for Southern Mexico and Guatemala and the Position of the Volcanic Belt. Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract T13B-1364.

Manea, V.C., Manea, M., and Kostoglodov, V., 2004. Thermal Models for Kamchatka and the Position of the Volcanic arc. Eos Trans. AGU, 84(46), Fall Meet. Suppl., Abstract T21B-0532.

Franco Sánchez, S.I., Kostoglodov, V., Larson, K.M., Manea, V.C., Manea, M., and Santiago, J.A., 2005. The 2001-2002 aseismic slow slip event and an interplate coupling in the Oaxaca subduction zone, Mexico. Geophysical Research Abstracts, vol. 7, 02218. SRef-ID: 1607-7962/gra/EGU05-A-02118.

Manea, M., and Manea, V.C., 2005. Thermal structure of the Cocos slab beneath southern Mexico and its relationship with the arc volcanism. AGU Chapman Conference on The Great Plume Debate: The Origin and Impact of LIPs and Hotspots, Fort William, Scotland.

Manea, V.C. and Manea, M., 2005. Thermal structure beneath Kamchatka and plume to arc magmatism transition. AGU Chapman Conference on The Great Plume Debate: The Origin and Impact of LIPs and Hotspots, Fort William, Scotland.

Manea, V.C. and Manea, M., 2005. Thermal models beneath Kamchatka and the Pacific plate rejuvenation from a mantle plume impact. Interdisciplinary Workshop on Earth's Mantle Composition, Structure, and Phase Transitions, Saint Malo, France.

Manea, M., and Manea, V.C., 2005. Serpentinized cold mantle wedge beneath southern Mexico: new insights from thermal models and magnetic anomalies. Interdisciplinary Workshop on Earth's Mantle Composition, Structure, and Phase Transitions, Saint Malo, France.

Manea, V.C., and Manea, M., 2005. Pacific plate rejuvenation from plume impact in front of the Kamchatka trench: a mechanism to produce adakitic magmas for old and fast subduction zones, IVth National Meeting for Earth Sciences, Puerto Vallarta, Jalisco, Mexico;

Manea, M., and Manea, V.C., 2005. Low temperature and high amplitude magnetic anomaly beneath Chiapas:

evidence for a highly serpentinized mantle wedge, IVth National Meeting for Earth Sciences, Puerto Vallarta, Jalisco, Mexico;

Kostoglodov, V., Franco-Sánchez, S.I., Larson, K., Manea, V.C., Manea, M., and Santiago, J.A., 2005. Propagation of the 2001-2002 silent earthquake in the Mexican subduction zone, IVth National Meeting for Earth Sciences, Puerto Vallarta, Jalisco, Mexico;

Manea, V.C. and Manea, M., 2006. Anomalous mantle wedge in southern Mexico (Chiapas): Observational constraints and numerical models. GSA Backbone of the Americas-Patagonia to Alaska, (3-7 April), Mendoza, Mendoza Province, Argentina. Session No. 9; T3. Shallowing and Steepening Subduction Zones II. Paper no. 9-8.

Manea, M., and Manea, V.C., Gurnis, M., and Turner, M., 2006. Magnetic quiet zone and flat subduction in central Mexico. GSA Backbone of the Americas-Patagonia to Alaska, (3-7 April), Mendoza, Mendoza Province, Argentina. Session No. 9; T3. Shallowing and Steepening Subduction Zones II. Paper no. 9-9.

Manea, M., and Manea, V.C., 2006. Flat subduction zone in Central Mexico: constraints from aeromagnetic anomalies. UGM (), Puerto Vallarta, Jalisco, Mexico, SE01-8, GEOS, Vol. 26, No.1., pp. 179.

Guzman-Speziale, M., Kostoglodov, V., Manea, M., and Manea, V.C., 2006. Resultados de observaciones GPS: no hay evidencia de desplazamiento de la falla Polochic en el sureste de Mexico. UGM, SE03-13, GEOS, vol. 26, no.1, pp. 195.

Manea, M., and Manea, V.C., 2006. Flat slab seen from above: aeromagnetic data in Central Mexico. Eos Trans. AGU 87(52), Fall Meet, Suppl., Abstract T11B-0437.

Manea, M., and Manea, V.C., 2007. Adakitic-like volcanism in Southern Mexico and subduction of the Tehuantepec Ridge. Eos Trans. AGU, 88(23), Jt. Assem. Suppl., Abstract T32A-07.

Guzman-Speziale, M., Kostoglodov, V., Manea, M., and Manea, V.C., 2007. Results From GPS Observations: No Evidence for Displacement Along the Polochic Fault in Southeastern Mexico. Eos Trans. AGU, 88(23), Jt. Assem. Suppl., Abstract U53A-01.

Manea, M., and Manea, V.C., 2007. On the origin of El chichon volcano and subduction of Tehuantepec Ridge: a Geodynamical Perspective. SOTA, Termas Puyehue, Chile.

Manea, V.C., and Manea, M., 2007. Flat-slab subduction in Central Mexico: insights from numerical models. SOTA, Termas Puyehue, Chile.

Ferrari, L., Orozco, M.T., Manea, V.C., and Manea, M. 2007. Subduction dynamics, three dimensional flows and the geochemical evolution of the Trans-Mexican Volcanic Belt. MARGINS, Costa Rica.

Ferrari, L., Manea, V.C., Manea, M., 2007. Fragmentacion de la placa de Norteamerica y nueva geometria del bloque Chortis: una posible explicacion de la tectonica del Neogeno en el sureste de Mexico. GC2007-07-1P Geochortis, Juriquilla, Queretaro, Mexico.

Manea, V.C., Manea, M., 2007. Geodynamic modeling of subduction system in Southern Mexico. GC2007-10P, Geochortis, Juriquilla, Queretaro, Mexico.

Manea, M., Manea, V.C., 2007. Mantle wedge serpentinization in Southern Mexico: the effect of Chortis Block movement. GC2007-11P, Geochortis, Juriquilla, Queretaro, Mexico.

Manea, V.C., Manea, M., Leeman, W.P., and Schutt, D.L., 2007. Geodynamic modeling of plume-lithosphere interaction beneath the Yellowstone hotspot track. Session T117, no. 107-8.

Manea, M., 2007. Magnetic and Gravity Anomalies over the Mexican Subduction System as constraint for Geodynamic Models. Seminar Centro de Geociencias, UNAM.

Manea, M., 2009. The role of Tehuantepec ridge subduction on mantle hydration and young volcanism in Southern Mexico. 11th International Workshop on Modeling of Mantle Convection and Lithospheric Dynamics, Braunwald, Switzerland

Manea, V.C., Pérez-Gussinyé, M., Manea, M., Zlotnik, S., Fernandez, M., 2008. Influence of upper plate structure and mantle viscosity on subduction geometry in South America: insights from numerical modeling. EGU General Assembly, Vienna, Austria. EGU2008-A-04293.

Manea, V.C., Manea, M., Ferrari, L., 2008. 3D geodynamic modeling of slab detachment. EGU General Assembly, Vienna, Austria. EGU2008-A-05662

Manea, V.C., Manea, M., Besutiu, L., Tumanian, M., 2008. Thermal stress field and seismicity beneath the Vrancea relict subduction zone. EGU General Assembly, Vienna, Austria. EGU2008-A-04885.

Manea, M., Manea, V.C., 2008. Online Geodynamics: Understanding how the Earth works through an interactive web-based application. EGU General Assembly, Vienna, Austria. EGU2008-A-02943.

Manea, M., 2008. New Tools in understanding geoscience research: WEB-based applications, AGU, Eos Trans. AGU, 89(23), Jt. Assem. Suppl., abstract ED31B-02.

Norini, G., Capra, L., Lagmay, A.M.F., Manea, M., Groppelli, G., Tengonciang, A.M.P., Cerca, M., 2008. Volcanoes in transtensional tectonic regimes, Geomod, Firenze.

Manea, V.C., Manea, M., 2008. State-of-the-art Geodynamic modeling of Subduction Zones: From Slab Edges to Flat and Steep Slabs, Goldschmidt, Vancouver, Canada.

Manea, V.C., Ferrari, L., Manea, M., 2008. 3D geodynamic modelling of Cenozoic slab detachment beneath western North America., Geomod, Firenze

Manea, M. and Manea, V.C., 2009. Online Geodynamics: interactive web-applications for graduate students in Earth Sciences. EGU2009-3844

Manea, V.C., Manea, M., W. Leeman, and D. Schutt, 2009. Numeric modeling of plume-lithosphere interaction and the magmatism associated with the Yellowstone hotspot track, EGU2009-3871.

G. Norini, L. Capra, A.M.F. Lagmay, Manea, M. and G. Groppelli, 2009. Tectonics control over instability of volcanic edifices in transtensional tectonic regimes. EGU2009-715

Manea, M., G. Norini, L. Capra, and Manea, V.C., 2009. The Colima Volcano WebGIS: system acquisition, application and database development in an open-source environment. EGU2009-3846

Manea, M., Perez-Gussinye, M., Manea, V.C., 2009. Numerical Modeling of Flat Slab Formation in Central Chile. AGU Fall Meeting, San Francisco, Session T23A-1890.

Manea, V.C., Manea, M., 2009. Thermally induced stresses beneath the Vrancea area, Integrated research on the intermediate depth earthquake genesis within Vrancea zone. AGU Fall Meeting, San Francisco, Session T51B-1519

Scientific Projects

⁮2010 - El origen del volcanismo en el sur de Mexico a traves del modelado numerico (CONACyT responsable);

⁮2007 - North American Igneous and Volcanic Rock Database (NAVDAT) (NSF funding);

⁮2006-2009 - Creacion y desarollo de un cluster para el modelado numerico de los procesos geodinamicos (PAPIIT INI05607, UNAM, Mexico) since 2007- responsible;

⁮2005-2008 - Seismo-tectonics of Michoacán, Mexico: 20 year after the 19th of September, 1985 earthquake. (CONACyT 46064-T, UNAM, Mexico).

⁮2005-2007 - Seismic cycle and the crust deformation in the subduction zone, Mexico. (PAPIIT, IN102105, UNAM, Mexico).

⁮2004 -2006 - Middle American Seismic Experiment (MASE)-Caltech, USA

⁮2001-2004- Seismo-tectonic study of the crust deformations related with the seismic cycle in subduction zones, Mexico (DGAPA INI104801, Mexico)

⁮2001-2004- Seismo-tectonic study of the Guerrero seismic gap, in Central Mexico. (CONACyT 37293-T, Mexico)

⁮2002-2005 - Seismo-tectonic study of the western boundary between the Caribbean and North American tectonic plates. (CONACyT 36449-T)

⁮2000-2003 - Geodetic and seismic constraints of slip rheology on the Guerrero coast of Mexico (joint cooperation UNAM, Mexico - University of Colorado, USA)

⁮2000-2001 - Interseismic and preseismic deformation monitoring along the Mexican Pacific coast (PAPIIT IN104599, UNAM, Mexico)

⁮1998-2003 - Interseismic deformation monitoring in central Mexico, Guerrero, using high precision tiltmeter (CONACyT 27868-T, UNAM, Mexico).

Profesional Service

♦ Reviewer for "Computers and Education"
♦ Reviewer for "Geophysical Journal International"
♦ Reviewer for "Revista Mexicana de Ciencias Geologicas"
♦ Reviewer for "Revista Panamericana de Geofisica"

Awards and Scholarships

â™| Programa de Primas al DesempeÑo del Personal AcadÃ©mico de Tiempo Completo (PRIDE), Nivel C, Universidad Nacional AutÃ³noma de MÃ©xico, 2008.
â™| Programa de Apoyo a la IncorporaciÃ³n de Personal AcadÃ©mico (PAIPA), Nivel B, Universidad Nacional AutÃ³noma de MÃ©xico. 2007-2008.
â™|DGAPA (Direccion General de Asuntos del Personal Academic), PFAMU scholarship (Programa de Fortalecimiento Academic para las Mujeres Universitarias), Subprograma: Incorporacion a la Planta Docente (Posgrados de Fisica, Matematicas e Inginierias), 2006-2008, UNAM, Mexico.
â™|DGEP (Direccion General de Estudios de Posgrado), PhD scholarship, 2001-2004, UNAM, Mexico.
â™|ERASMUS-SOCRATES scholarship - Landslide hazard assessment using statistical methods (univariate, multivariate analysis, etc.) within a GIS software package; March - June 2000, Salzburg University, Austria.
â™|Merit and normal scholarship awards at the University of Bucharest, Romania given by the Romanian Goverment 1992-1997 (Undergraduate student).

Researchers/Institutions I collaborate with:

â™|Dr. Lucian Besutiu, Intitute of Geodynamics, Bucharest, Romania.
â™|Dr. Vladimir Kostoglodov, Intitute of Geophysics, UNAM, Mexico;
â™|Dr. Luca Ferrari, Geosciences Center, UNAM, Mexico;
â™|Dr. Lucia Capra, Geosciences Center, UNAM, Mexico;
â™|Dr. Granville Sewell, Mathematics Dept., University of Texas;
â™|Dr. Maxim Portnyagin, GEOMAR, Kiel, Germany;
â™|Dr. Martha Perez-Gussynie, University of London, Great Britain;
â™|Dr. Ivan Savov, University of Manchester, Great Britain;
â™|Dr. Esperanza Munoz-Salinas, University of Glasgow, Great Britain;
â™|Prof. Mike Gurnis, CALTECH, Pasadena, USA;
â™|Prof. Taras Gerya, Mineralogical Institute, ETHZ, Zurich, Switerland;
â™|Dr. William Leeman, National Science Foundation, USA;
â™|Dr. Dereck Shoutt, University of Wyomming, USA;
â™|Dr. Paul Wallace, Dept. of Geological Sciences, University of Oregon, USA;
â™|Dr. Gianluca Norini, University of Milan, Italy;

Miscellaneous

Memberships (since)

â™|American Geophysical Union (AGU) - 2002
â™|Mexican Geophysical Union (UGM) - 2001
â™|European Geophysical Union (EGU) - 2003
â™|Geological Society of America (GSA) -2003

Media Relations

TV interviews for public awareness in case of earthquakes in Southern California:

â™|16 June 2005 (Telemundo - NBC)
â™|17 June 2005 (Televisa, UnivisiÃ³n, Canal 22),

TV documentaries: Natural Hazards in Southern California and the San Andreas Fault:

â™|10 October 2005 (Telemundo- NBC)
â™|11 November 2005 (Telemundo- NBC)

Computer Skills

â™|-Operating systems: Windows 9x, NT, XP, 2000, Linux,
â™|-programming languages: VISUAL BASIC, C/C++, Fortran, MPI
â™|-Finite element programs: PDE2D, ANSYS, FEMAP, CitComS
â™|-Graphical software: AutoCAD, AXUM, CorelDRAW, GMT, OpenDX

â™!-GIS software: IDRISI, ArcView, ArcInfo.

â™!-Potential field Modelling: MagPick, GM-SYS, Mirone

â™!-Others: Surfer, Origin, Matlab, Mathcad

Date: March 29, 2024

Dr. Marina Manea