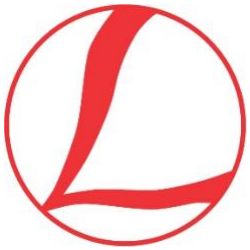

2021-2025 Renewal Application

International Lithosphere Program (ILP) for 2021-2025

ILP Task Force VI on Sedimentary Basins

Liviu Matenco* and Fadi Henri Nader**

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I. Introduction

The ILP Task Force VI Sedimentary Basins have reached its objectives successfully during the last 5 years under the leadership of Liviu Matenco and Fadi Henri Nader by means of yearly international workshops dedicated to specific topics, rotating from one continent to the other, and to the organization of special sessions at EGU in Vienna and other international conferences in Europe. This has been done in order to keep the network attractive for any participant, even if they could not attend other more specific Task Force meetings in other continents. The continuation of the Task Force under the same leadership intends to benefit and continue this successful activity under the same main objectives.

II. Objectives

The main objectives of the ILP Task Force on Sedimentary Basins are:

- to assist the international community of Earth Scientists involved in the study of asthenospheric and deep lithospheric/crustal processes to exchange views with colleagues involved in the study of sedimentary basins, and to promote collaborative projects integrating surface and deep processes for regional case studies;
- to promote regular meetings involving colleagues from universities, research institutes as well as the industry;
- to provide support for young scientists (PhD and post-docs) to participate in the activities of this international network

Scientific focus

The focus of the Task Force 6 activities is to foster collaborations between academia, research institutes and industry in all domains relevant for the understanding of sedimentary basins, from regional to nano-scale, from the deep earth to near surface processes. Sedimentary basins contain the critical geo-ressources needed for the development of human societies and also the place of major populations around the planet, where geo-hazards also prevail with sometimes devastating impacts. Therefore, understanding the processes influencing such systems is primordial for the future of human societies.

We propose to encourage the development and validatation of novel concepts of sedimentary basin evolution and topography building by incorporating geological/geophysical datasets and methodologies applied to worldwide natural laboratories. We aim to understand and predict the processes that control the formation and evolution of the coupled orogens and sedimentary basins system through integration of field studies, analytical techniques and numerical/analogue modelling.

This scientific focus is welcoming integrative collaborative research achieve by a wide range of approaches. We aim to promote research in the domain of sedimentary basins evolution and quantitative tectonics for the study of mountain building and the subsequent extensional collapse, and their quantitative implications for vertical motions on different temporal and spatial scales. The implications of tectonics on basin fluids (rock-fluid interactions and flow) are important to understand and predict geo-resources. Important are initiate innovative research lines in linking the evolution of sedimentary systems by integrating cross-disciplinary expertise with a focus on integrated sedimentary basins and orogenic evolution. The key is to strengthen the synergy between academic research and applied industry in large (inter)national interdisciplinary research networks able to tackle complex problems at integrated system level. We aim to be involved in creating a stimulating and motivating scientific environment for PhDs and post-doctoral fellows in collaboration with industry and research institutes.

Tectonic, surface and external forcing processes are responsible for the growth and decay of continental topography and sedimentary basins, i.e. the interplay between sediment supply and mass (re)distribution with the full range of deep Earth to surface processes. These are important to assess the impact of tectonics and sediment distribution in highly populated areas, affected by flooding events, regional landslides and active seismicity. The mechanisms that link exhumation, formation of topography, sedimentation and the evolution of geo-fluids are poorly understood because of a lack of insight into the variability of the rates and scales of the underlying processes. Important is to explore the dynamics of these processes by quantifying the link between tectonics and sedimentation with a multi-scale approach that combines field and laboratory studies, and basin-wide observations with process-oriented modelling and its feedback to original observations. This will provide new opportunities to analyse and quantify the interplay between deep Earth and surface processes in sedimentary basins, critical for understanding geo-resources and natural hazards.

III. Cooperation

The previous 5 years of the Task Force were outstandingly successful – expressed by the yearly conferences and resulting special volumes/publications – and we intend to benefit by building

on this success and extend the activities of Task Force 6 on Sedimentary Basins for another period of 5 years, i.e., for 2020 to 2025. We aim to continue securing interactions between the participating teams and industry by the yearly dedicated seminars of the Task Force in the same 3 days format of indoor presentations linked with a 2-days field-trip. The expected impact of such meeting is already proved by the high interest of the applied research and industry in all organized meetings, where the local organizers have already secured a significant amount of sponsorships.

Because of IUGS/IUGG commitments, the ILP task Force on Sedimentary Basin has global significance, we propose to keep the same policies of previous 2020-2025 yearly international workshops, i.e., to move alternatively from the western to the eastern hemisphere, and from the northern to the southern hemisphere. It is expected that participating members from different continents will still help to organize future meetings in various parts of the World. It is intended that the meetings will address general topics especially relevant for the area where the meeting takes place, and accompanying field trips can provide specific insights. We continue our involvement in the EGU annual convention in Vienna.

List of topics and (tentative) meetings to be scheduled in the next 5 years

2020

Following past successful meetings in Tokyo, Japan (2015), Clermont-Ferrand, France (2016), Limassol, Cyprus (2017), Quebec, Canada (2018) and Heviz, Hungary (2007), 2020 workshop of the International Lithosphere Programme (ILP) Task Force on Sedimentary Basins will be held in Beirut, Lebanon, from 12-15 October 2020. The 2-3 days conference will followed by a 2-day post-conference field trip.

The theme of the 2020 conference will be focused on sedimentary basins at plate boundaries and their societal impacts (geo-resources and geo-hazards) with a special focus on the East Mediterranean region and related analogues. The ILP Task Force workshop will promote dialogue among researchers studying basin fill and fluid flow, those investigating deeper basin structure, and those developing numerical and analogue models of basin processes. A large number of contributions are forecasted, that analyse the structure and physical properties of basins as well as the underlying crust and mantle, and also contributions that examine interactions between deep earth and surface processes and the implications of these interactions for basin dynamics.

The key topics of the meeting are: I) Dynamics of sedimentary basins and its interaction with deep Earth processes; II) Tectonic control of sedimentation and dynamics of landscape evolution; III) Links between orogens and sedimentary basins; IV) Sedimentary Basin systems and geo-resources; V) Geo-hazards and sustainable geo-resources; VI) Rock-fluids interactions in sedimentary basins (groundwater flow, karst); VII: New concepts and results on the East-Mediterranean geology.

2021-2025

Five other meetings will be planed as a combination between coming back and strengthening the European collaborations and partnerships outside (order not yet decided), with the following objectives:

- Organize a meeting in the **Western Mediterranean**, most likely in **France**, in order to benefit from the huge scientific effort dedicated recently by the international Earth Sciences community on the understanding the Western Mediterranean sedimentary basins. Possibly organized in 2021;
- Have a workshop dedicated to the **SE Asia evolution,** most likely organized in **Malaysia** or **Thailand** in collaboration with existing local academic partnerships and industry. The pre-requisite contacts are already in place, details will be established at a later time. Possibly organized in 2022;
- Taking the opportunity of recent academia and industry interest in the structure and evolution of the **Dinarides-Hellenides** and related sedimentary basins we aim to organize an workshop in Central Europe, most likely in **Serbia or Croatia**, countries that have received recently significant attention from new opportunities and partnerships. Possibly organized in 2023;
- Organize for the first time a meeting in **South America**, hopefully in **Argentina**, in order to benefit from the huge scientific effort dedicated recently by the international Earth Sciences community on the South Atlantic margins, Andes and sub-Andean basins. Possibly organized in 2024;
- Come back to Europe for a meeting most likely organized in **Utrecht, The Netherlands,** that will aim to gather the synergy of the Task Force for future projects. Possibly organized in 2025.

IV. Outreach

By fostering the collaboration with the industry and research institutes, the Task Force is already involved in promoting a significant number of dedicated geo-resources projects, such as in the field of geo-fluids, geothermal energy or conventional/unconventional geo-resources. Such initiatives will place the Task Force in a unique position for quantifying geo-resources related processes and provide their novel understanding. A key step in achieving this objective will be to integrate observations in natural laboratories, fluid-rock-interaction and coupled fluid/mass transport, with scale modelling work on orogenic and basin-scale deformation, and with process-oriented modelling.

We try to keep registration prices for our yearly international workshops as low as possible for students and participants from the universities. Further support to the students is provided in the form of travel grants, up to the maximum limit allowed to keep our budget balanced.

The format of our meetings is excellent to stimulate the interactions between Industry and academia, and initiate new collaborative work between new comers. Although ILP seed funding would not be sufficient to support alone the cost of the venues and expenses related to the invitation of key note speakers, we have up to now benefited from enough, although not regular, sponsorship from the industry, thus helping to maintain the registration prices at a reasonable level.

V. Key partners within this planned task force

name	institute	country
Balazs, Attila	ETH Zurich	Switzerland

Cloetingh, Sierd	Univ. Utrecht	Netherlands
Faleide, Ian Inge	Univ. Oslo	Norway
Faccenna, Claudio	University Roma 3	Italy
Fodor, Laszlo	ELTE Budapest	Hungary
Gabrielsen, Roy	Univ. Oslo	Norway
Gerya, Taras	ETH Zurich	Switzerland
Jarosinski, Marek	Polish Geological Institue	Poland
Krziewiec, Piotr	Geological Institute	Poland
Lamarche, Juliette	Univ./CEREGE Marseille	France
Littke, Ralf	RWTH Aachen University	Germany
Malo, Michel	Univ. Laval-Québec	Canada
Muska, Kristaq	Albanian Petroleum Institute	Albania
Ortuno-Arzate, Felipe	IMP	Mexico
Papanastasiu, Panos	University of Nicosia	Cyprus
Pascal, Christoph	University Bochum	Germany
Sato, Hiroshi	University of Tokyo	Japan
Scheck-Wenderoth, Magdalena	GFZ Potsdam	Germany
Thybo, Hans	ILP coordination	Denmark
Van Wij de Vries, Benjamin	University Clermont Ferrand	France
Van Wees, Jan-Diederik	TNO	Netherlands
Wagner, Karen	EQUINOR	Norway

Report International Lithosphere Programme
Task Force VI Sedimentary Basins 2015-2019

Task Force Leader(s): Liviu Matenco* and Fadi Henri Nader**
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** IFP Energies Nouvelles, Rueil-Malmaison, France, fadi-henri.nader@ifpen.fr

The ILP Task Force VI on Sedimentary Basins basic objectives were:

- unravel the architecture and evolution of sedimentary basins in various geodynamic settings, from rift and passive margins to intracontinental sags, foreland and thrust-top basins.
- assist the international community of Earth Scientists involved in the study of asthenospheric and deep lithospheric/crustal processes to exchange views with colleagues involved in the study of sedimentary basins, and to promote collaborative projects integrating surface and deep processes for regional case studies;
- promote regular meetings involving colleagues from universities, research institutes as well as the industry;
- provide support for young scientists (PhD and post-docs) to participate in the activities of this international network.

These objectives have been addressed during the last five years by means of yearly international workshops dedicated to specific topics and to the organization of special sessions at EGU in Vienna and other international conferences in Europe.

Highlights of Task Force VI activities 2015-2019:

2015

- 10th workshop of the International Lithosphere Programme (ILP) Task Force on Sedimentary Basins, Daiichi Tokyo Hotel Seafort 5-9 October 2015, Tokyo, Japan;
- Co-organisation of an EGU 2015 TS3.4 session "Tectonics of sedimentary basins", convened by Paolo Ballatto, Charlotte Fillon, Fadi Henri Nader and Liviu Matenco.

2016

- The joint meeting of the TOPO-EUROPE Programme and ILP Task Forces Sedimentary Basins (VI), Subducted Lithosphere (IV), Magma and lithosphere (II) in Clermont-Ferrand, 2-6 October 2016;
- Co-organisation of a session on "The interplay between geodynamic and sedimentary basins processes" on Wednesday 20 April 2016 at the EGU General Assembly in the Geodynamics Division programme, sponsored by International Lithosphere Program, TOPO-EUROPE, International Association of Sedimentologists and the Society for Sedimentary Geology, convened by Fadi Henri Nader, Liviu Matenco, Catherine Homberg and Judith McKenzie;
- Organisation of the special session "Lithospheric crustal-scale geology and geophysics in Europe" at the AAPG European Regional Conference and Exhibition, May 19-20 2016, Bucharest, Romania.

2017

- Co-organisation of a session "Sedimentary basins: from deep to surface processes" at EGU 2017, convened by A. Vacherat, L. Matenco, C. Fillon and M. Ford;
- The 12th Workshop of the International Lithosphere Program Task Force VI Sedimentary Basins, 29 October - 5 November 2017, Limassol, Cyprus;
- Invited lectures at "Tectonic-induced changes in active collisional areas" at the 4th Central European Geomorphological Conference, October 9-13, 2017, University of Bayreuth, Germany.

2018

- The 13th Workshop of The International Lithosphere Program Task Force VI Sedimentary Basins as a special session "Evolution of sedimentary basins: from deep structures to surface processes" by Michel Malo (INRS, Québec), Liviu Matenco (Utrecht University), Fadi Henri Nader (IFPEN, Paris) at the International Sedimentological Congress 2018 in Quebec City, Canada, 13-17 August 2018;
- Session TS7.11/GMPV9.1/SSP2.15, "The evolution of the Carpathians - Dinarides - Pannonian orogenic and sedimentary basins system)" Convener: Liviu Matenco, Co-Conveners: Mircea Radulian , Viktor Wesztergom, European Geosciences Union general assembly, 8-13 April 2018;
- Session GT7-3 Orogenic processes in the Alpine-Balkan-Carpathian-Dinaric orogen: The relationship between tectonics and basin formation, Convenors Liviu Matenco, Marinko Toljic & Franz Neubauer at the XXI International Congress of the Carpathian Balkan Geological Association (CBGA) University of Salzburg (Austria), September 10–13, 2018;
- AAPG ICE: Mediterranean region Basins, Convenors Lorenzo Meciani (Eni) and Fadi Henri Nader, Cape Town, South Africa, November 3-7, 2018.

Special issues of the Task Force VI Sedimentary Basins

- Sato, H., Ishiyama, T., Matenco, L., Nader, F.H., Evolution of fore-arc and back-arc sedimentary basins with focus on the Japan subduction system and its analogues. Tectonophysics Special Volume 710–711, 2017, dedicated to the ILP Sedimentary Basins Tokyo 2015, doi: 10.1016/j.tecto.2017.02.021, 19 topical papers.
- Sierd Cloetingh, Alessandro Tibaldi, Larissa Dobrzhinetskaya, Liviu Matenco, Fadi Nader, Benjamin van Wijck de Vries, 2018. From the deep Earth to the surface: A multiscale approach. Global and Planetary Change, Volume 171, Pages 1-322 (December 2018), Special Volume dedicated to the joint TOPO-EUROPE and ILP meeting, Clermont-Ferrand 2016, 19 topical papers.
- Fadi Henri Nader, Ralf Littke, Liviu Matenco, Panos Papanastasiou, Benoît Noetinger, 2018. Dynamics of sedimentary basins and underlying lithosphere at plate boundaries: The Eastern Mediterranean. OGST – Revue d'IFP Energies Nouvelles, Pages 1-150. Special Volume dedicated to the ILP Task Force VI meeting, Limassol, Cyprus 2017, 7 topical papers.
- Liviu Matenco, 2018. Topo-Transylvania – a Multidisciplinary Earth Science Initiative in Central Europe to Tackle Local and Global Challenges. Acta Geodetica et Geophysica, Pages 323-552. Special Volume dedicated to the Topo-Transylvania project, sponsored by the International Lithosphere Program, 12 topical papers
- *In planning*: Liviu Matenco, Fadi Henri Nader, Attila Balazs, Laszlo Fodor and Szilvia Kover, Understanding the multi-scale formation and evolution of orogens and sedimentary basins, gathering manuscripts for a special Global and Planetary Change issue

Key publications

Balázs, A., Matenco, L., Magyar, I., Horváth, F., Cloetingh, S., The link between tectonics and sedimentation in back-arc basins: New genetic constraints from the analysis of the Pannonian Basin. Tectonics 35, 1526–1559, 2016

Matenco, L., Munteanu, I., ter Borgh, M., Stanica, A., Tilita, M., Lericolais, G., Dinu, C., Oaie, G., The interplay between tectonics, sediment dynamics and gateways evolution in the Danube system from the Pannonian Basin to the western Black Sea. Science of The Total Environment 543, 807-827, 2016

Md Ali, M.A., Willingshofer, E., Matenco, L., Francois, T., Daanen, T.P., Ng, T.F., Taib, N.I., Shuib, M.K., Kinematics of post-orogenic extension and exhumation of the Taku Schist, NE Peninsular Malaysia. Journal of Asian Earth Sciences 127, 63-75, 2016.

Nader, F.H., 2016. Multi-scale Quantitative Diagenesis and Impacts on Heterogeneity of Carbonate Reservoir Rocks. Springer, ISBN: 978-3-319-46444-2, 146p.

Jaju, M.M., Nader, F.H., Roure, F., Matenco, L., Optimal aquifers and reservoirs for CCS and EOR in the Kingdom of Saudi Arabia: an overview. Arabian Journal of Geosciences 9, 1-15, 2016.

Vogt, K., Matenco, L., Cloetingh, S., Crustal mechanics control the geometry of mountain belts. Insights from numerical modelling. Earth Planet. Sci. Lett. 460, 12-21, doi: 10.1016/j.epsl.2016.11.016, 2017.

Balázs, A., Granjeon, D., Matenco, L., Sztanó, O., Cloetingh, S., Tectonic and Climatic Controls on Asymmetric Half-Graben Sedimentation: Inferences From 3-D Numerical Modeling. Tectonics 36, doi: 10.1002/2017TC004647, 2017.

Inati, L., Zeyen, H., Nader, F.H., Adelinet, M., Sursock, A., Rahhal, M.E., Roure, F. (2016). Lithospheric architecture of the Levant Basin (Eastern Mediterranean region): A 2D modeling approach. Tectonophysics, 693, 143-156.

Maţenco, L., 2017. Tectonics and Exhumation of Romanian Carpathians: Inferences from Kinematic and Thermochronological Studies. In: M. Radoane and A. Vespremeanu-Stroe (Editors), Landform Dynamics and Evolution in Romania. Springer International Publishing, Cham, pp. 15-56.

Marchionda, E., Deschamps, R., Cobianchi, M., Nader, F.H., Di Giulio, A., Morad, D.J., Al Darmaki, F., Ceriani, A., 2018. Field-scale depositional evolution of the Upper Jurassic Arab Formation (onshore Abu Dhabi, UAE). Mar. Petrol. Geol. 89, 350-369, doi: 10.1016/j.marpetgeo.2017.10.006, 2017.

Andrić, N., Vogt, K., Matenco, L., Cvetković, V., Cloetingh, S., Gerya, T., 2018. Variability of orogenic magmatism during Mediterranean-style continental collisions: A numerical modelling approach. Gondwana Research 56, 119-134.

Balázs, A., Matenco, L., Vogt, K., Cloetingh, S., Gerya, T., 2018. Extensional Polarity Change in Continental Rifts: Inferences From 3-D Numerical Modeling and Observations. Journal of Geophysical Research: Solid Earth 123, 8073-8094.

Capella, W., Barhoun, N., Flecker, R., Hilgen, F.J., Kouwenhoven, T., Matenco, L.C., Sierro, F.J., Tulbure, M.A., Yousfi, M.Z., Krijgsman, W., 2018. Palaeogeographic evolution of the late Miocene Rifian Corridor (Morocco): Reconstructions from surface and subsurface data. Earth-Science Reviews 180, 37-59.

van Wyk de Vries, B., Byrne, P., Delcamp, A., Einarson, P., Göğüş, O., Guilbaud, M.-N., Hagos, M., Harangi, S., Jerram, D., Matenco, L., Mossoux, S., Nemeth, K., Maghsoudi, M., Petronis, M.S., Rapprich, V., Rose, W.I., Vye, E., 2018. A global framework for the Earth: putting geological sciences in context. Global and Planetary Change 171, 293-321.

Symeou, V., Homberg, C., Nader, F.H., Darnault, R., Lecomte, J.-C., and Papadimitriou, N., 2018. Longitudinal and temporal evolution of the tectonic style along the Cyprus Arc system, assessed through 2-D reflection seismic interpretation. Tectonics, 37, 30-47 DOI: 10.1002/2017TC004667

Sant, K., Andrić, N., Mandic, O., Demir, V., Pavelić, D., Rundić, L., Hrvatović, H., Matenco, L. and Krijgsman, W., 2018. Magneto-biostratigraphy and paleoenvironments of the Miocene freshwater sediments of the Sarajevo-Zenica Basin. Palaeogeography, Palaeoclimatology, Palaeoecology, 506: 48-69.

Munteanu, I., Willingshofer, E., Matenco, L., Sokoutis, D., Dinu, C. and Cloetingh, S., 2019. Far-field strain transmission and contractional step-overs. Tectonophysics, 766: 194-204.

Nader, F.H., Littke, R., Matenco, L.C. and Papanastasiou, P., 2019. Dynamics of sedimentary basins and underlying lithosphere at plate boundaries: The Eastern Mediterranean. Oil and Gas Science and Technology, 74.

Sautter, B., Pubellier, M., Schlögl, S.K., Matenco, L., Andriessen, P. and Mathew, M., 2019. Exhumation of west Sundaland: A record of the path of India? Earth-Science Reviews, in press: https://doi.org/10.1016/j.earscirev.2019.102933.

van Unen, M., Matenco, L., Demir, V., Nader, F.H., Darnault, R. and Mandic, O., 2019. Transfer of deformation during indentation: Inferences from the post- middle Miocene evolution of the Dinarides. Global and Planetary Change, in press: https://doi.org/10.1016/j.gloplacha.2019.103027.

ILP funding

The entire Task Force VI Sedimentary Basins funding for 2015-2019 has been used for the organization of workshops of the International Lithosphere Program Task Force VI Sedimentary Basins.

LIVIU C. MATENCO

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Date and place of birth: 15 July 1967, Vatra Dornei, Romania

Education

1991 - MSc degree in Geology, University of Bucharest (Thesis: Application of balanced cross sections in the external nappes of the East Carpathians, promotor: prof. Corneliu Dinu)

1997 - PhD degree in Tectonics, VU University Amsterdam, The Netherlands (Thesis: "Tectonic evolution of the Outer Romanian Carpathians: Constraints from kinematic analysis and flexural modelling", promotor: prof. Sierd Cloetingh)

1997-2003 - Relevant post-graduate courses: prof. dr. S. Schmid, prof. dr. A.W. Bally, prof. dr. P. Ziegler, prof. dr. S. Cloetingh.

Research Interests

Sedimentary basins formation and evolution; Long-term sediment dynamics and coupling with anthropogenic systems; Orogenic structure and coupling with sedimentary basins; Lithosphere dynamics; Evolution of tectonic-driven sedimentary sequences; Source to Sink.

Refereed scientific journal articles

Authorship of 102 publications in international refereed journals, 6 special thematic volumes of the international journals Global and Planetary Change, Tectonophysics, Acta Geodetica and Geophysica, and OGST. Supervision of 20 completed and current PhD theses, 8 postdoctoral researchers. Hirsch (H-) index/citations: Scopus – 36/3584; ISI Web of Knowledge – 34/3211.

Employment history

2017	Professor, Chair of Tectonics and Sedimentary Basins, Utrecht University
2014	Associate Professor (UHD1), Utrecht University, The Netherlands.
2012	Associate Professor (UHD2), Utrecht University, The Netherlands.
2011	Associate Professor (UHD2), VU University Amsterdam, The Netherlands.
2006 - 2011	Research Leader of the Royal Academy of Sciences and Arts of The Netherlands (Onderzoeker 1), VU University Amsterdam, Faculty of Earth and Life Sciences, The Netherlands.

2003 - 2006 Researcher, VU University Amsterdam, Faculty of Earth and Life Sciences, The Netherlands.

1991 - 2003 Assistant professor, Lecturer, Associate Professor, University of Bucharest, Faculty of Geology and Geophysics, Romania.

Relevant (inter)national activities and awards

2017 - present – Editor, Global and Planetary Change

2015 - present - Leader of the International Lithosphere Program Task Force (VI) Sedimentary Basins.

2018 - present, Member of Academia Europaea.

2010 - present, Co-chair and panel member European Research Council, ERC Starters, Consolidators and Synergy Grants.

2018 - present, Member of the European Geosciences Union Working Group on Diversity and Equality.

2002 - Burgen Award of Academia Europaea

1999 - “G.M. Murgoci” Geosciences award; Romanian Academy of Sciences

2011 - 2013, Director Teaching committee Netherlands Research School of Sedimentary Geology; 2011 - 2013, Co-chair, Implementation Team, The Planet Earth Institute; 2010 - Reviewer of the Romanian academic system, section Geosciences, Romanian National University Research Council; 2012 - present - Coordinator, Research programme, University of Malaya, Malaysia; 2001 - 2019 – Expert evaluator, Netherlands Organisation for Scientific Research (NWO), Republic of Serbia, Ministry of Science and Technological Development, Romanian National University Research Council, Slovenian Research Agency, Slovak Research and Development Agency, Serbian Ministry of Research, Croatian Academy of Sciences; 2006 - 2015 - Research Leader of the Royal Academy of Sciences and Arts of the Netherlands;

5 key recent publications:

Matenco, L.C., Haq, B.U, 2019. Multi-Scale Depositional Successions in Tectonic Settings, Earth Science Reviews, in press.

van Unen, M., Matenco, L., Demir, V., Nader, F.H., Darnault, R., Mandic, O., 2019. Transfer of deformation during indentation: Inferences from the post- middle Miocene evolution of the Dinarides. Global and Planetary Change 182, 103027.

Balázs, A., Matenco, L., Vogt, K., Cloetingh, S., Gerya, T., 2018. Extensional Polarity Change in Continental Rifts: Inferences From 3-D Numerical Modeling and Observations. Journal of Geophysical Research: Solid Earth 123, 8073-8094.

Matenco, L., 2017. Tectonics and Exhumation of Romanian Carpathians: Inferences from Kinematic and Thermochronological Studies, in: Radoane, M., Vespremeanu-Stroe, A. (Eds.), Landform Dynamics and Evolution in Romania. Springer International Publishing, Cham, pp. 15-56.

Vogt, K., Matenco, L., Cloetingh, S., 2017. Crustal mechanics control the geometry of mountain belts. Insights from numerical modelling. Earth and Planetary Science Letters 460, 12-21.

Fadi Henri NADER

Current Positions:

Manager Business Development Geosciences (IFPEN)
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Education & professional experience

Education

2015 Université Pierre et Marie Curie (UMPC, Paris VI University) : Diplôme d'Habilitation à diriger la Recherche (HDR) - Multi-scale diagenesis and impacts on heterogeneity of reservoir rocks

2003 KU Leuven University (Belgium): Ph.D. in Geology - Petrographic and geochemical study of the Kesrouane Formation (Jurassic), Mount Lebanon: implications on dolomitization and petroleum geology

2000 American University of Beirut (Lebanon): M.Sc. in Geology - Petrographic and chemical characterization of the Jurassic-Cretaceous carbonate sequence of the Nahr Ibrahim region, Lebanon

1994 American University of Beirut (Lebanon): B.Sc. in Geology

Since 2007: Research sedimentologist, leader of research projects at IFP Energies Nouvelles (Institut Français du Pétrole, IFP) in sedimentology, diagenesis (rock-fluid interaction), reservoir characterisation (at the plug-, reservoir- and basin-scales), and integrated basin analysis including seismic interpretation and numerical modelling (thermal evolution, generation and migration of hydrocarbons, fluid flow and pore pressure).

2003 – 2006 & 2011: Assistant professor at the department of Geology (American university of Beirut). Teaching B.Sc. and M.Sc. levels: [developed and taught courses] marine geology, geomorphology, sedimentology, stratigraphy, diagenesis [petrography, geochemistry].

Responsibilities

Geoscientist and Manager of Business Development of the Energy Resources Business Unit (IFPEN), in charge of the preparation of technical-commercial proposals, management of specific client portfolios, negotiation of contracts and elaboration of business models. In addition, strategy planning for the presence and visibility of IFPEN at international conferences and coaching a pool of technical advisors and project leaders.

Professor at the Faculty of Geosciences, University of Utrecht (The Netherlands), extraordinary chair in Multiscale fluid-rock interactions. This involves supervising PhD and M.Sc. students and teaching two graduate courses per year.

5 recent key publications by the proponent relating to the proposed TF/CC

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