

## **ALLEGATO A**

UNIVERSITÀ DEGLI STUDI DI MILANO

Procedura di selezione per la chiamata a professore di II fascia da ricoprire ai sensi dell'art. 18, comma 1, della Legge n. 240/2010 per il settore concorsuale 04/A4 (settore scientifico-disciplinare GEO11), presso il Dipartimento di SCIENZE DELLA TERRA "ARDITO DESIO", (avviso bando pubblicato sulla G.U. n. 14 del 19.02.2019) - Codice concorso 4015

## **Gianluca Fiandaca CURRICULUM VITAE**

### **INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)**

<b>COGNOME</b>	FIANDACA
<b>NOME</b>	GIANLUCA
<b>DATA DI NASCITA</b>	17, 02, 1978

**INSERIRE IL PROPRIO CURRICULUM  
(non eccedente le 30 pagine)**

Data

21, 03, 2019

Luogo

Roma, Italia

Part I – Author identification	
Author Identifications	<p>ORCID: 0000-0002-3395-878X      Researcher ID: I-2980-2012</p> <p>Scopus ID: 23667017400      Google Scholar:  <a href="https://scholar.google.it/citations?user=8GOEg60AAAAJ&amp;hl=en">https://scholar.google.it/citations?user=8GOEg60AAAAJ&amp;hl=en</a></p>
Part II – Education	
Dates	<b>January 2004 – February 2007</b>
Title of qualification awarded	<b>PhD in Applied Geophysics</b>
Principal subjects/occupational skills covered	<p>Thesis Title: “New 2D and 3D arrays for Electrical Resistivity Tomography”.</p> <p>Planning and execution of 2D and 3D surveys, especially in archaeological and environmental researches; development of new 2D and 3D ERT arrays; integrated GPR, seismic (refraction), magnetic and geoelectrical surveys. Ultrasonic tomography.</p>
Name and type of organisation providing education and training	University of Palermo, Department of Chemistry and Physics of the Earth and Applications to Geo-Resources and Natural Risks, Geophysical Section, via Archirafi 26, Palermo, Italy.
Level in international classification	<b>ISCED 6</b>
Dates	<b>November 1996 – February 2003</b>
Title of qualification awarded	<b>Diploma di Laurea (equivalent to a Master Degree) in Physics</b>
Principal subjects/occupational skills covered	<p>Thesis Title: “Proteins embedded in silica nanoparticles”.</p> <p>Development of a new technique for protein encapsulation in silica nanoparticles. Spectroscopy, Circular Dichroism, Dynamic and Static Light Scattering. Experience in sample preparation in chemical laboratory.</p>
Name and type of organisation providing education and training	University of Palermo, via Archirafi 36, Palermo, Italy.
Level in international classification	<b>ISCED 5</b>
Part III - Appointments/ work experience	
Dates	<b>01 October 2016 – to date</b>
Occupation or position held	<b>Associate Professor</b>
Main activities and responsibilities	<p>Management of data acquisition, processing and inversion of Induced polarization data in all the group projects. Processing/instrumental development for increasing the acquisition range of time-domain IP data. Maintenance and development of the AarhusInv inversion code, in particular for 3D inversion of electric and electromagnetic data. Project management. Tutoring of PhD, master and bachelor students. Teaching.</p>
Teaching	<p>2017, 2018, 2019 – E&amp;EM Course, Primary teacher, course responsible – Aarhus University, Department of Geoscience.</p> <p>2018, 2019 – Geoelectromagnetics and Geomodeling, teacher of the electromagnetic part of the course – Aarhus University, Department of Geoscience.</p>
Name and address of employer	Aarhus University, Department of Geoscience, C. F. Møllers Alle 4, 8000 Aarhus C, Denmark.
Dates	<b>01 September 2015 – 31 September 2016</b>
Occupation or position held	<b>Assistant Professor</b>
Main activities and responsibilities	<p>Management of data acquisition, processing and inversion of Induced polarization data in all the group projects. Processing/instrumental development for increasing the acquisition range of time-domain IP data. Co-development of the AarhusInv inversion code, in particular for 3D inversion of electric and electromagnetic data. Tutoring of PhD, master and bachelor students. Teaching.</p>
Teaching	2016 – E&EM Course, Primary teacher – Aarhus University, Department of Geoscience.
Name and address of employer	Aarhus University, Department of Geoscience, C. F. Møllers Alle 4, 8000 Aarhus C, Denmark.

Dates	<b>01 September 2012 – 31 August 2015</b>
Occupation or position held	<b>Assistant Professor</b>
Main activities and responsibilities	Development of new inversion codes for DC/IP (Direct Current/Induced Polarization) NMR (Nuclear Magnetic Resonance) and EM methods. Development of processing algorithms for DC/IP data. Interpretation of DC/IP field surveys. Co-tutoring of Phd and bachelor students. Teaching.
Teaching	2015 – E&EM Course, Primary teacher – Aarhus University, Department of Geoscience. 2014 – Inversion of Induced Polarization Data, Primary teacher – Teknisk Geologi, Lunds Tekniska Högskola, Lunds Universitet. 2014 – E&EM Course, Direct Current and Induced Polarization methods – Aarhus University, Department of Geoscience. 2013 – E&EM Course, Direct Current and Induced Polarization methods – Aarhus University, Department of Geoscience.
Name and address of employer	Aarhus University, Department of Geoscience, C. F. Møllers Alle 4, 8000 Aarhus C, Denmark.
Dates	<b>01 September 2010 – 31 August 2012</b>
Occupation or position held	<b>Postdoctoral Researcher (<i>Assegnista di Ricerca</i>) in Applied Geophysics</b>
Main activities and responsibilities	Development of new inversion codes for DC/IP (Direct Current/Induced Polarization) and NMR (Nuclear Magnetic Resonance) methods. Planning/execution of field surveys for landfill characterization.
Teaching	2010 – Fortran 95 course, 6 double lectures in scientific programming (primary teacher) – Aarhus University, Department of Geoscience.
Name and address of employer	University of Palermo, Department of Mathematics and Informatics, via Archirafi 34, Palermo, Italy.
Period Abroad	Visiting Researcher at Aarhus University, HydroGeophysics Group, Department of Geoscience since June 2010
Dates	<b>01 August 2008 – 31 July 2010</b>
Occupation or position held	<b>Postdoctoral Researcher (<i>Assegnista di Ricerca</i>) in Applied Geophysics</b>
Main activities and responsibilities	Development of new techniques to decrease invasivity and acquisition time of 3D ERT (Electrical Resistivity Tomography). Planning and coordination of 3D ERT surveys. Development of software (in fortran language) for data processing and denoising. Development of ERT and IP instruments, in collaboration with the Department of Electronic Engineering of the University of Palermo.
Teaching	2010 – Hydrogeophysical field course (co-teaching) – Aarhus University, Department of Geoscience.
Name and address of employer	University of Palermo, Department of Chemistry and Physics of the Earth and Applications to Geo-Resources and Natural Risks, Geophysical Section, via Archirafi 26, Palermo, Italy.
Period Abroad	Visiting Researcher at Aarhus University, HydroGeophysics Group, Department of Geoscience on March and April 2010.
Dates	<b>01 August 2007 – 31 July 2008</b>
Occupation or position held	<b>Postdoctoral Researcher (<i>Assegnista di Ricerca</i>) in Applied Geophysics</b>
Main activities and responsibilities	Study of lapideous, metallic and wooden works of Art by means of geophysical techniques, in order to develop an investigation protocol for decay recognition and risk mitigation.
Name and address of employer	University of Palermo, Department of Chemistry and Physics of the Earth and Applications to Geo-Resources and Natural Risks, Geophysical Section, via Archirafi 26, Palermo, Italy (in collaboration with the Regional Restoration Center of Palermo ( <i>Centro Regionale per la Progettazione ed il Restauro</i> ), Via Cristoforo Colombo 52, Palermo, Italy).
Dates	<b>27 March 2007 – July 2009</b>
Occupation or position held	<b>R&amp;D</b>
Main activities and responsibilities	Development of geophysical instruments for detecting the “sonic imprint” of artworks and for 3D geoelectrical surveys.

Name and address of employer	Diasis S.r.l. (Spinoff of the University of Palermo), c/o Incubatore d'Impresa Arca, Viale delle Scienze, Edificio 16, Palermo, Italia.
Dates	<b>01 May 2007 – 31 January 2008</b>
Occupation or position held	<b>Fortran Programmer</b>
Main activities and responsibilities	Development of a Graphical User Interface (GUI), using Fortran 95 programming language, to be included in a CFD flow modelling software.
Name and address of employer	CoNISMa, via Isonzo 32, Roma, Italy.

<b>Part IV – Teaching experience</b>	
Year	2018, 2019
Lecture/Course	Electric and electromagnetic data processing and interpretation for groundwater mapping
Role	Primary teacher
Level	Master
ECTs	10
Institution	Department of Geoscience, Aarhus University
Year	2018, 2019
Lecture/Course	Geoelectromagnetism and numerical methods
Role	Teacher, responsible of the geoelectromagnetism part
Level	Bachelor
ECTs	10
Institution	Department of Geoscience, Aarhus University
Year	2015, 2016, 2017
Lecture/Course	Electric and electromagnetic data processing and interpretation for groundwater mapping
Role	Primary teacher
Level	Master
ECTs	5
Institution	Department of Geoscience, Aarhus University
Year	2013, 2014
Lecture/Course	Electric and electromagnetic data processing and interpretation for groundwater mapping
Role	Responsible of the electric methods
Level	Master
ECTs	10
Institution	Department of Geoscience, Aarhus University
Year	2013
Lecture/Course	Inversion of Induced Polarization data
Role	Primary teacher
Level	PhD
ECTs	7.5

Institution	Engineering Geology, Lund University (Sweden)
Year	2010
Lecture/Course	Scientific programming in Fortran 95
Role	Primary teacher
Level	PhD
ECTs	2
Institution	Department of Geoscience, Aarhus University
Year	2010
Lecture/Course	Hydrogeophysical field course
Role	Field Instructor
Level	Bachelor
ECTs	5
Institution	Department of Geoscience, Aarhus University
<b>Part V – Qualifications</b>	
Dates	April 2018
Title of qualification awarded	<b>Qualified as “Professore Seconda Fascia” in the Italian “Abilitazione Scientifica Nazionale”, sector A4/04</b>
Dates	May 2013
Title of qualification awarded	<b>Qualified as Senior Research Scientist in the field of Geophysics at the Geological Survey of Denmark and Greenland</b>
Dates	March 2013
	<b>Qualified as technologist of 3rd level for supporting the processes of management, coordination and development of research initiatives at the Italian Research Council (CNR)</b>
Dates	May 2012
Title of qualification awarded	<b>Qualified for Associate Professor in Hydrogeophysics at Aarhus University</b>
<b>Part VI – Awards</b>	
2019	<b>“Hydraulic Permeability Prediction from Induced Polarization Data at Field Scale”, 4th best paper (out of 310) at the Near Surface Geoscience 2018 Conference of the European Association of Geoscientists and Engineers (EAGE), 10-13 Sept. 2018, Porto (Portugal)</b>
2019	<b>“Induction-Free Acquisition Range in Spectral Time- and Frequency-Domain Induced Polarization at Field Scale”, 5th best paper (out of 310) at the Near Surface Geoscience 2018 Conference of the European Association of Geoscientists and Engineers (EAGE), 10-13 Sept. 2018, Porto (Portugal).</b>
2019	<b>“Geofysik kortlægger grundvandsforurening” (co-author), best 2018 paper in Vand &amp; Jord (Vand &amp; Jord nr. 1, 2018).</b>
2018	<b>“A surface NMR inversion based on the full Bloch-equation” (co-author), best paper (out of 21) at the 7th International Workshop on Magnetic Resonance in the Subsurface, 18-20 Sept. 2018, Changchun (China).</b>
2018	<b>“Constraining the T2*-T2 relationship in surface nuclear magnetic resonance free-induction decay data” (co-author), Top 25 paper (out of 1090) of the Society of Exploration Geophysicists Annual Meeting, Oct. 14-19, 2018, Anaheim (California, USA).</b>
2018	<b>“Subsurface imaging of water electrical conductivity, hydraulic permeability and lithology at contaminated sites by induced polarization” (co-author). Best work at the 5th International Workshop on Induced Polarization, 3-5 October 2018, Newark (USA).</b>

2016	<b>“An analysis of Cole-Cole parameters for IP data using Markov chain Monte Carlo” (co-author). Best student presentation at the 4th International Workshop on Induced Polarization, 6-8 June 2016, Aarhus (Denmark)</b>
2012	<b>“Time domain induced polarization: 2D inversion for spectral information”, AGLC award as best work on Applied Geophysics at the 2012 conference of the Italian group of geophysics of the solid earth (GNGTS2012)</b>
2009	<b>“The MYG methodology to carry out 3D Electrical Resistivity Tomography on media covered by vulnerable surfaces of artistic value”, best work on Physics for the Cultural Heritage at the 2009 conference of the Italian Society of Physics (SIF2009)</b>
2007	<b>“The Sonic Imprint”, best idea of business StartCup 2007 of the University of Palermo</b>

## Part VII – Research projects

Dates	<b>2018 –2021</b>
Project name	<b>GIREM</b>
Project description	Real-time 3D cross-hole DCIP mapping of injected chemical agents for pollution remediation.
Partners	Aarhus University, Ejlskov A/S, SkyTem Surveys A/S
Budget	6 million, DKK (Aarhus University)
Funding agency	Innovation Fund Denmark, Grand Solutions
Role	Co-applicant. Workpackage Leader in in the processing/inversion workpackage.
Dates	<b>2017 –2019</b>
Project name	<b>Kærgård Plantation</b>
Project description	Mapping of the distribution of the oxidizing agent through 3D cross-borehole DCIP for in-situ remediation of pollution
Partners	Region of Southern Denmark, Aarhus university
Budget	0.8 million, DKK (Aarhus University)
Funding agency	Region of Southern Denmark
Role	Supervising of data processing and inversion. Master student supervision.
Dates	<b>2017 –2020</b>
Project name	<b>SmartExploration</b>
Project description	Development of seismic, electromagnetic and potential filed methods.
Partners	Sweden (Uppsala University, Geological Sur-vey of Sweden, Nordic Iron Ore, Ludvika Kommun, GeoVista, MIC Nordic, BitSim, and Amkvo); Finland (Yara, University of Helsinki and University of Turku); Denmark (SkyTEM Surveys and Aarhus University); Netherlands (Delft University of Technology, Seismic Mechatronics and EAGE); Italy (Polytechnic University of Turin); Portugal (Somincor and National Laboratory of Energy and Geology); Ger-many (Technical University Bergakademie Freiberg);Poland (Institute of Geophysics, Polish Academy of Sciences, Geopartner and Proxis); Greece (National Technical University of Athens, Helas Gold, Seismotech and Delfi Distomon).
Budget	5 millions, EUR (All partners)
Funding agency	Horizon 2020
Role	Co-development of 3D inversion software for 3D ATEM data
Dates	<b>2016 –2018</b>
Project name	<b>MAGIC</b>
Project description	Mapping geology in cities, creating a combined setup of instrument and software that will create an integrated, semi-automated data framework
Partners	I-GIS A/S, Lund University, Guideline Geo AB, Aarhus University
Budget	0.8 million, DKK (Aarhus University)

Funding agency	Jointly funded by the European Union, Eurostars Programme, Central Region Denmark, Innovation Fund Denmark and The Swedish innovation agency Vinnova under the project "Mapping Geology in Cities" (E10096 MAGIC)
Role	Co-applicant. Development of processing and inversion software for DCIP data for non-expert users.
Dates	<b>2017 –2020</b>
Project name	<b>MIRACHL</b>
Project description	Characterization and monitoring of in situ remediation of chlorinated hydrocarbon contamination using an interdisciplinary approach.
Partners	Lund University, Stockholm University, Aarhus University, Tyrens AB
Budget	0.8 million, DKK (Aarhus University)
Funding agency	Formas, Sweden
Role	Co-applicant. PhD supervisor for the development of a 3D DCIP inversion software.
Dates	<b>2015 –2016</b>
Project name	<b>Mapping sand lenses</b>
Project description	The goal of this project is to test and evaluate the potential of the direct current (DC) and induced polarization (IP) methods to map sand lenses of different sizes in moraine till.
Partners	Capital Region of Denmark, Orbicon, Aarhus university, Copenhagen university
Budget	0.5 million, DKK (Aarhus University)
Funding agency	Capital Region of Denmark
Role	Survey design and management of data processing and inversion
Dates	<b>2015 –2016</b>
Project name	<b>Leachate monitoring</b>
Project description	The goal of this project is to test and evaluate a method for monitoring of leachate into groundwater using a permanently installed DC and induced polarization (DCIP) electrode array
Partners	Central region of Denmark, Aarhus University
Budget	0.9 million, DKK (All partners)
Funding agency	Central region of Denmark
Role	Co-applicant. Survey design and management of data processing and inversion
Dates	<b>2015 – 2016</b>
Project name	<b>Joint Inversion TEM and GCM data</b>
Project description	The goal is to develop tools for a combined interpretation of SkyTEM data and GCM data using a voxel grid to improve the earth model in the top 30 meters.
Partners	Aarhus university, The Nature Agency, Rambøll
Budget	1.7 million, DKK (All partners)
Funding agency	The nature Agency
Role	Co-applicant. Algorithm development and design
Dates	<b>2014 –2018</b>
Project name	<b>GEOCON</b>
Project description	Advancing GEOlogical, geophysical and CONtaminant monitoring technologies for contaminated site investigation
Partners	DTU (Denmark); Aarhus University (Denmark); GEUS (Denmark); Lund University (Sweden); Bonn University (Germany); Kansas University (USA); Orbicon (Denmark); Region of Southern Denmark; Central Region Denmark.

Budget	6.5 millions, DKK (Aarhus University, granted)
Funding agency	The Danish Council for Strategic Research under the Programme commission on sustainable energy and environment.
Role	Co-applicant. Senior geophysicist, design of field experiments, responsible of DCIP data processing and inversion. Supervision of master and PhD students
Dates	<b>2014 –2015</b>
Project name	<b>Ghana</b>
Project description	Mapping landfills and pollution plumes in developing countries through geophysical prospection
Partners	Aarhus University (Denmark), KNUST University (Ghana)
Budget	0.15 million, DKK (Aarhus University, granted)
Funding agency	Danida
Role	Design of field experiments, responsible of DCIP data processing and inversion. Supervision of PhD student
Dates	<b>2013 – 2018</b>
Project name	<b>TRUST</b>
Project description	Geoelectric mapping investigation method for underground utilities in an urban environment.
Partners	Lund University (Sweden); Aarhus University (Denmark); Tyréns (Sweden)
Budget	1.9 million, SEK (Aarhus University)
Funding agency	Formas - The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, (ref. 2012-1931), BeFo - Swedish Rock Engineering Research Foundation, (ref. 331) and SBUF - The Development Fund of the Swedish Construction Industry, (ref. 12719)
Role	Co-applicant. Management of the developments in induced-polarization data processing. PhD student tutoring.
Dates	<b>2013 –2014</b>
Project name	<b>Monitoring of active processes in permafrost</b>
Project description	Development and installation of a DC-IP equipment with subsequent data collection for monitoring the freeze-thaw processes in an area of Disko, Greenland
Partners	Copenhagen University (CENPERM project), Aarhus University, DTU
Budget	0.17 million, DKK (Aarhus University)
Funding agency	CENPERM
Role	Development of the time-lapse inversion scheme for DCIP data.
Dates	<b>2012 –2016</b>
Project name	<b>HyGEM</b>
Project description	Integrating geophysics, geology, and hydrology for improved groundwater and environmental management. <a href="http://hgg.au.dk/projects/hygem">http://hgg.au.dk/projects/hygem</a> .
Partners	Aarhus University (Denmark); Geological Survey of Denmark and Greenland (Denmark); Technical University of Denmark (Denmark); The Commonwealth Scientific and Industrial Research Organization (Australia); Geological Survey of Netherlands (Netherlands); United States Geological Survey (USA)
Budget	6.9 millions, DKK (Aarhus University, granted)
Funding agency	Strategic research Council of Denmark
Role	Co-applicant. Development of design of the Voxel inversion of AEM data.



Dates	<b>2010 –2014</b>
Project name	<b>CO2-GS</b>
Project description	Environmental Technology for Carbon Dioxide Sequestration in Aquifers. <a href="http://co2gs.geus.net">http://co2gs.geus.net</a>
Partners	University of Copenhagen (Denmark); Geological Survey of Denmark and Greenland (Denmark); Technical University of Denmark (Denmark); Aarhus University (Denmark); Lawrence Berkeley National Laboratory (USA); Heriot-Watt University (UK)
Budget	4.1 millions, DKK (Aarhus University, granted)
Funding agency	Strategic research Council of Denmark
Role	Participant
Dates	<b>2008 – 2012</b>
Project name	<b>RiskPoint</b>
Project description	Risk assessment for identifying and prioritising the clean up and management of point sources of contamination to groundwater and surface water resources. <a href="http://www.risk-point.dk">www.risk-point.dk</a>
Partners	Technical University of Denmark (Denmark); Aarhus University (Denmark); DHI Water Health Environment (Denmark); VITO NV (Belgium); University of Idaho (USA); Helmholtz Centre for Env. Res. (Germany); Geological Survey of Austria (Austria); Birmingham University (UK); TU Berlin (Germany)
Budget	24.1 millions, DKK (All partners); DKK 5.9 millions (Aarhus University)
Funding agency	The Strategic Research Council of Denmark
Role	Participant
Dates	<b>2008 –2011</b>
Project name	<b>CLIWAT</b>
Project description	Adaptive and sustainable water management and protection of society and nature in an extreme climate. <a href="http://www.cliwat.eu">www.cliwat.eu</a>
Partners	LIAG (Germany); Geological Survey of Denmark and Greenland (Denmark); Geological Survey of the Netherlands (Netherlands); Deltares (Netherlands); Aarhus University (Denmark); Ghent University (Belgium).
Budget	0.76 million, EUR (Aarhus university)
Funding agency	Interreg IV EU project
Role	Participant
Dates	<b>2006 –2008</b>
Project name	<b>FIRB 2005</b>
Project description	Reconstruction and enhancement of the archaeological landscape in the Mediterranean coastal environment through innovative non-invasive technologies.
Partners	Università di Cagliari; Università di Palermo; Politecnico di Torino; Con.I.S.Ma.
Budget	0.65 million, EUR (All partners)
Funding agency	MIUR (Italian Ministry of Education)
Role	Participant
<b>Part VIII – Reviewing and editorial experience</b>	
Associate editor	Geophysics, since January 2019
Guest editor	Near Surface Geophysics, December 2017, special issue of the 4 <sup>th</sup> IP Workshop
Reviewer	Geophysical Journal International, Geophysics, Water Resources Research, Near Surface Geophysics, Journal of Applied Geophysics, Journal of Environmental & Engineering Geophysics, Vadose Zone Journal, Exploration Geophysics, Hydrogeology Journal.

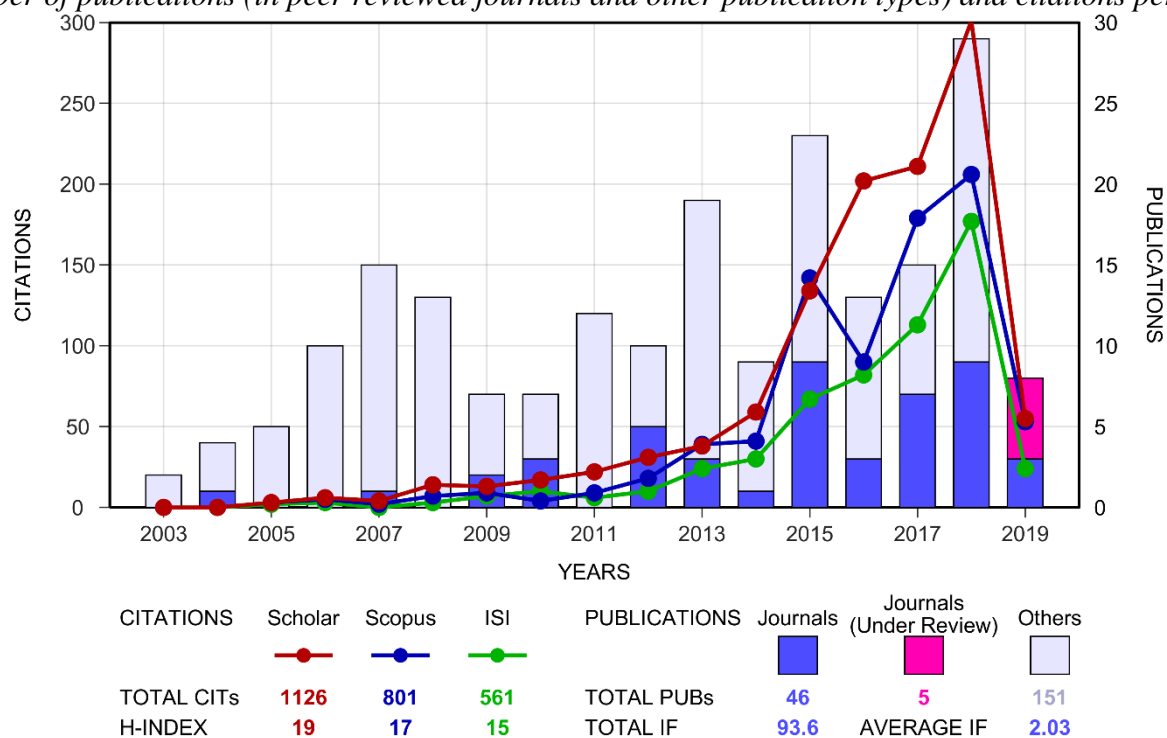
Part IX – Scientific and organizing committees	
Event	5 <sup>th</sup> IP Workshop, Rutgers University, Newark (USA), October 3-5 2018
Role	Member of scientific committee of the event
Event	4 <sup>th</sup> IP Workshop, Aarhus University (Denmark), June 6-8 2016
Role	Member of both the organizing and scientific committee of the event. Teacher of the short course on Induced Polarization.
Event	26 <sup>th</sup> Symposium on the Application of Geophysics to Engineering and Environmental Problems 2013 (SAGEEP 2013), 17-21 March 2013, Denver, Colorado, USA.
Role	Chairman of the session "Time Domain and Frequency Domain Spectral Induced Polarization: Advances and Applications"
Part X – Invited presentations and courses	
Event	2019 Summer school, Shandong University, Jinan, Shandong (China), 26-30 August 2019 (approved)
Type	Summer school
Title	Hydrogeophysics short course
Event	Sageep 2019, Portland (Oregon, USA), March 17-21 2019
Type	Best of Near Surface 2018 Invited talk
Title	Hydraulic permeability prediction from Induced Polarization data at field scale
Event	AEM2018, 7 <sup>th</sup> International Workshop on Airborne Electromagnetics, Kolding (Denmark), June 17-20 2018
Type	Invited keynote speech
Title	Robust inversion of induced polarization effects in airborne transient electromagnetic
Part XI – Courses in University pedagogics	
Dates	January 2016
Course	University-level teaching, Aarhus University
Dates	April 2018
Course	PhD supervision, Aarhus University

## Part XII – Research metrics

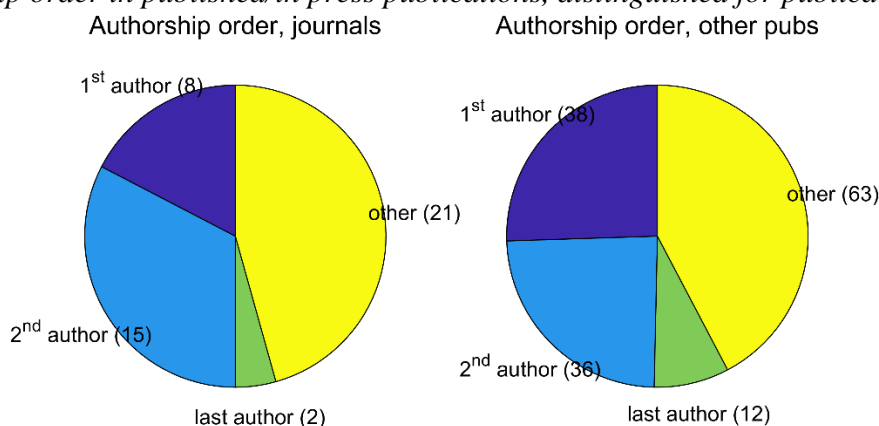
Articles in peer reviewed journals	<b>44+2*+5**</b>		
International patents	<b>2</b>		
Articles/Extended abstracts in books and proceedings of int. conferences	<b>72</b>		
Other publications	<b>76</b>		
Presentations at int. conferences	<b>39</b>		
Total impact factor***	<b>93.6</b>		
Average impact factor***	<b>2.03</b>		
Average number of authors†	<b>5.3</b>		
h index	ISI WoS: <b>15</b>	Scopus: <b>17</b>	Google Scholar: <b>19</b>
Citations	ISI WoS: <b>561</b>	Scopus: <b>801</b>	Google Scholar: <b>1126</b>
Citations per article††	ISI WoS: <b>12.2</b>	Scopus: <b>17.7</b>	Google Scholar: <b>21.4</b>

\*In press, DOI assigned; \*\*Under review; \*\*\* only published/in press, using IF of publication year; † only published/in press articles in peer reviewed journals; †† in peer reviewer journals

*Number of publications (in peer reviewed journals and other publication types) and citations per year.*

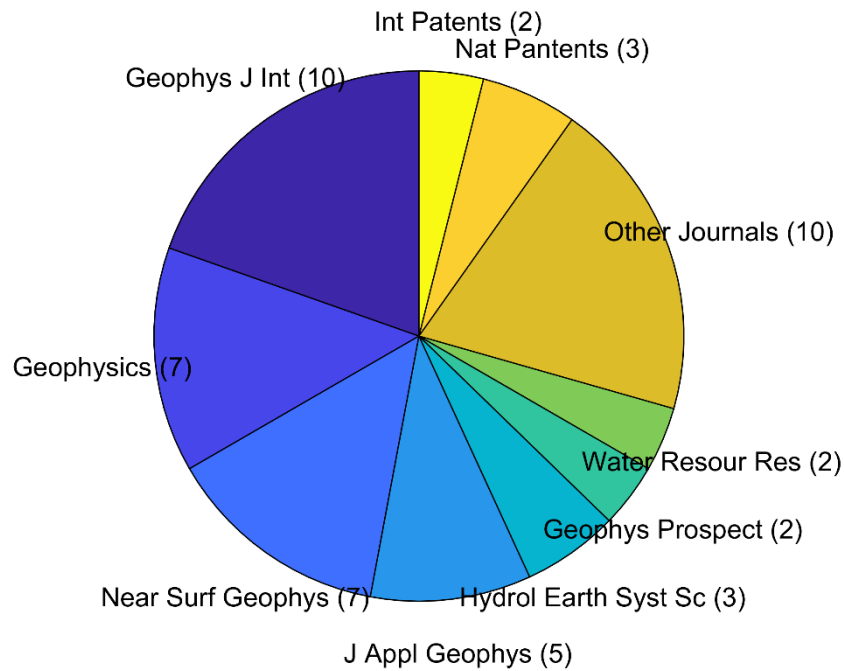


*Authorship order in published/in press publications, distinguished for publication type.*



*Number of articles per journal and international/national patents.*

Articles per journal and international/national patents



*Map of citing article network (ResearcherID Labs), i.e. map of locations for publications that have cited my works.*



### Part XIII – Research Activities

My research activities focus on the development of techniques of acquisition, processing and inversion for improving the imaging capabilities of the electric (E) and electromagnetic (EM) methods, with emphasis on the induced polarization (IP), nuclear magnetic resonance (NMR) and airborne EM (AEM) methods. With reference to the papers presented for evaluation in this application, I specifically worked on:

- the study of the induction-free acquisition range in frequency- and time-domain spectral IP, with the aim of avoiding inversion bias due to the lack of modelling of EM effects (Fiandaca 2019); also 5th best paper (out of 310) at the Near Surface Geoscience 2018 Conference of the European Association of Geoscientists and Engineers (EAGE), Sept. 2018, Porto (Portugal).
- the study of IP effects in airborne electromagnetic data, for improved characterization of the Earth (Viezzoli et al., 2017; Lin et al., 2019); the AEM IP inversion scheme developed in these studies has been presented as invited keynote speech at the 7<sup>th</sup> International Workshop on Airborne Electromagnetics, Kolding (Denmark), June 2018.
- the prediction of intrinsic permeability from electrical properties at field scale, disentangling the pore conduction from the surface conduction in Archie's law (Fiandaca et al., 2018B; Maurya et al., 2018); work awarded as best work at the 5th International Workshop on Induced Polarization, October 2018, Newark (New Jersey, USA) and 4th best paper (out of 310) at the Near Surface Geoscience 2018 Conference of the European Association of Geoscientists and Engineers (EAGE), Sept. 2018, Porto (Portugal); furthermore, the study has been presented as best of Near Surface Geoscience 2018 at the Sageep 2019 conference, March 2019, Portland (Oregon, USA).
- the field comparison of the time-domain and frequency-domain IP methods (Maurya et al., 2018B).
- the decrease of model uncertainty in the inversion process by the re-parameterization of the model space (Fiandaca et al., 2018).
- the study of parameter resolution and correlations through the Markov Chain Monte Carlo approach (Madsen et al., 2017); also best student presentation at the 4th International Workshop on Induced Polarization, 6-8 June 2016, Aarhus (Denmark).
- the development of a Voxel inversion scheme for AEM data which disentangle model space and forward meshes (Christensen et al., 2017).
- the signal-processing of IP data through the modelling of harmonic noise and background drift (Olsson et al., 2016).
- the development of inversion algorithms and field procedures for NRM data (Behroozmand et al., 2012; Behroozmand et al., 2016).
- time-lapse inversion, through the development of innovative algorithms (Fiandaca et al., 2015).
- sharp inversion of EM and NMR data, for improved model characterization (Vignoli et al., 2015; Grombacher et al., 2017).
- the development of inversion software of E&EM data (Auken et al., 2015), used worldwide for EM, NMR and IP data.
- the development of innovative inversion schemes for spectral time-domain induced polarization data (Fiandaca et al., 2012; Fiandaca et al., 2013; Johansson et al., 2015), AGLC award as best work on Applied Geophysics at the 2012 conference of the Italian group of geophysics of the solid earth (GNGTS2012).
- the development of new arrays for 3D electrical resistivity tomography (Fiandaca et al., 2010); best work on Physics for the Cultural Heritage at the 2009 conference of the Italian Society of Physics (SIF2009)

## Articles submitted for publication in peer reviewed journals

- I. Johansson S., Lindskog A., Fiandaca G., Dahlin T., 2019. Spectral Induced Polarization of limestones: time domain field data, frequency domain laboratory data and physicochemical rock properties. *Geophysics Journal International*, Under review.
- II. Bording T.S., Fiandaca G., Maurya P.K., Auken E., Christiansen A.V., Larsen T., Tuxen N., Knud E., 2019. Cross-borehole tomography with full-decay spectral time-domain induced polarization for high-resolution mapping of contaminant flow-paths. *Journal of Contaminant Hydrology*, Under review.
- III. Grombacher D., Fiandaca G., Auken E., 2019. Estimating  $T_2$  from surface NMR FID data using a forward model based on the full Bloch equation. *Geophysical Journal International*. Fiandaca G., Olsson P.-I., Maurya P.K., Dahlin T., Auken E., 2018. Non-standard responses in time-domain induced polarization measurements. *Geophysical Journal International*, Under review.
- IV. Couto M.A.J., Fiandaca G., Maurya P.K., Christiansen A.V., Porsani J.L., Auken E., 2019. AEMIP Robust Inversion Using Maximum Phase Angle Cole-Cole Model Re-parameterization Applied for HTEM Survey Over Lamego Gold Mine, Quadrilátero Ferrífero, MG, Brazil. *Geophysical Exploration*, Under review.
- V. Olsson P.-I., Fiandaca G., Maurya P.K., Dahlin T., Auken E., 2019. Effect of current pulse duration and recovering unbiased, quantitative induced polarization models from time-domain full-response and integral chargeability data. *Geophysical Journal International*, Under review.

## Articles accepted and in press in peer reviewed journals (underlined articles are selected for the application assessment)

1. Lin C., Fiandaca G., Auken E., Christiansen A.V., 2019. 2D induced polarization effects in airborne transient electromagnetic – forward modeling and robust 1D laterally constrained inversion, *Geophysics*, In press. DOI: 10.1190/geo2018-0102.1
2. Fiandaca G., 2019. Induction-free acquisition range in spectral time- and frequency-domain induced polarization at field scale, *Geophysical Journal International*, In Press. DOI: 10.1093/gji/ggy409

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