Tristan Salles

Software Development & Data Science

Personal details

Civility Dr Tristan Salles (Ph.D.)
citizenship: French, Australian
date of birth: 10/10/1979

Languages French: native | English: fluent | German: basic

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Areas of expertise

I have more than 10 years of experience in building and managing HPC software for Research & Industry in Earth Science.

- Undergraduate & master's degree in Marine Engineering at Ecole Centrale in France, followed by a PhD in Physical Oceanography at the University of Bordeaux in 2006;
- CSIRO research scientist for 8 years at the Australian Resources Research Centre;
- Academic position at the University of Sydney since 2015, work on a diverse range of projects related to Earth evolution;
- **Software development**: project management, team leadership, technical architecture, scaling & performance, and training;
- **Data science**: data analysis, predictive modelling, model scaling and performance optimisation, HPCs & MPI.

Employment history

present–2015 **Academic Position**, *The University of Sydney*,
Lecturer – School of Geosciences, EarthByte Group / Geocoastal Group.

Research
- climate change and sediment transport,
- geodynamics and surface processes feedback mechanisms,
- coupled sediment-ocean-wave modelling system at geological scale.

Projects
- Basin GENESIS Hub – GEodyNamics and Evolution of SedImentary Systems
- Discovery Project: Assessing adaptability of Great Barrier Reef to climate change
- SREI project: Understanding the deep carbon cycle from icehouse to greenhouse climates

Administration
- Faculty of Science ICT Committee Research Representative
- IT liaison for the School of Geosciences
- Undergrads third year coordinator for the School of Geosciences
- Supervision of PhDs (6), Honours (5), Research Assistants (2) & Developers (2)

Teaching
- Marine Science: Coastal processes and systems, Coastal Environments and Processes
- Computational Geosciences: Global energy & resources, Geophysical methods
- Environmental Science: Environmental Geology, Environmental Simulation Modelling
- Data Science: Analysing and plotting data with R and Python (Strategic Education Grant)
- Some of my teaching materials can be found here: @GeosLearn

2015–2012 **Senior Research Scientist**, *CSIRO Earth Sciences & Resources Engineering*,
Earth Sciences Centre, Computational Geoscience group, Technical Algorithms team.
Software architect - Project Leader.

description
- Project leader on offshore Brazil pre-salt carbonate stratigraphic forward modelling for Petrobras (2.4M$ over 4 years).
- Project initiation around Stratigraphic & Geomorphic forward modelling with Chevron (1.6M$ over 3 years).
- Project initiator and software architect of an Advance Earth Dynamic Coalescence Framework using ESMF standard (Ocean Circulation Model - Underworld - Swan 3rd Generation Wave Model - CSIRO Surface Process Model).
- Project leader for HPC Geosciences project - Integrated Stratigraphy/Seismic Probing/Data Assimilation (National Computational Merit Allocation Scheme - iVec Geosciences Share).
- Feedback in regional-scale geodynamic/geomorphological systems - oceanic/stratigraphic systems.

2012–2011 **Senior Research Scientist**, *CSIRO Earth Science & Resources Engineering*,
Australian Resources Research Centre, Predictive Geoscience group.
Software architect - Project Leader.

description
- LECOΔE (SPM) Conception & Development under Science Innovation Fund of CSIRO Petroleum and Geothermal Portfolio (110k$ per year for 2 years).
- Project leader for HPC Geosciences projects (National Computational Merit Allocation Scheme - iVec Geosciences Share).
- Feedback in regional-scale geodynamic/geomorphological systems.
- Development of an inter-divisional and inter-organisational research theme (CSIRO, Sydney University & Monash University).

2011–2008 **Research Scientist**, *CSIRO Earth Science & Resources Engineering*,
Australian Resources Research Centre, Predictive Geoscience group.
Computational Geology.

description
- High Performance Computing (HPC) for surface processes models and visualisation methods.
- Landscape evolution models and climate/tectonic controls on sedimentary and morphological evolutions of fan/catchment systems.
- Quantitative estimations of sea-level and halokinetics variations on mini-basin filling.

2008–2007 **Post-Doctoral Research Fellow**, *CSIRO Centre for Petroleum Resources*,
Australian Resources Research Centre, Predictive Geoscience group.
Predictive Geology.

description
- New capabilities in the Stratigraphic Forward Modelling code (SedSim) (Aeolian module based on Cellular Automata paradigm).
- Methodology to simulate climate-change impact on seabed.
- Mathematical modelling of compaction and diagenesis in sedimentary basins using predictor/corrector implicit finite-difference method.

2006–2003 **Doctoral Research Fellow**, *French National Research & Technology funding*,
University of Bordeaux and Institut Français du Pétrole, France.
Computational Hydrodynamic.

description
- Funding highly competitive from the French National Research and Technology Association (CIFRE scholarship).
- Conception & development of gravity flows model based on Cellular Automata paradigm.
- CATS Joint Industrial Project (Cellular Automata Turbiditic System) with sponsorship from Oil Companies.

Education

2017–2018 **Graduate Certificate in Educational Studies (Higher Education)**,
The University of Sydney.

description
- Postgraduate award course from Sydney School of Education and Social Work. It is an advanced program of study building on candidates' university teaching experience.

2007–2008 **CSIRO Postdoctoral Fellow (competitive)**,
Australian Resources Research Centre – Centre for Petroleum Research (Perth).

title *Australian Shelf sediment transport responses to climate change-driven ocean perturbations*

advisors Dr C. Dyt and Dr F. Li

description
- Predictive assessment of how climate change influences long-term regional seabed responses for CSIRO Wealth from Ocean National Flagship.
- Method that could be applied worldwide to assess the impact of climate change-driven ocean perturbations on the seabed.
- This research emphasised the importance of quantitative seabed evolution prediction for the sustainable management of coastal/offshore resources and infrastructure, and indicates the most valuable locations for long-term sediment monitoring activity.

2003–2006 **Ph.D. in Computational Geology (Hons)**,
University of Bordeaux & Institut Français du Pétrole IFP (France).
(defended on the 20^{th} of November 2006)

title *Sedimentary filling: Modelling of sub-marine canyons and meandering channels using a genetic approach*

advisors Pr T. Mulder and Dr M.C. Cacas

description
- Novel approach to simulate formation and filling of sub-marine canyons and meandering channels by gravity flows (turbidity & debris flows) which has been patented.
- Algorithm to simulate gravity processes at both reservoir scale and geological time scale.
- Computational technics used: classical approaches based on simplified Navier-Stokes equations, lattice boltzmann methods for fluid flows and cellular automata paradigm.

2003–2006 **Petroleum Sciences & Technics Diploma**,
ENSPM IFP School (France).

description
- This formation accessible for Ph.D. students working in IFP provides general knowledge in petroleum studies. I attended several courses in energy and petroleum production as well as petroleum economics and management.

2002–2003 **M.Sc. (research) in Physical Oceanography (Hons)**,
University of Aix-Marseille II.

description
- I made this one-year degree required before entering doctoral studies in France concomitantly with my last year in engineer school. This formation provides solid knowledge in Oceanography & Coastal numerical modelling, particularly in: marine/environmental science, coastal physic, turbulence and remote detection.

2000–2003 **M.Eng. in Marine Engineering (B.Sc. (Hons) & M.Eng.)**,
Ecole Centrale.

description
- This multi-disciplinary formation accessible after selection provides solid knowledge in Mathematics and Physics during the first 2 years and then proposes a specialisation in the last year. I specialised in Marine Engineering, particularly in: numerical implementation & algorithms, computational physics, deep offshore engineering, ocean hydrodynamic, experimental hydrodynamic, structures dynamic, wave theory and soil engineering.

Honours & Awards

2017 **Scientific Mobility Fund**, one month visitor scientist as part of the Academia Agreement between Statoil and University of Bergen (Norway).

2016 **Scientific Mobility Fund**, one month visitor scientist as part of the Academia Agreement between Statoil and University of Bergen (Norway).

2003–2006 **IFPEN top-up scholarship**, *Convention industrielle de formation par la recherche (CIFRE)*, Industry Research grant.

2003–2006 **ANRT Scholarship**, *Association Nationale Recherche et Technologie*, French Ministry of Research funding.

1997–1999 **Academic Excellence Scholarship**, Région Languedoc-Roussillon.

Research grants and major consultancies

As an Australian Commonwealth-funded organisation employee I was not allow to apply to the Australian Research Council funding schemes as chief investigator from 2007 to 2014. Instead, I have access to competitive grants funded by the CSIRO, and have established successful collaborations and consultancies with the industry and various organisations.

Year	Short title – ***Role****	Amount	Funding institution
2017 – 2018	Understanding the deep carbon cycle from icehouse to greenhouse climates – *CI*	$128k	USYD
2016 – 2017	Open Learning Education Grant – *PI*	$84k	USYD
2015 – 2016	Computational Geomorphology Supercomputer Allocation Grant – *CI*	1M CPU hours	NCMAS
2015 – 2016	Jupyter-based Ocean Data Resources Allocation Grant – *CI*	0.5M CPU hours	NeCTAR Research Cloud
2014 – 2019	Basin GENESIS Hub (GEodyNamics and Evolution of SedImentary Systems, led by Sydney Uni.) – *CI*	$5.4M	Australian Research Council, Statoil, Chevron, OilSearch
2013 – 2014	Targeting Channel Iron Deposits in the Pilbara – *PI*	$130k	MRIWA & BC Iron Ltd.
2012 – 2013	Modelling of Channel Iron deposits formation – *CI*	$68k	CSIRO Mineral Flagship
2012 – 2013	Stratigraphic modelling for South West Collie Hub – *PI*	$610k	ANLEC R&D
2011 – 2012	Interactions between Continental rifting & Surface Processes – *CI*	$111k	CSIRO Innov. Science Fund
2010 – 2011	Stratigraphic modelling of Gippsland basin – *PI*	$800k	Victoria DPI
2009 – 2011	Fluvial & Aeolian stratigraphic forward modelling of Unayzah formation – *PI*	$1.8M	Saudi Aramco
2009 – 2011	Controls on confined mini basins filling by eustatic and halokinetic mechanisms – *CI*	$110k	ConocoPhillips
2009 – 2010	Carbonate reservoir facies prediction in the Sichuan Basin – *PI*	$1.4M	PetroChina
2007 – 2010	Impact of Climate Change on Australian Exclusive Economic Zone – *CI*	$2.5M	CSIRO Wealth from Ocean Flagship & BlueLink

* *CI: chief investigator, PI: partner investigator*

Teaching & advisor expertise

During my PhD years, I acted as Teaching Assistant in a number of courses (including a geological mapping course). In Australia, I have continued my engagement with teaching by developing and delivering a number of post-graduate short courses. I have contributed to the co-supervision of a number of postgraduate students, and in 2010, I have published a textbook on marine sedimentary processes. Since 2015, I am a lecturer within the School of Geosciences in the University of Sydney.

B.Sc and M.Sc. teaching experience

Bordeaux Uni	**Geological mapping**, *B.Sc.*, One-week field mapping in deep marine environments: Bay of Biscay (SW Pyrenees, France & Spain) - 2005 .
Bordeaux Uni	**Geological mapping**, *M.Sc.*, Two-weeks field mapping of submarine lobes deposits, Seismic-scale outcrops: Lauzanier area (SE Alps, France) - 2004, 2005, 2006.
China U. Geosc.	**Numerical tools for Stratigraphic Forward Modelling**, *M.Sc.*, Introduction to stratigraphic forward model (group teaching), Basin exploration using Sedsim numerical software (exercises) (18h) - 2008.
Uni Sydney	**Coastal processes and systems**, *M.Sc.*, MARS5001 – unit of study link.
Uni Sydney	**Coastal Environments and Processes**, *M.Sc.*, GEOS3009 – unit of study link.
Uni Sydney	**Global energy and resources**, *M.Sc.*, GEOS3102 – unit of study link.
Uni Sydney	**Environmental and Sedimentary Geology**, *M.Sc.*, GEOS3103 – unit of study link.
Uni Sydney	**Geophysical methods**, *M.Sc.*, GEOS3104 – unit of study link.
Uni Sydney	**Environmental Simulation Modelling**, *M.Sc.*, ENVI5809 – unit of study link.

Post-graduate short courses

Honours course	**Tectonic Geomorphology**, (3 days) - 2015.
CSIRO course	**Using IPython notebook for GIS and input generation**, (8h) - 2014.
CSIRO course	**Introduction to python programming and data visualisation**, (12h) - 2013.
Industry course	**Numerical modelling applied to mineral exploration**, (8h) - 2013.
IGC workshop	**Practical Stratigraphic Forward Modelling**, IGC Brisbane – University of Queensland (6h) - 2012.
Industry course	**New visualisation tools for Sedsim model**, (8h) - 2011.
IAMG workshop	**Using Sedsim for Basin exploration**, IAMG San Francisco – Stanford (12h) - 2009.
IFP consortium	**Cellular Automata models for Marine Geology**, (4h) - 2005.

M.Sc. advising

2015	**Luke Hardiman**, *University of Sydney (50%)*, Honours Project: Landscape dynamic in pull apart basins.
2015	**Jodie Pall**, *University of Sydney (50%)*, M.Sc Project: Mantle convection and Australian landscape evolution.
2015	**Samantha Ross**, *University of Sydney (100%)*, M.Sc Project: Post-tectonic landscape recovery.
2015	**Igor Gomes**, *University of Rio de Janeiro (100%)*, M.Sc Project: Climatic forcing on mountain belt dynamic.
2014	**Olivia Jobin**, *University of New Hampshire (30%)*, Honours Project: Prediction of tar balls and asphaltite evolution onto Australian beaches in the Great Australian Bight region.
2013	**Marlene Woligroski**, *University of Western Australia (30%)*, Honours Project: Coupled stratigraphic-seismic modelling of shelf margin depositional sequences.
2011	**Xiu Huang**, *China University of Geosciences (20%)*, Numerical forward modelling of 'fluxoturbidite' flume experiments using Sedsim model.

Ph.D. advising

present–2017	**Megan Holdt**, *University of Sydney (30%)*, Dynamic Earth models, landscape dynamics, and basin evolution in Eastern Gondwanaland and Zealandia.
present–2016	**Omer Bodur**, *University of Sydney (30%)*, Mantle Flow and Continental Lithospheric Margins.

present–2016 **Rhiannon Garrett**, *University of Sydney (50%)*, Numerical modelling of the interplay between tectonic and surface processes in Papua New Guinea.

present–2015 **Xuesong Ding**, *University of Sydney (50%)*, Dynamic Earth models for frontier hydrocarbon exploration: Stratigraphy and dynamic topography of the North West Shelf.

2015–2013 **Shailesh Vaidya**, *University of Western Sydney (40%)*, Numerical modelling and theories to predict the extent and rate of scours below offshore pipelines in calcareous sediments. OCE Postgraduate PhD Scholarship.

present–2012 **Luke Mondy**, *University of Sydney (30%)*, Continental rifting and the formation of plate margins: insights from numerical modelling and application to the evolution of the North West Shelf, Australia. SIEF John Stocker Postgraduate Scholarship.

2011–2014 **Valeria Bianchi**, *Padova University (50%)*, Fluvial valley fills accumulated beyond control of relative sea-level changes.

Postdoc advising

present–2014 **Valeria Bianchi**, *University of Queensland (30%)*, Surat basin sedimentary modelling.

Outreach

2014 Article on surface processes modelling for iron ore exploration in Australian Resources & Investment, v. 8 (2), p. 72–73

2013 Research highlight in CSIRO News blog

Article on the potential of numerical modelling for Iron ore exploration in ABC News

Live interview with the Australian Broadcasting Corporation (ABC radio)

2009 Article on the impact of climate change on Australian seabed in Science Daily

Professional invitations, contributions & affiliations

Keynote Speaker *3D stratigraphic and geomorphic modelling from source to sink*. Symposium 13.7 Modelling sedimentary systems, 34th IGC, Brisbane, 2012.

Invited Speaker *GEMOC seminar*, Macquarie University, Sydney, March 2013.

GeoPRISMS/CSDMS Geodynamics Focus Research group workshop, AGU Fall meeting, San Francisco, December 2013.

SedSim model challenges and developments apply to Ore Deposits R&D. Les Rencontres Scientifiques de l'IFP, Paris, 2010.

Climate change impact on seabed sediment transport all around Australian EEZ. Australia and New Zealand Industrial and Applied Mathematics meeting (ANZIAM), University of Western Australia, 2008.

Cellular Automata paradigm applied to gravity flows modelling. Exxonmobil Upstream Research seminar, Houston, 2007.

Sedimentary filling: Modelling of sub-marine canyons and meandering channels using a genetic approach. DIONISOS JIP Consortium, IFP Paris, 2006.

Invited Author *Simulation of the interactions between gravity processes and contour currents on the Algarve Margin (South Portugal) using the stratigraphic forward-model SedSim*. Sedimentary Geology (229, 3), 2010 – Lobes in deep-sea turbidite systems.

A Turbidity Currents Model to Simulate Impact of Basin-Scale Forcing Parameters. SEPM Society for Sedimentary Geology special publication 92, 2009 – External Controls on Deep-Water Depositional Systems.

Conference Organisation **ICS2016** – International Coastal Symposium
Member of the scientific & organising committee

ASF Conference (Association des Sédimentologistes Français) – Bordeaux, 2003
Organisation Committee

Projects Involvement **MARGO** Member of the Marine Geoscience Australia experts group.
Marine Geoscience Australia

WA:ERA Member of the WA:ERA for Computational Geology.
West Australian Energy Research Alliance

Member of the **GdR Marges**.

Computer skills

OS	OS X, Linux, Unix, Windows	visualisation	VTK, NetCDF, HDF5
programming	Python, XML, C, C++, Fortran	typography	LaTeX, Microsoft Office, iWork
HPC	MPI, OpenMP		

Organisations membership

since 2000 Member of **Centrale Alumni**

since 2003 Member of **IFP School Alumni**

2003-2006 Member of Society of Petroleum Engineers – **SPE**

since 2010 Member of American Geological Union – **AGU**

since 2010 Member of European Geological Union – **EGU**

since 2012 Member of the French Researchers in Australia Network – **FRAN**

since 2012 Member of the Community Surface Dynamics Modeling System – **CSDMS**

Publication history

Book

Salles T., 2010. *Modélisation numérique du remplissage sédimentaire des canyons et chenaux sous-marins par Approche Génétique*, Edition Universitaire Européenne eds, 215 p.

Journal Papers

Salles T., Flament N., Muller D., 2017. *Influence of mantle flow on the drainage of eastern Australia since the Jurassic Period*. Geochem. Geophys. Geosyst., in Press

2016 **Salles T.**, 2016. *Badlands: A parallel basin and landscape dynamics model*. SoftwareX, 5, 195-202.

Salles T., Hardiman. L.., 2016. *Badlands: an open-source, flexible and parallel framework to study landscape dynamics*. Computers and Geosciences, 91, 77-89.

2015 **Salles T.**, 2015. *Badlands: a parallel basin and landscape dynamics model*. SoftwareX, under review.

Bianchi V., **Salles T.**, Ghinassi M., Billi P., Dallanave E., Duclaux G., 2015. *Numerical modelling of tectonically driven river dynamics and deposition in an upland incised valley*. Geomorphology, 241, 353-370.

Salles T., Duclaux G., 2015. *Combined hillslope diffusion and sediment transport simulation applied to landscape dynamics modelling*. Earth Surface Processes and Landforms, 40(6), 823-839.

2013 Duclaux G., **Salles T.**, Ramanaidou E., 2013. *Alluvial iron deposits exploration using surface processes modelling: A case study in the Hamersley Province (WA)*. Iron Ore Conference journal proceeding.

2012 Miranda J., Eid R., McLean M., O'Brien G., Griffiths C., Dyt C., **Salles T.**, Tingate P., Goldie Divko L., Campi M., 2012. *Gippsland Basin stratigraphic and CO2 migration modelling: workflows for building regional, geological carbon storage (GCS) reservoir models*. EABSiv Publication.

Etienne S., Mulder T., Bez M., Desaubliaux G, Kwasniewski A., Parize O., Dujoncquoy E., **Salles T.**, 2012. *Multiple scale characterization of sand-rich distal lobe deposit variability: Examples from the Annot Sandstones Formation, Eocene-Oligocene, SE France*. Sedimentary Geology, v. 273, p. 1-18.

Huang X., Dyt C., Griffiths C., **Salles T.**, 2012. *Numerical forward modelling of fluxoturbidite flume experiments using Sedsim*. Marine and Petroleum Geology, v. 35, p. 190-200.

2011 **Salles T.**, Griffiths C., Dyt C. *Aeolian sediment transport integration in general stratigraphic forward modelling*. Journal of Geological Research, vol. 2011-186062, 12 p.

Salles T., Griffiths C., Dyt C., Li F., 2011. *Australian Shelf sediment transport responses to climate change-driven ocean perturbations*. Marine Geology, vol. 282, p. 268-274.

2010 **Salles T.**, Marchés E., Dyt C., Griffiths C., Hanquiez V., Mulder T, 2010. *Simulation of the interactions between gravity processes and contour currents on the Algarve Margin (South Portugal) using the stratigraphic forward-model SedSim*. Sedimentary Geology, vol. 229, p. 95-109.

Mulder T., Callec Y., Parize O., Joseph P., Schneider J.-L., Robin C., Dujoncquoy E., **Salles T.**, Allard J., Ferger B. Hanquiez V., Marchés E. Toucanne S.and Zaragosi S, 2010. *The turbidite lobe deposits of the Lauzanier area (SE Alps, France)*. Sedimentary Geology, vol. 229, p. 160-191.

2009 Li F., Griffiths C., Dyt C., Weill P., Feng M., **Salles T.**, Jenkins C., 2009. *Multigrain seabed sediment transport modelling for the south-west Australian Shelf*. Marine and Freshwater Research, 60(7), p. 774-785.

2008 **Salles T.**, Lopez S., Eschard R., Mulder T., Euzen T., Cacas M.C., 2008. *A Turbidity Currents Model to Simulate Impact of Basin-Scale Forcing Parameters*. in Kneller, B., Martinsen, O.J., and McCaffrey, B., eds., External Controls on Deep-Water Depositional Systems: SEPM Special Publication 92, p. 363-384.

Li F., Griffiths C. M., **Salles T.**, Dyt C. P., Feng M., Jenkins C., 2008. *Climate change impact on NW shelf seabed evolution and its implication on offshore pipeline design*. Refereed paper, APPEA Journal.

Salles T., Cacas M.C., Mulder T., Li F., Griffiths C. M., Dyt C. P., 2008. *Sedimentary fill of submarine canyons and channels using a Cellular Automata process-based model*. Refereed paper, APPEA Journal.

Salles T., Mulder T., M. Gaudin, Cacas M.C., Lopez S., Cirac P., 2008. *Simulating the 1999 turbidity current occurred in Capbreton canyon through a Cellular Automata model*. Geomorphology, vol. 97, issues 3-4, p. 516-537.

Salles T., Lopez S., Eschard R., Lerat O., Mulder T., Cacas M.C., 2008. *Turbidity current modelling on geological time-scales*. Marine Geology, vol. 248, issues 3-4, p. 127-150.

2007 **Salles T.**, Lopez S., Cacas M.C., Mulder T., 2007. *Cellular Automata Models of Density Currents*. Geomorphology, vol. 88, issues 1-2, p. 1-20.

Patent **Salles T.**, Lopez S., Joseph P., Cacas M.C., 2007. *Use of the stable condition of cellular automata exchanging energy to model sedimentary architectures*, EP1837683.

Technical manuals **Salles T.**, Duclaux G., Mondy L., Bianchi V., 2013. *SGFM: Stratigraphic & Geomorphic Forward Modelling Framework*. CSIRO Scientific & Technical Publication.

2011 **Salles T.**, Duclaux G., 2011. *Tellus: surface processes modelling software*. CSIRO Scientific & Technical Publication.

2009 **Salles T.**, 2009. *SedSimVisu for Paraview: A user guide*. Software Manual.

Conference abstracts **T. Salles**, 2017. *Responses of reefs to climatic forcing – A numerical perspective*, Centre for Coral Reef Studies, USyd.

T. Salles, N. Flament, D. Muller, P. Rey, 2017. *Influence of dynamic topography on the evolution of the Australian landscape since the Late Jurassic*, Workshop in High Performance Computing, EAGE IFP Paris.

T. Salles, N. Flament, D. Muller, 2017. *150 Million years of landscape evolution of eastern Australian continent*, European Geophysical Union General Assembly Vienna, Austria.

X. Ding, **T. Salles**, N. Flament, P. Rey, 2017. *Influence of dynamic topography on landscape evolution and passive continental margin stratigraphy*, European Geophysical Union General Assembly Vienna, Austria.

2016 **T. Salles**, 2016. *Regional to continental scale model of Earth surface evolution*, Seminar - Granular Forum, USyd.

T. Salles, 2016. *Update on Badlands development & applications*, Basin Genesis Hub meeting, Melbourne.

X. Ding, **T. Salles**, N. Flament, P. Rey, 2016. *Impact of dynamic topography on stratigraphic evolution*, Basin Genesis Hub meeting, Melbourne.

T. Salles, N. Flament, D. Muller, 2016. *Influence of dynamic topography on the evolution of the Australian landscape since the Late Jurassic*, Australian Earth Science Convention.

V. Bianchi, T. Smith, **T. Salles**, J. Esterle, 2016. *Coupling dynamic topography with Stratigraphic Forward Modelling: case study Springbok Sandstone*, Australian Earth Science Convention.

D. Muller, N. Flament, **T. Salles**, K. Matthews, M. Gurnis, 2016. *The eastern Australian record of continental travel, dynamic topography and landscape evolution since Pangaea breakup*, Australian Earth Science Convention.

T. Salles, 2016. *Continental-Scale Landscape Dynamic*, University of Bergen, Norway

T. Salles, N. Flament, D. Muller, 2016. *Influence of dynamic topography on the evolution of the Australian landscape since the Late Jurassic*, American Geophysical Union.

X. Ding, **T. Salles**, N. Flament, P. Rey, 2016. *Modeling passive margins stratigraphy from the interplay between sea-level change, thermal subsidence, precipitation and dynamic topography*, American Geophysical Union.

S. Moron, S. Gallagher, L. Moresi, **T. Salles**, P. Rey, T. Payenberg, 2016. *Investigating the effect of plate-mantle interaction in basin creation and associated drainage systems: insights from the North West Shelf of Australia*, American Geophysical Union.

2015 Müller D, **T. Salles**, N. Flament, M. Gurnis, 2015. *Continental inter-superswell travel and landscape evolution* – GeoBerlin, Gemany, 2015.

Bianchi V., **T. Salles**, 2015. *Stratigraphic Forward Modelling on reservoir geometry of the Springbok Formation (Late Jurassic)* – Bowen Basin Symposium and Beyond October 2015 (Brisbane)

Müller D, N. Flament, K. Matthews, S. Williams, M. Gurnis, **T. Salles**, 2015. *How Australian Plate Interaction With Subducting Slabs and the South Pacific Superswell Drove Multi-Phase Uplift and Paleogeography in Eastern Australia* – ICE-SEG AAPG, Melbourne, Australia, September 2015.

Bianchi V., **T. Salles**, J. Esterle, 2015. *Stratigraphic Forward Modelling for investigating hidden reservoir geometries and connectivity: Springbok Formation* – ICE-SEG AAPG, Melbourne, Australia, September 2015.

Flament N., **T. Salles**, R.D. Müller, M. Gurnis, 2015. *Influence of subduction history and surface processes on continental-scale topography* – XIV International Workshop on Modelling of Mantle and Lithosphere Dynamics, Ausgust 2015 (France)

Bianchi V., J. Esterle, **T. Salles**, 2015. *Stratigraphic Forward Modelling on reservoir geometry of the Springbok Formation (Middle Jurassic): prediction on the unexplored depocenter of Surat Basin (QLD, Australia)* – IAS June 2015 Krakow (Poland)

Bianchi V., **T. Salles**, 2015. *Hidden geometry in Surat Basin depocenter: Springbok Formation* – AAPG Geosciences Technology Workshop (GTW) entitled: Opportunities and Advancements in Coal Bed Methane in the Asia Pacific - January 2015 (Brisbane)

2014 Müller D, P. Rey, L. Moresi, L. Mondy, G. Duclaux, **T. Salles**, T. Rawling, C. Elders, 2014. *Next generation modelling of rift basins and continental margins* – Australian Earth Science Convention, Newcastle, Australia, July 2014.

Mondy L., P. Rey, G. Duclaux, **T. Salles**, L. Moresi, 2014. *A digital workbench for understanding the stratigraphic evolution of rift basins and continental margins* – Australian Earth Science Convention, Newcastle, Australia, July 2014.

2013 Upton, P., G. Duclaux, D. Craw, **T. Salles**, 2013. *Reconstructing the formation and in-filling of Lake Manuherikia, Otago: Linking geodynamics and surface processes* – AGU Fall meeting 2013, San Francisco, USA, December 2013.

Mondy L., Duclaux G., **Salles T.**, Thomas C., Rey P., 2013. *Modelling stratigraphic and surface dynamics processes on a coupled thermo-mechanical lithospheric model: an example in oblique continental rifting*. IAG Paris.

Bianchi, V., **T. Salles**, G. Duclaux, M. Ghinassi, 2013. *Reconstruction of a syn-depositional cross-valley faulting through numerical modelling: the Plio-Pleistocene Ambra paleovalley (North Apennines, Italy)* – GeoSed, Roma, Italy, September 2013.

Bianchi V., **Salles T.**, Duclaux G.,, Ghinassi M., 2013. *Evolution of syn-depositional cross-valley faulting: numerical reconstruction of the Plio-Pleistocene Ambra paleovalley (Northern Apennines, Italy)*. IAS, Manchester, UK, September 2013..

Mondy L., Duclaux G., **Salles T.**, Thomas C., Rey P., 2013. *Stratigraphic Modelling of Continental Rifting*. EGU 2013, Vienna, Austria, May 2013.

Bourget J., **Salles T.**, Ainsworth B., Duclaux G., 2013. *Quantifying the importance of sediment supply, global eustasy and fault-induced accommodation in controlling delta architecture, shelf-margin growth and deep-water sediment transfer: insights from stratigraphic-forward modelling in northern Australia.*. AAPG Annual Convention Denver.

Duclaux G., **Salles T.**, 2013. *Four-Dimensional Detrital Iron Ore Deposit Exploration Using Surface Processes Modelling - Hamersley Province Example.*. Iron Ore conference Perth.

2012 **Salles T.**, Duclaux G., 2012. *3D stratigraphic and geomorphic modelling from source to sink*, 34th IGC, Brisbane.

Duclaux G., **Salles T.**, 2012. *Placer deposits: where should we look next? Surface Processes Modelling applied to mineral exploration*, 34th IGC, Brisbane.

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