

## PROFESSIONAL EXPERIENCES

### GIS Analyst

*OverIT – Field Solutions*

*Lungotevere Gassman, 22 Rome - Italy*

**5th November 2018 - Current**

Analysis and data modeling of GIS and Web GIS applications based on ESRI/Oracle Systems

Geodatabase management and problem solving for major energy and utilities companies (ACEA S.p.A and its subsidiaries).

### Project Worker

*GEOEXPLORER IMPRESA SOCIALE S.r.l – Spin-off of CTG Group*

*Via Vetri Vecchi, 34 San Giovanni Valdarno (AR) – Italy*

**3th April 2018 – 4th May 2018**

Geophysical surveys (seismic and geoelectric) and data processing to support the project “Straordinaria Manutenzione, Ristrutturazione, rifunzionalizzazione di n. 13 briglie/traverse presenti sul corso del fiume Arno nel territorio della provincia di Firenze e realizzazione di relativi impianti per la produzione di energia idroelettrica”.

## EDUCATION

### Ph.D in Geophysics

*UNICAM – University of Camerino*

*Via Gentile III da Varano, Camerino (MC)*

**1st December 2014 – 30th October 2018**

Geodynamic numerical modeling applied to the study of the rift-drift transition phase in the Red Sea.

1D and 2D rheological models to explain the initial fast pulse of seafloor spreading and the tectonic inversion episodes along the Arabian margins.

Thesis title: Geodynamic modeling of the rift-drift transition: Application to the Red Sea.

Supervisor: Prof. Antonio Schettino

External Tutors: Prof. Giorgio Ranalli (Carleton University, Canada); Dr. Fabio Capitano (Monash University, Australia).

### MSc in Exploration Geology 110/110 cum laude

*SAPIENZA – University of Rome*

*Piazzale Aldo Moro, 5 Rome – Italy*

**September 2010 – July 2014**

Completed four intensive exams (Oil Exploration, Petroleum System Modeling, Log Analysis, Reservoir characterization) held by industry geoscience professionals of ENI S.p.A

Final Thesis title: ‘Integrazione di dati di tomografia sismica e dati di terreno sul versante sud-occidentale del Monte Rotondo (AQ)’ Supervisor: Dr. Fabio Trippetta Co-supervisors: Dr. Fabio Villani (INGV) and Dr. Riccardo Civico (INGV)

A study of Piani di Pezza (AQ) active faults by fracture analysis (acquisition of scan-lines, data processing, and interpretation) and geophysical methods (seismic surveys, seismic data processing and interpretation of the seismic tomography).

### BSc in Geological Sciences

*SAPIENZA – University of Rome*

*Piazzale Aldo Moro, 5 Rome – Italy*

**September 2003 – December 2010**

Program of study provided a complete background in geoscience and also a deep overview of the geological, geodynamic and paleontological setting of central Apennines

Final thesis title: ‘Rielaborazione dei dati di fratturazione della Maiolica nel versante sinistro dell’anticlinale di Burano (PU)’

Supervisor: Dr. Sabina Bigi

Fracture analysis (acquisition of scan-areas along strata surface, data processing, and interpretation).

### Classical High school

*Lucio Anneo Seneca high school*

*via Albergotti 35 Rome*

**July 2003**

Literature, Greek, Latin, History, Science

## VISITING RESEARCH

### Visiting Researcher

*Department of Earth, Atmosphere and Environment – Monash University  
14 Rainforest Walk, Clayton campus Monash University VIC 3800 Melbourne – Australia*

**17th September 2016 – 17th March 2017**

Under the supervision of Dr. Fabio Capitanio I learned from scratch the fundamentals of Geodynamic Numerical Modeling and programming in Python using the finite-element code Underworld II. I took part of two workshops about the code Underworld II and a meeting to present my research results.

### Visiting Researcher

*Department of Earth Sciences – Carleton University  
1125 Colonel By Drive, Ottawa – Canada*

**24th August – 19th December**

Under the supervision of Prof. Giorgio Ranalli I worked on the ‘Non-linear Kelvin rheology’ as an hypothetic behaviour to explain the fast pulse of sea-floor spreading at rift-drift transition phase of the Red Sea and the consequent episodes of tectonic inversion of the Arabian margins. Final report: ‘Initial faster pulse of sea-floor spreading in the Red Sea due to an anelastic relaxation’.

## RELEVANT TRAINING COURSES

### Short Course "Introduction to Matlab" (19hr)

*Earth Sciences Department – Rome Tre University  
Largo San Leonardo Murialdo, 1 Rome – Italy*

**February 2016**

Lecturer: Dr. Valentina Magni (Durham University - England)

### Short Course "Introduction to Plate Tectonics Dynamics and numerical modelling" (12 hr)

*Earth Sciences Department – Rome Tre University  
Largo San Leonardo Murialdo, 1 Rome – Italy*

**January 2016**

Lecturer: Dr. Fabio Capitanio (School of Earth, Atmosphere and Environment  
Monash University - Australia)

### ERTH5701 - Physics of the Earth

*Department of Earth Sciences - Carleton University  
1125 Colonel By Drive, Ottawa – Canada*

**September 2015 – December 2015**

Lecturer: Prof. Giorgio Ranalli

### ERTH5901 - Research Topics in Earth Sciences

*Department of Earth Sciences - Carleton University  
1125 Colonel By Drive, Ottawa – Canada*

**September 2015 – December 2015**

Lecturer: Prof. Giorgio Ranalli

### Short Course "Plates and disasters" (9 hr)

*Earth Sciences Department – Rome Tre University  
Largo San Leonardo Murialdo, 1 Rome – Italy*

**October 2014**

Lecturer: Prof. David Bercovici (Department of Geology and Geophysics, Yale University - USA)

### Short Course "Geoelectrical methods" (40 hr)

*CGT (Centro di GeoTecnologie) – University of Siena  
Via Vetri Vecchi, 34 San Giovanni Valdarno (AR) – Italy*

**March 2013**

Lecturer: Dr. Tommaso Colonna (President at GeoExplorer srl, Arezzo - Italy)

## OTHER ACADEMIC ACTIVITIES

### Collaborator

*GeoMORE s.r.l – Spin-off of Geology Section at UNICAM  
Via Gentile III da Varano, Camerino (MC) - Italy*

**15th May 2018 – 15 July 2018**

I took part of seismic and geoelectric surveys, geophysical data processing and interpretation for the characterization of Scorciabuoi Fault (PZ). Final report: “Studio Sismotettonico dell’area del Giacimento Petrolifero di Tempa Rossa e Caratterizzazione della Faglia Scorciabuoi (PZ)”.

### Collaborator - Off-shore surveys

*Research Vessel R/V Urania*

*Tyrrhenian Sea - off the coasts of Eolie Islands*

**February 2012**

Geophysical marine surveys (by the seismic – reflection system Chirp and Sparker) part of the data processing; acquisition of seafloor's samples by the piston corer for the MaGIC-IGAG project (Marine Geohazards along the Italian Coasts - Istituto di Geologia Ambientale e Geoingegneria)

**Internship – Off-shore surveys**

*Research Vessel R/V Urania*

*Tyrrhenian Sea - off the coasts of Panarea Island*

**January 2011**

Acquisition of sea water samples by Rosette multi-sampler and Microstructure profile for chemical - physical measurements. I learned about surveys on the seafloor by the ROV Pollux III to catch and study the CO<sub>2</sub> seeps for EUROFLEET “PACO2” Project, in collaboration with OGS (Istituto di Oceanografia e Geofisica Sperimentale – Trieste) and GEOMAR (Helmholtz Centre for Ocean Research). Final report: CAMPAGNA OCEANOGRAFICA Eurofleets “PACO2”

## PUBBLICATIONS

Schettino A., Ranalli G., Fierro E., Pierantoni P., Zanoni D., Turco E., Rasul N., (2019) '**Rift–drift transition in the Red Sea: a rheological model of the early stage of seafloor spreading**'. *Geophys. J. Int.* 217, 1870–1893

Villani F., Sapia V., Tulliani V., Fierro E., Civico R., Pantosti D. (2015), '**Shallow subsurface imaging of the Piano di Pezza active normal fault (Central Italy) by high-resolution refraction and electrical resistivity tomography coupled with time-domain electromagnetic data**', *Geophys. J. Int.*, 203(3):1482-1494

## CONFERENCES

Fierro E., Schettino A., Capitanio F., **Geodynamic Modelling of the rift-drift transition: Application to the Red Sea.** *AGU Fall Meeting 2017*, New Orleans, USA.

Fierro E., Capitanio F., Schettino A., Salerno V.M., **Numerical modelling of Edge Driven Convection during Rift to Drift transition: Application to the Red Sea.** *EGU General Assembly 2017*, Vienna, AU

Schettino A., Ranalli G., Fierro E., **A Geodynamic model for fast seafloor spreading episodes in the Red Sea.** *SGI- 88esimo Congresso della Società Geologica italiana 2016*, Napoli, Italia

Villani F., Tulliani V., Fierro E., Sapia V., Civico R., '**Shallow subsurface imaging of the Piano di Pezza active normal fault (Central Italy) by high-resolution refraction and electrical resistivity tomography coupled with time-domain electromagnetic data**'. *EGU General Assembly 2015*, Vienna, AU

Villani F., Tulliani V., Fierro E., Sapia V., Civico R., '**Shallow subsurface imaging of the Piano di Pezza active normal fault (Central Italy) by high-resolution refraction and electrical resistivity tomography coupled with time-domain electromagnetic data**'. *INQUA\_Fucino2015*

## TECHNICAL SKILLS

- ArcGis (maintenance and analysis of customized ESRI modules, management of geodatabases)
- Basic knowledge of SQL programming language (Structured Query Language) to manage Oracle databases
- ArcGis (georeferencing, digital geologic map production)
- Intermediate knowledge of Python programming language
- Platform UNIX (LINUX e MAC OS X)
- Microsoft Office package ( Word, Excel, Power Point),
- Adobe package (Illustrator, Photoshop)
- Software for geophysical data processing: Res2DInv, SeisImager, SeismicUnix,
- Software for Structural geology data: StereoNet, Georose

## LANGUAGE SKILLS

Italian (Mother tongue)

English (fluent in oral and written english)

## PERSONAL SKILLS

Dedicated hard worker

Determined and comfortable working in fast-paced environments with strict deadlines

Able to learn new subjects and acquire new skills from scratch quickly

**DRIVING LICENCE:**

**B**

**Signature:**

**Date:**