

## Virginia Strati

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University of Ferrara  
Polo Scientifico Tecnologico  
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## ACADEMIC CAREER

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January 2016

**Post-doc position** - Legnaro Laboratories (INFN)

March 2016

**PhD Dissertation:** University of Ferrara

Thesis: "Advanced modeling for studying antineutrinos and gamma rays coming from the Earth"

November 2012

**Fellowship for PhD in Physics.** Title: "Nuclear physics and technology at Legnaro National laboratories" - XXVIII cycle - University of Ferrara.

October 2012

**Master Degree - Geological sciences and technologies** - Centre for GeoTechnology (University of Siena)

Thesis: "Analisi del contenuto di radioattività delle principali formazioni rocciose delle aree alpine, prealpine e collinari della regione Veneto, finalizzata alla produzione di carte tematiche della distribuzione di radionuclidi naturali".

Supervisors: Prof. Luigi Carmignani - Prof. Fabio Mantovani

Final mark: **110/110 cum laude**

October 2010

**Bachelor degree - Laurea di Primo Livello in Geotecnologie** - Centre for GeoTechnology (University of Siena)

Thesis: "Studio della frana in loc. Campo Grande (Comune di Cavriglia) mediante integrazione di analisi diacronica e metodi geofisici".

Supervisors: Prof. Paolo Conti - Dr. Filippo Bonciani - Dr. Marilena Trotta

Final mark: **110/110 cum laude**

## PROFESSIONAL COURSES

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3 October 2014

Workshop: "Geotecnologie innovative per la professione del geologo" - Geofluid 2014 (Piacenza).

Invited Talk: "Monitoraggio airborne della radioattività".

April 2013

Professional course: "Geostatistica Ambientale ed Esercitazioni (edizione 2013)". Centre for GeoTechnology (University of Siena).

14 December 2012

Workshop: "La geofisica al servizio della protezione civile". Museo Civico di Rovereto - Rovereto (TN).

May 2012

Professional Course: "Geostatistica Ambientale" - Centre for GeoTechnology (University of Siena).

December 2011 - June 2012

**Internship** at Laboratory of Geophysics of Centre for GeoTechnology (University of Siena).

- Seismic and geoelectrics methods: ground surveys, data elaboration and interpretation, realization of technical reports.
- Nuclear Geophysics: acquisition and interpretation of natural radioactivity measurements in rock and soil samples.

June 2011

**First Certificate in English** - Council of Europe Level B2 (Grade C)

University of Cambridge ESOL Examinations

November 2009 - March 2010

**Internship** at Svaltec s.r.l. (Firenze).

Collaboration for a Tuscany region project for the realization of an updated regional cartographic system.

## **CONSULTING CONTRACT**

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November 2012

Consultation activity in the framework of a didactic project called: "Carta della radioattività del Comune di Schio - Determinazione della radioattività naturale nel comune di Schio".

## **RESEARCH ACTIVITY**

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October 2016

**International Workshop: Neutrino Research and Thermal Evolution of the Earth** - Sendai (Japan)

Invited talk: "Towards a refined model for predicting geoneutrino signal at SNO+"

November 2015 - December 2015

**Research visit** at Department of Geology - University of Maryland (College Park, Maryland, USA)

June 2015

**Neutrino Geoscience 2015 Conference** - Paris (France).

Invited Talk: "Local refined Earth model for JUNO geo-neutrino analysis".

January 2015

**International Workshop on KanLAND Geosciences: towards enhanced reference Earth models for geoneutrino analysis.** - Tokyo (Japan).

Invited Talk: "Geophysical 3D modeling for geoneutrino calculations".

April 2014

**Japan Geoscience Union Meeting (JpGU 2014)** - Pacifico Yokohama (Japan).

Invited Talk: "Towards a refined regional geological model for predicting geoneutrinos flux at Sudbury Neutrino Observatory (SNO)".

## **AWARDS**

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October 2016

"**Niccolò Copernico**" acknowledgement to young PhD fellows distinguished for innovative thesis in sciences and technologies.

May 2014

"**Student Outstanding Presentation Award 2014**" - Japan Geoscience Union meeting 2014, Scientific section: Solid Earth.

## TEACHING

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11-21 July 2016

Tutor. Summer School: "Using Particle Physics to Understand and Image the Earth" - Gran Sasso Scientific Institute - L'Aquila - Italy

26 May - 25 June 2016

Tutor. Summer School: "Physics and Nuclear Technologies" Physics and Earth Department -University of Ferrara - Ferrara - Italy

2013 - 2016

Didactic project "A scuola con la radioattività - Attivamente" - Fondazione Cassa di Risparmio di Padova e Rovigo.

March 2015

Tutor: **Stage Tirocinio Scientifico**, Laboratories activity for high school student at Department of Physics and Earth Sciences, University of Ferrara.

June 2014

Tutor: **Stage ai Laboratori Nazionali di Legnaro** (INFN) for high school students - Edition 2014.  
Theme: "La radioattività che ci circonda".

March 2014

Tutor: **Stage Tirocinio Scientifico**, Laboratories activity for high school student at Department of Physics and Earth Sciences, University of Ferrara.

June 2013

Tutor: **Stage ai Laboratori Nazionali di Legnaro** (INFN) for high school students - Edition 2013.  
Theme: "La radioattività che ci circonda".

October 2012

Tutor for the didactic project "La carta della radioattività del Comune di Schio" at ITIS "De Pretto" of Schio (VI).

## PEER REVIEWED SCIENTIFIC PAPERS

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Kaçeli Xhixha M., Albèri M., Baldoncini M., Bezzon G. P., Broggin C., Buso G.P., Callegari I., Casini L., Cuccuru S., Fiorentini G., Guastaldi E., Mantovani F., Mou L., Oggiano G., Puccini A., Rossi Alvarez C., **Strati V.**, Xhixha G. and Zanon A. *Uranium distribution in the Variscan Basement of Northeastern Sardinia*. Journal of Maps, (2015) 1-8. DOI: 10.1080/17445647.2015.1115784

Xhixha, G., Alberi, M., Baldoncini, M., Bode, K., Bylyku, E., Cfarku, F., Callegari, I., Hasani, F., Landsberger, S., Mantovani, F., Rodriguez, E., Shala, F., **Strati, V.**, Kaçeli Xhixha, M., *Calibration of HPGe detectors using certified reference materials of natural origin*. Journal of Radioanalytical and Nuclear Chemistry. DOI 10.1007/s10967-015-4360-6

Tushe, K. B., Bylyku, E., Bylyku, E, Xhixha, G., Dhoqina, P., Daci, B., Cfarku, F., Xhixha, M. K., **Strati, V.** First Step Towards the Geographical Distribution of Indoor Radon in Dwellings in Albania. Radiat Prot Dosimetry. 2015 DOI: 0.1093/rpd/ncv494.

Xhixha G., Baldoncini M., Callegari I., Colonna T., Hasani F., Mantovani F., Shala F., **Strati V.**, Xhixha Kaçeli M.. *A century of oil and gas exploration in Albania: Assesment of Naturally Occuring Radioactive Materials (NORMs)*. Chemosphere 139(0) (2015) 30 - 39. DOI: <http://dx.doi.org/10.1016/j.chemosphere.2015.05.018>.

**Strati V.**, Baldoncini M., Callegari I., Mantovani F., McDonough W.F., Ricci B., Xhixha G. *Expected geoneutrino signal at JUNO*. Progress in Earth and Planetary Science 2(1) DOI: 10.1186/s40645-015-0037-6.

Baldoncini M., Callegari I., Fiorentini G., Mantovani F., Ricci B., **Strati V.**, Xhixha G. *Reference worldwide model for antineutrinos from reactors.* Physical Review D 91(6): 065002 (2015). DOI: 10.1103/PhysRevD.91.065002

**Strati, V.**, Baldoncini, M., Bezzon, G. P., Broggin, C., Buso, G. P., Caciolli, A., Callegari, I., Carmignani, L., Colonna, T., Fiorentini, G., Guastaldi, E., Kaçeli Xhixha, M., Mantovani, F., Menegazzo, R., Mou, L., Rossi Alvarez, C., Xhixha, G., and Zanon, A. *Total natural radioactivity, Veneto (Italy).* Journal of Maps, 11(4) (2015) 543 - 551. DOI: <http://dx.doi.org/10.1080/17445647.2014.923348>

Huang Y., **Strati V.**, Mantovani F., Shirey S. B. and McDonough W. F. *Regional study of the Archean to Proterozoic crust at the Sudbury Neutrino Observatory (SNO+), Ontario: Predicting the geoneutrino flux.* Geochemistry, Geophysics, Geosystems, 15 (2014) 3925–3944, doi:10.1002/2014GC005397

Guastaldi E., M. Baldoncini, G. Bezzon, C. Broggin, G. Buso, A. Caciolli, L. Carmignani, I. Callegari, T. Colonna, K. Dule, G. Fiorentini, M. Kaçeli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, **V. Strati**, G. Xhixha, A. Zanon, *A multivariate spatial interpolation of airborne  $\gamma$ -ray data using the geological constraints.* Remote Sensing of Environment, 137 (2013) 1-11. DOI: 10.1016/j.rse.2013.05.027

Callegari I., G.P. Bezzon, C. Broggin, G.P. Buso, A. Caciolli, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M.K. Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, A. Pirro, C.R. Alvarez, **V. Strati**, G. Xhixha, A. Zanon. *Total natural radioactivity, Tuscany, Italy.* Journal of Maps, 9 (3) (2013) 438 - 443. DOI: 10.1080/17445647.2013.802999.

## **CONFERENCE PROCEEDINGS AND PAPERS NOT PEER-REVIEWED**

Baldoncini, M., **V. Strati**, S. A. Wipperfurth, G. Fiorentini, F. Mantovani, W. F. McDonough, and B. Ricci. *Geoneutrinos and Reactor Antineutrinos at SNO+.* Journal of Physics: Conference Series 718, no. 6 (2016): 062003. DOI:10.1088/1742-6596/718/6/062003. ([pdf](#))

Albéri M., Baldoncini M., Callegari I., Mantovani F., Raptis K. G. C., Realini E., Reguzzoni M., Rossi L., Sampietro D., **Strati V.** *Studio della quota di volo mediante GNSS, altimetro radar e barometro per rilievi di spettroscopia gamma da velivolo.* Atti 20<sup>a</sup> Conferenza Nazionale A.S.I.T.A., Cagliari, 8-10 novembre 2016, ISBN 978-88-941232-6-5; pp: 661-669. (2016). ([pdf](#))

E. Tufarolo, M. Baldoncini, G. Bezzon, F. N. A. Brogna, G. Buso, I. Callegari, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M. K. Xhixha, F. Mantovani, L. Mou, C. Pagotto, E. Realini, M. Reguzzoni, C. A. Rossi, R. Salvini, D. Sampietro, **V. Strati**, G. Xhixha, A. Zanon. *Il Radgyro: un autogiro dedicato ad acquisizioni airborne multiparametriche.* Atti 18a Conferenza Nazionale A.S.I.T.A., Firenze, 14-16 novembre 2014, ISBN:978-88-903132-9-5; pp: 1159-1165. (2014).

M. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, L. Carmignani, L. Casini, I. Callegari, T. Colonna, S. Cuccuru, E. Guastaldi, G. Fiorentini, F. Mantovani, G. Massa, L. Mou, G. Oggiano, A. Puccini, C. Rossi Alvarez, **V. Strati**, G. Xhixha, A. Zanon. *A Detailed Gamma-ray Survey for Estimating the Radiogenic Power of Sardinian Variscan Crust.* 27th Conference of the Nuclear Societies in Israel; Dead Sea (Israel); 11-13 Feb 2014; INIS Issue 50. Vol. 45 (2014).

**V. Strati**, M. Baldoncini, G.P. Bezzon, C. Broggin, G. P. Buso, A. Caciolli, I. Callegari, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M. Kaçeli Xhixha, F. Mantovani, R. Menegazzo, L. Mou, C. Rossi Alvarez, G. Xhixha, A. Zanon. *Total natural radioactivity map of Veneto (Italy).* INFN-LNL Rep. 240, 145-146. ISSN: 1828-8561 (2014).

P. Garosi, M. Baldoncini, A. Iovene, F. Mantovani, L. Mou, S. Petrucci, C. Rossi Alvarez, **V. Strati**, C. Tintori, G. Xhixha. *A segmented detector for airborne gamma-ray spectroscopy.* Symposium on Radiation Measurements and Applications (SORMA XV), Michigan, USA. (2014).

G. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, L. Carmignani, I. Callegari, T. Colonna, E. Guastaldi, G. Fiorentini, F. Mantovani, L. Mou, C. Robustini, C. Rossi Alvarez, **V. Strati**, M. Kaçeli Xhixha, A. Zanon. *Performances of a lightweight collimated  $\gamma$ -ray spectrometer for in-situ surveys.* EU-NORM 2 Symposium (2014), Prague, Czech Republic.

G. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, I. Callegari, T. Colonna, G. Fiorentini, G. Gjeta, M. Goga, E. Guastaldi, F. Hasani, F. Mantovani, L. Mou, C. Rossi Alvarez, **V. Strati**, M. Xhixha Kaçeli, A. Zanon. *Assessment of*

*Naturally Occurring Radioactive Materials (NORMs) in soils from the Kuçova oilfield, Albania.* 7th International Conference on Environmental And Geological Science And Engineering (EG 2014), Salerno, Italy. Latest Trends in Energy, Environment and Development, 154-160. ISBN: 978-960-474-375-9 (2014).

B. Ricci, M. Baldoncini, J. Esposito, L. Ludhova, F. Mantovani, **V. Strati**, G. Xhixha, S. Zavatarelli. *Geo-neutrinos and reactor anti-neutrinos expected in Daya Bay II and in LENA.* XXIV International Conference on Neutrino Physics and Astrophysics, Boston, U.S.A.

**V. Strati**, Y. Huang, F. Mantovani, S. Shirey, R. Rudnick, W. F. McDonough. *Towards a refined regional geological model for predicting geoneutrinos flux at Sudbury Neutrino Observatory (SNO+).* Japan Geoscience Union Meeting (JpGU 2014) Pacifico Yokohama, Kanagawa, Japan. (2014).

**Strati V**, M. Baldoncini, G. P. Bezzon, C. Broggin, G. P. Buso, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, M. Kaceli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, G. Xhixha. *Studio preliminare del contenuto di radioattività delle principali formazioni rocciose delle aree alpine, prealpine e collinari della Regione Veneto.* Mus. Civ. Rovereto, Atti del Workshop in geofisica. ISBN 978-88-7498-200-4 (2013).

Xhixha G, Bezzon G, Broggin C, Buso G, Caciolli A, Callegari I, Colonna T, Fiorentini G, Guastaldi E, Kaçeli Xhixha M, Mantovani F, Massa G, Menegazzo R, Mou L, Rossi Alvarez C & **Strati V**. *Automated  $\gamma$ -ray spectrometer for monitoring wastes made by non-nuclear industries.* Mineralogical Magazine, 77(5) 2519 (2013). DOI:10.1180/minmag.2013.077.5.24

Guastaldi E, Baldoncini M, Bezzon G, Broggin C, Buso GP, Caciolli A, Callegari I, Colonna T, Fiorentini G, Kaçeli Xhixha M, Mantovani F, Massa G, Menegazzo R, Mou L, Rossi Alvarez C, **Strati V** & Xhixha G. *Mapping the natural radioactivity of Elba Island by means of geostatistical interpolation of airborne gamma-ray data.* Mineralogical Magazine, 77(5) 1224 (2013). DOI:10.1180/minmag.2013.077.5.24.

G. Xhixha, A. Ahmeti, G.P. Bezzon, M. Bitri, C. Broggin, G.P. Buso, A. Caciolli, I. Callegari, F. Cfaraku, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, Dh. Sadiraj Kuqi, M. Shyti, **V. Strati**, M. Xhixha Kaçeli, P. Zdruli, A. Zyfi. *Natural radioactivity in chemical fertilizers used in Albania investigated with a fully automated gamma-ray spectrometer.* International Conference of Ecosystems (ICE2013) Tirana, Albania, 31 June - 5 July, 2013. ISBN: 978-9928-4068-6-6.

G. Xhixha, G.P. Bezzon, C. Broggin, G.P. Buso, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, M. Kaçeli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, **V. Strati**. *A fully automated gamma-ray spectrometer for NORM characterization.* 5th EAN<sub>NORM</sub> workshop 2012 on "Measurement strategies in NORM" and Topical day "NORM in oil- and gas industry", IAF-Radioökologie GmbH, Dresden, Germany.

#### **BACHELOR THESIS SUPERVISOR**

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A.A. 2015-2016 – Corso di Laurea Triennale in Fisica (University of Ferrara)

**Esposizione della popolazione della regione Umbria ai raggi cosmici: modelli e distribuzioni spaziali.**

Student: Kassandra Giulia Cristina Raptis

Supervisor: Fabio Mantovani

Assistant supervisor: Virginia Strati

La sottoscritta Virginia Strati acconsente ai sensi del D.lgs. 30/06/2003 n.196, al trattamento dei propri dati personali.

La sottoscritta acconsente alla pubblicazione del presente curriculum vitae sul sito dell'Università di Ferrara.

Ferrara, 30/06/2017

Firma

A handwritten signature in dark ink, reading "Virginia Strati", is written over a horizontal line. The signature is cursive and clearly legible.