Andrea Vacca

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Biography

Andrea Vacca graduated in Geological Sciences in 1984 at the University of Cagliari (Italy) and obtained his MSc degree in Soil Science at the Statal University of Ghent (Belgium), in 1988. In 1990 he became Technical Managerial Instructor with qualification of geologist at the Extension Service of the Sardinian Region. In 1998 he was appointed as a Research Scientist in Pedology at the University of Naples Frederic II. He was confirmed in his research position in 2001. From November 2001 to September 2015 he has been a Research Scientist at the University of Cagliari. In October 2015 he was appointed as Associate Professor in Pedology at the University of Cagliari. During his scientific career he has participated in several international, national and regional research projects, coordinating some of them. He has Membership of the Italian Society of Soil Science, the International Union of Soil Sciences, and the Italian Society of Pedology. He has been Regional Referent for Pedology in the frame of the Committee for the National Soil and Soil Quality Observatory. He is member of the scientific board of the PhD course in Earth and Environmental Sciences and Technologies of the University of Cagliari (Italy). He is author of more than 130 papers published in international and national journals, proceedings of international and national congresses, and chapters of international and national books.

Research interests

Soil degradation and desertification; Soil and land evaluation; Soil genesis, soil survey, soil mapping; Relationships between soils and morphology on quaternary continental deposits.

Selected publications

Concas S, Lattanzi P, Bacchetta G, Barbifieri M, Vacca A (2015). Zn, Pb and Hg contents of *Pistacia lentiscus* L. grown on heavy-metal rich soils: implications for phytostabilization. Water, Air, & Soil Pollution 226, 340. DOI: 10.1007/s11270-015-2609-x.

Concas S, Ardau C, Di Bonito M, Lattanzi P, Vacca A (2015). Field sampling of soil pore water to evaluate the mobile fraction of trace elements in the Iglesiente area (SW Sardinia, Italy). Journal of Geochemical Exploration 158, 82-94. DOI: 10.1016/j.gexplo.2015.07.006.

Cidu R, Biddau R, Dore E, Vacca A, Marini L (2014). Antimony in the soil—water—plant system at the Su Suergiu abandoned mine (Sardinia, Italy): Strategies to mitigate contamination. Science of the Total Environment 497-498, 319-331. DOI: 10.1016/j.scitotenv.2014.07.117.

Vacca A, Loddo S, Melis MT, Funedda A, Puddu R, Verona M, Fanni S, Fantola F, Madrau S, Marrone VA, Serra G, Tore C, Manca D, Pasci S, Puddu MR, Schirru P (2014). A GIS based method for soil mapping in Sardinia, Italy: A geomatic approach. Journal of Environmental Management 138, 87-96. DOI: 10.1016/j.jenvman.2013.11.018.

Cidu R, Biddau R, Dore E, Vacca A (2013). Antimony and arsenic uptake by vegetation growing at abandoned mines. In: Brown A., Figueroa L., Wolkersdorfer Ch. (eds) Reliable Mine Water Technology (Vol II). Denver, Colorado, USA (Publication Printers), ISBN 978-0-615-79385-6, 931-935.

Cidu R, Biddau R, Dore E, Vacca A (2013). Antimony dispersion at abandoned mines in Sardinia, Italy. Procedia Earth and Planetary Science 7, Water Rock Interaction (WRI 14), 171-174.

Vacca A, Bianco MR, Murolo M, Violante P (2012). Heavy metals in contaminated soils of the rio Sitzerri floodplain (Sardinia, Italy): characterization and impact on pedodiversity. Land Degradation and Development 23, 350-364. DOI: 10.1002/ldr.2153.

Vacca A, Ferrara C, Matteucci R, Murru M (2012). Ferruginous paleosols around the Cretaceous-Paleocene boundary in central-southern Sardinia (Italy) and their potential as pedostratigraphic markers. Quaternary International 265, 179-190. DOI:10.1016/j.quaint.2011.07.036.

Scarciglia F, Tuccimei P, Vacca A, Barca D, Pulice I, Salzano R, Soligo M (2011). Soil genesis, morphodynamic processes and chronological implications in two soil transects of SE Sardinia, Italy: Traditional pedological study coupled with laser ablation ICP-MS and radionuclide analyses. Geoderma 162, 39-64. DOI: 10.1016/j.geoderma.2011.01.004.

Murru M, Ferrara C, Matteucci R, Da Pelo S, Sarria E, Vacca A (2011). Pisolithic ferricretes around the Cretaceous-Palaeocene boundary in southern Sardinia (Italy) as palaeoenvironmental proxies. C.R. Geoscience 343, 72-81. DOI: 10.1016/j.crte.2010.12.002.

Cerdan O, Govers G, Le Bissonnais Y, Van Oost K, Poesen J, Saby N, Gobin A, Vacca A, Quinton J, Auerswald K, Klik A, Kwaad FJPM, Raclot D, Ionica I, Rejman J, Rousseva S, Muxart T, Roxo MJ,

Dostal T (2010). Rates and spatial variations of soil erosion in Europe: A study based on erosion plot data. Geomorphology, 122: 167-177. DOI: 10.1016/j.geomorph.2010.06.011.

Baldaccini P, Vacca A (2009). Soil suitability for irrigation. In: Costantini, E.A.C. (Ed.), Manual of Methods for Soil and Land Evaluation, Science Publishers, USA, ISBN: 978-1-57808-571-2, pp. 79-97.

Baldaccini P, Vacca A (2009). Land suitability for grazing. In: Costantini, E.A.C. (Ed.), Manual of Methods for Soil and Land Evaluation, Science Publishers, USA, ISBN: 978-1-57808-571-2, pp. 518-525.

Licciardello F, Govers G, Cerdan O, Kirkby MJ, Vacca A, Kwaad FJPM (2009). Evaluation of the PESERA model in two contrasting environments. Earth Surface Processes and Landforms, 34 (5): 629-640. DOI: 10.1002/esp.1745.

Murgia F, Biddau R, Concas A, Demontis R, Fanfani L, Heilmann Z, Lai C, Lecca G, Lorrai E, Marrocu M, Marrone VA, Muscas L, Peneva E, Piras A, Pisu M, Pusceddu G, Satta G, Theis D, Vacca A, Valera P, Vallenilla Ferrara AM, Bonomi E (2009). GRIDA3-a shared resources manager for environmental data analysis and applications. Earth Science Informatics, 2 (1-2): 5-21. DOI: 10.1007/s12145-009-0020-0.

Carboni S, Palomba M, Vacca A, Carboni G (2006). Paleosols provide sedimentation, relative age, and climatic information about the alluvial fan of the River Tirso (Central-Western Sardinia, Italy). Quaternary International, 156-157: 79-96.

Cerdan O, Poesen J, Govers G, Saby N, Le Bissonnais Y, Gobin A, Vacca A, Quinton J, Auerswald K, Klik A, Kwaad FJPM, Roxo MJ (2006). Sheet and rill erosion. In: J. Boardman and J. Poesen (Eds), Soil Erosion in Europe, John Wiley & Sons, Ltd, ISBN: 0-470-85910-5, pp. 501-513.

Vacca A, Adamo P, Pigna M, Violante P (2003). Genesis of Tephra-derived Soils from the Roccamonfina Volcano, South Central Italy. Soil Science Society of America Journal, 67: 198-207.

Vacca A, Aru A, Carboni S, Serra G, Rejeb MN, Nouri M, Chakrounb H, Berrais H (2003). Definition and mapping of Environmental Sensitive Areas to desertification in a Tunisian catchment basin. Rend. Sem. Fac. Sci. Univ. Cagliari, Supplemento 2003:141-145.

Ollesh G, Vacca A (2002). Influence of time on measurements results of erosion plot studies. Soil and Tillage Research, 67: 23-39.

Vacca A, Vacca S (2001). Soil degradation in Sardinia – Historical causes and current processes due to anthropogenic pressure. Petermanns Geographische Mitteilungen, 145: 68-78.

Vacca A, Loddo S, Ollesch G, Puddu R, Serra G, Tomasi D, Aru A (2000). Measurement of runoff and soil erosion in three areas under different land use in Sardinia (Italy). Catena, 40: 69-92.

Vacca A (2000). Effect of land use on forest floor and soil of a Quercus suber L. forest in Gallura (Sardinia, Italy). Land Degradation & Development, 11: 167-180.

Romero-Díaz A, Cammeraat LH, Vacca A, Kosmas C (1999). Soil erosion at three experimental sites in the Mediterranean. Earth Surface Processes and Landforms, 24: 1243-1256.

Aru A, Baldaccini P, Lai MR, Puddu R, Tomasi D, Vacca A (1998). Santa Lucia Field Site, Sardinia, Italy. In: P. Mairota, J.B. Thornes and N. Geeson (Eds.), Atlas of Mediterranean environments in Europe: the desertification context, John Wiley & Sons Ltd, Chichester, England, ISBN 0-471-96092-6, pp. 116-118.

Puddu R, Tomasi D, Vacca A (1998). Erosion in areas afforested with Eucalyptus: a case study in southern Sardinia (Italy). Geoökodynamik, 29 (3/4): 189-201.

Kosmas C, Danalatos N, Cammeraat LH, Chabart M, Diamantopoulos J, Farand R, Gutierrez L, Jacob A, Marques H, Martinez-Fernandez J, Mizara A, Moustakas N, Nicolau JM, Oliveros C, Pinna G, Puddu R, Puigdefabregas J, Roxo M, Simao A, Stamou G, Tomasi D, Usai D, Vacca A (1997). The effect of land use on runoff and soil erosion rates under Mediterranean conditions. Catena, 29: 45-59.