

CURRICULUM VITAE

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M.S. Forestry Sciences; 110/110 Summa Cum Laude, University of Florence, 1980

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Language skills (Mark 1 to 5 for competence, where 5 is the highest):

Language	Level	Passive	Spoken	Written
Italian	<i>Mother Tongue</i>	5	5	5
English	5	5	5	5
French	4	5	5	4
Spanish	3	5	4	2
Portuguese	2	3	2	2

Present Position:

Free-lance Consultant, wood-energy planning (WISDOM), forest resource assessment and monitoring

Key qualifications and main areas of interest:

1-Bioenergy/wood energy: Main Developer, for FAO and in collaboration with UNAM, of the Woodfuel Integrated Supply/Demand Overview Mapping (WISDOM) Model and responsible for its implementation in more than 25 countries in Europe, Africa, SE Asia and Latin America; integrated sustainable biomass energy planning; subsistence energy mapping; biomass assessment for bioenergy programs; assessment of renewable/non-renewable fraction of bioenergy feedstock.

2-Land cover assessment and monitoring: Analysis of land use dynamics and change processes; forest inventory; assessment of deforestation and forest degradation rates and trends; international forestry statistics; forest resource management and sustainability; assessment of wood-energy-related forest degradation in MRV-REDD+ context

Specific countries experience (chronological):

Country	Date:	Project context
India, Karnataka	Nov.2013-Jun.2014	YALE Univ. ; GACC Project Pan-tropical Analysis of fNRB at sub-national level based on WISDOM - Country study in Karnataka
Nepal	Oct.2013-Mar.2014	AGRICONSULTING SpA. REDD+ MRV Project - Analysis of forest degradation in Nepal based on WISDOM
Rwanda	Mar. – Nov. '12	AGRICONSULTING SpA. WISDOM update & upgrade; preparation of woodfuel supply master plan.
Slovenia	Dec.2009-Sep.'10	IEE Project MAKE-IT-BE, Upgrade WISDOM Slovenia
Cen. Africa Rep., Rwanda, Chad, Sudan	Aug. '07 – Mar.'12	FAO projects (integrated biomass assessment and wood-energy planning, periurban forestry, IDP Camps' wood energy strategies)
Mozambique	Dec. 07, Mar.'08	AGRICONSULTING SpA . (WISDOM Mozambique)
Castilla y León (Spain)	July 07, Jan 08	Proj. FAO GDCP/INT/001/SPA (WISDOM Cast. y León)
Argentina	2007; June 2008	Project FAO TCP/ARG/3103 (WISDOM Argentina).
Slovenia	Jul.'03 to Jun.'04	Project FAO TCP/SVN/2901. (WISDOM Slovenia).
Togo, Ghana, Benin, Niger, Burkina Faso, Kenya, Madagascar.	Missions from February 2000 to January 2006	FAO Forestry / IEPF Project SIE <i>Systèmes d'information énergétique</i> ; FAO Regional Project "Sustainable Forest Management in African ACP Countries" (GCP/RAF/354/EC);
Thailand, Indonesia, India, Vietnam; Kenya, Brazil, Cameroon, DRC; Mexico,	Repeated missions from May 1989 to September 1999.	Remote Sensing Component of FAO Global Forest Resources Assessment Programme.
Niger	July – Nov. 1988	Pan-tropical forest monitoring (1980-1990-2000)
Bangladesh	July – Nov. 1988	FAO Project. Inventory of forests and woodlands.
Bangladesh	Jan 1985–Mar.'88	FAO/UNDP Project BGD/85/085. National forest inventory.
Sri Lanka	Jun '82 – June '84	FAO Project SRL/79/014. National Forest Inventory.

Professional experience:

Date:	January 2013 (on-going)
Location	Home Office in Poggibonsi, Italy
Company / Organisation	YALE University – Research grant “Geospatial Analysis and Modeling of Non-Renewable Biomass: WISDOM and Beyond”
Position	Co-Principal Investigator. Team Leader for Tier I (pan-tropical) and Tier II (Karnataka, India; Honduras; Kenya).
Job Description	Tier I: Develop spatially explicit global dataset of woodfuel demand, accessible supply potential, woodshed analyses and estimates of the fraction of Non-Renewable Biomass (fNRB) at a national/subnational level applying the WISDOM Model. Tier II (selected countries in Africa, Asia, Latin America): Conduct detailed WISDOM-fNRB analyses to validate/refine estimates obtained at the global level

Date:	October 2013 to March 2014
Location	KATHMANDU, nEPAL and Home Office in Poggibonsi, Italy
Company / Organisation	AGRICONSULTING S.p.A, Project “Development of a Measurement, Reporting and Verification (MRV) System for Emissions and Removals”
Position	WISDOM Analyst
Job Description	WISDOM analysis of Nepal in support of the MRV System for the quantitative and spatial-explicit definition of the risk of forest degradation due to the current demand for fuelwood.

Date:	March to November 2012
Location	Kigali, Rwanda and Home Office in Poggibonsi, Italy
Company / Organisation	AGRICONSULTING S.p.A, (on Belgian funding)
Position	Team Leader, Formulation of Rwanda Woodfuel Supply Master Plan.
Job Description	Project management. Responsible for the update and upgrade of the WISDOM Rwanda analysis and for the elaboration of the Rwanda Woodfuel Supply Master Plan. Coordination and supervision of field data collection and of socio-economic and value-chain analysis.

Date:	May 2007 to March 2012 (with interruptions below)
Location	FAO HQ, Rome; Argentina; CyL, Spain; Bangui, C.A.R.; Rwanda; Chad; Sudan
Company / Organisation	FAO Forestry Dep. (FO); Natural Resources and Environment Dep. (NLR)
Position	Consultant, Wood Energy (WISDOM) and Bioenergy information.
Job Description	Responsible for the FAO assistance to Argentina, Castilla y León (Spain), C.A.R., Rwanda, Chad and Sudan on integrated biomass energy mapping by WISDOM method. Author of the Bioenergy Data Annex for the GBEP Report “Bioenergy Development in G8 +5 Countries”. World-wide assessment of woodfuel supply potential (Global WISDOM).

Date:	Feb 2010 to Apr 2011 (with interruptions below)
Location	Lubljana, Slovenia
Company / Organisation	Slovenia Forest Service; IEE Project MAKE-IT-BE
Position	International WISDOM Expert
Job Description	Biomass energy planning. Upgrade and update of national WISDOM analysis of Slovenia. Creation of a detailed GIS-based planning tool for biomass policy formulation and action planning at local and national levels.

Date:	December 2007; March 2008
Location	Maputo, Mozambique
Company / Organisation	AGRICONSULTING S.p.A.
Position	Consultant, Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM)
Job Description	Responsible for national bioenergy mapping applying the WISDOM method as follow up to the new national forest inventory.

Date:	February – March 2007 (a) ; January 2008 (b)
Location	Home office, Poggibonsi, Florence and Isernia.
Company / Organisation	a) FORESTLAB Centre Srl - University of Molise; b) Centro Ricerche Produzioni Vegetali s.c.r.l., Cesena
Position	Consultant, Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM)
Job Description	a) Overview of woody biomass demand/supply in Italy applying the WISDOM method. b) Analysis of biomass potential and delineation of bioenergy districts in Emilia Romagna.

Date:	March 2005 – January 2007
Location	FAO HQ, Rome and Home office, Poggibonsi
Company / Organisation	FAO Wood Energy Programme and Poverty Mapping Project
Position	Consultant, Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM)

Job Description	Development of "WISDOM for Cities": method for analysis and planning of urban wood energy systems (Urban Woodshed). Regional GIS-based WISDOM analyses in relation to poverty. Studies conducted over Southeast Asia countries (2000 and 2015 forecast scenarios) and ten central/eastern Africa countries. Scope: wood energy/bioenergy planning; priority zoning (deficit areas and surplus areas); urban wood energy; contribution to poverty mapping (subsistence energy).
Date:	August 2004 – February 2005
Location	FAO HQ, Rome and Home office, Poggibonsi
Company / Organisation	FAO Forestry Department
Position	Consultant, Wood Energy Information
Job Description	Analysis and harmonization of forest products statistics from international, regional and national sources in the global multi-source database <i>interactive</i> Wood Energy Statistics (i-WESTAT). Production of Information Notes on forestry/bioenergy topics in respect of Climate Change (UNFCCC, Clean Dev. Mechanism), Millennium Development Goals and Sustainable Development for the FAO Committee on Forestry (COFO) Meeting .
Date:	Missions: July 2003; November-December 2003; May-June 2004
Location	Ljubljana, Slovenia
Company / Organisation	FAO Project in Slovenia "Supply and Utilization of Bioenergy to Promote Sustainable Forest Management" (TCP/SVN/2901)
Position	Consultant, Wood energy mapping and information system Inventory of woodfuel flows
Job Description	Provide support to Slovenia Forestry Service on wood energy planning and policy formulation. Development of the Slovenia Wood Energy Map and Information System. Creation of WISDOM Slovenia; estimation of fuelwood supply/demand patterns. Identification of priority areas for sector development. Design and implementation of the survey of non-forest woody biomass resources.
Date:	February 2000 – June 2004
Location	FAO HQ, Rome, and missions to African countries
Company / Organisation	FAO Wood Energy Programme; FAO Regional Project "Sustainable Forest Management Programme in African ACP Countries"(GCP/RAF/354/EC)
Position	Consultant, Wood Energy Planning and Policy Development
Job Description	Support to sustainable forest management. Development of the Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM), an analytical tool for strategic planning of the wood energy sector. WISDOM analysis over Mexico and Senegal. Task manager of the wood energy component of the regional project mentioned above. Organization of regional workshops (Nairobi October 2000; Lomé, Togo, 4–8 juin 2001). Contribution to the formulation of the Wood Energy Programme of FAO.
Date:	November 2000 – July 2002
Location	Florence, Italy
Company / Organisation	<i>Istituto Agronomico per l'Oltremare</i> , Florence. Project "Consistency Assessment of the TREES-II High Resolution Exercise" EC–DG JRC funding.
Position	Team Leader
Job Description	Monitoring of tropical forests. Consistency assessment/validation of the high resolution tropical forest monitoring carried out by the TREES II Project of the European Joint Research Center (JRC) over humid tropical regions of Africa, Latin America and Asia. Team Leader's tasks were: General coordination; liaison between JRC and IAO; methodology development and supervision of analytical work (interdependent image interpretation and data processing); analysis, presentation of results, reporting.
Date:	March 1989 – September 1999
Location	FAO HQ, Rome and frequent missions to Asia, Africa and Latin America; Andhra Pradesh
Company / Organisation	FAO, Forest Resources Assessment Programme; Andhra Pradesh Forestry Project
Position	Task manager of the Remote Sensing Component of FRA. Forestry Officer/Remote Sensing since Dec 1993; Forest Monitoring Consultant after Jan. 1999.
Job Description	Global forest resources assessment FRA 1990 and FRA 2000. Monitoring of tropical forest resources in tropical countries over the periods 1980-1990-2000. Estimation of state and change of pan-tropical forest resources (global, regional, sub-regional, ecological levels) based on a 10 percent statistical sample of tropical regions. Detailed monitoring of Andhra Pradesh forests. Main tasks: Development of methodologies and preparation of guidelines (land cover classification, satellite image interpretation procedures, change assessment); supervision junior professional officers and over 50 among consultants, contractors and interpreters; development and dissemination of the interdependent interpretation method; supervision and validation of all satellite image interpretation; analysis of results and report writing (FAO Forestry Paper 130); responsible for international workshops and training sessions on resources monitoring (4 regional workshops and 12 training sessions in 8 different tropical countries).
Date:	July - November 1988
Location	Niger (Niamey, Maradi)
Company / Organisation	FAO Project " <i>Amenagement et reboisement forestiers a but multiples</i> ".

Position	Forest Inventory Consultant.
Job Description	Main tasks: design and implementation of the inventory of the reserved forests of Maradi Region and Niamey Region (sahelian woodland formations of <i>Sclerocaria birrea</i> , <i>Acacia</i> spp., <i>Combretum</i> spp.) using SPOT and TM satellite data; training of project and Department personnel on the principles of forest inventory (french medium).
Date:	January 1985 – March 1988
Location	Bangladesh.
Company / Organisation	FAO Project “Assistance to the forestry sector”
Position	Forest Inventory Expert
Job Description	Main tasks: design and implementation of the inventory of Bangladesh forest resources (mangroves, bamboo forests, natural forests and plantations); coordination of field work; mapping coordinator; aerial photo interpretation; analysis and interpretation of SPOT satellite data (Mx and PAN stereopairs).
Date:	June 1982 – June 1984
Location	Sri Lanka
Company / Organisation	FAO Project “National Forest Inventory for Management Planning” SRL/79/014
Position	Associate Professional Officer – Forest Inventory
Job Description	Support to sustainable forest management. Main tasks: inventory design, field work coordination and supervision, photointerpretation/mapping of Sri Lanka forests.

Selected Publications:

Wood Energy:

(links for download in <http://www.wisdomprojects.net/global/pub.asp>)

- Drigo R., R. Bailis, O. Masera, and A. Ghilardi. May 2014. Multiscale geospatial mapping of non-renewable woodfuels. An overview of the results of Phase 1 – the Global Assessment.
- Drigo R., R. Bailis, O. Masera, and A. Ghilardi. May 2014. Yale-UNAM NRB Project: Tier I : Final Report.
- Bailis R., R. Drigo, O. Masera, and A. Ghilardi. (Science paper submitted). Proposed Title: The Global Footprint of Traditional Woodfuels.
- R. Drigo, Gehendra Karki and Saroj K. Sharma. 2014. WISDOM Nepal and contribution to MRV. Consultancy report of Project "Development of a Measurement, Reporting and Verification (MRV) System for Emissions and Removals". Project implemented by Agriconsulting SpA.
- Drigo R., A. Munyehirwe, V. Nzabanita and A. Munyampundu. 2013 Final report - Update and upgrade of WISDOM Rwanda and Woodfuels value chain analysis as a basis for a Rwanda Supply Master Plan for fuelwood and charcoal. AGRICONSULTING S.p.A. , for the Department of Forestry and Nature Conservation (DFNC), Rwanda Natural Resources Authority (RNRA).
- Drigo R. 2012. WISDOM Sudan - Spatial analysis of woodfuel supply and demand in Sudan based on WISDOM methodology and new land cover mapping. Activity carried out in the framework of Sudan Institutional Capacity Programme: Food Security Information for Action (SIFSIA) FAO OSRO/SUD/620/MUL. FAO.
- Drigo R. and P. Codipietro. 2012. WISDOM Darfur - Land Cover mapping and WISDOM analysis for emergency and rehabilitation planning in Darfur. Environment and Natural Resources Working Paper. FAO.
- Drigo R. 2013. Plateforme WISDOM pour N’Djamena - Diagnostic et cartographie de l’offre et de la demande en combustibles ligneux. Document du projet “Appui à la formulation d’une stratégie nationale et d’un programme de foresterie urbaine et périurbaine pour N’Djamena, Tchad” . Coordonné et supervisé par Michelle Gauthier, Département des forêts. FAO.
- Drigo R. 2011. Upgraded WISDOM Slovenia as supporting tool for bio-energy initiatives in Slovenia. Consultancy report for Slovenia Forest Service. Work Package 4; IEE Project MAKE-IT-BE
- Drigo R. and V. Nzabanita. 2011. WISDOM Rwanda - Spatial analysis of woodfuel production and consumption in Rwanda applying the WISDOM methodology. Working Paper of Project “Rationalisation de la filière bois-énergie” (TCP/RWA/3103). See <http://www.fao.org/docrep/013/ma223e/ma223e00.pdf>
- R. Drigo .Unpublished consultancy report. WISDOM Global. Phase 1- Supply Module. Documentation Note. Joint NRCE - FOIP activity. FAO.
- Drigo R., A. Anschau, N. Flores Marcos, S. Carballo, E. Baumont Roveda and M. Trossero. 2009. Análisis del balance de energia derivada de biomasa en Argentina – WISDOM Argentina.. FAO Forestry Department, Forest Products and Services (FOIP) Wood Energy. FAO.
- Lasserre B., G. Chirici, U. Chiavetta, V. Garfi, R. Tognetti, R. Drigo, P. DiMartino, M. Marchetti. 2010. Assessment of potential bioenergy from coppice forests through the integration of remote sensing and field surveys. Biomass and Bioenergy 2010.
- Drigo R. 2009. WISDOM pour les villes - Plateforme WISDOM pour Bangui. Diagnostic et cartographie du territoire et de la société pour le bois Énergie. FAO Project TCP/CAF/3103.
- Drigo R., N. Campanero, F. Rodríguez y M. Broto. 2009. Editing M. Martin Larrañaga. 2009. WISDOM Castilla y León - Evaluación de recursos leñosos para usos energéticos. Project GDCP/INT/001/SPA Coordinated by M.Trossero, Departamento Forestal Servicios y Productos Forestales – Dendroenergía. FAO.
- Drigo R. 2009 (unpublished report). WISDOM Niger Delta Region -Analysis of woodfuel supply and demand in the delta of the River Niger in Nigeria applying the Woodfuel Integrated Supply/Demand Overview Mapping

(WISDOM) methodology. SNAMPROGETTI S.p.A.

- FAO / Global Bioenergy Partnership (GBEP). 2007. A review of the current state of bioenergy development in G8 + 5 countries. Lead author: Suzanne Hunt with supporting inputs from Rudi Drigo. See: <http://www.fao.org/docrep/010/a1348e/a1348e00.HTM>
- Drigo R. et F. Salbitano. 2009. WISDOM pour les villes. Analyse de la dendroénergie et de l'urbanisation grâce à la méthode WISDOM. Département des forêts - Forêt urbaine et Dendroénergie. FAO.
- CRPV. 2008. Identification and definition of Bio-energy Districts (BD). Work carried out by Rudi Drigo and Nicola Stanzani for CRPV (Soc. Coop.) in the framework of the WP2 of IEE Project RENEWED. Case study Emilia Romagna, Italy.
- R. Drigo, C. Cuambe, M. Lorenzini, A. Marzoli, J. Macuacua, C. Banze, P. Mugas, D.Cunhete. 2008. WISDOM Mozambique Final Report. Wood energy component of the Consolidation Phase of the Project "Integrated Assessment of Mozambican Forests". AGRICONSULTING, for the Direcção Nacional de Terras e Florestas, Ministério de Agricultura, Moçambique.
See : http://www.wisdomprojects.net/pdf?file=WISDOM_Mozambique_web_pub.pdf
- Drigo R. and F. Salbitano. 2008. WISDOM for Cities. Analysis of wood energy and urbanization aspects using WISDOM methodology. FAO Forestry Department. Urban forestry – Wood energy. FAO. (in English and French)
- Drigo R. 2007. Wood-energy supply/demand scenarios in the context of poverty mapping. A WISDOM case study in Southeast Asia for the years 2000 and 2015. Environment and Natural Resources Service (SDRN) and Forest Product Service (FOPP). Environment and Natural Resources Working Paper 27. FAO. ISBN978-92-5-105710-0.
- Drigo R., G. Chirici, B. Lasserre, M. Marchetti. 2007. Analisi su base geografica della domanda e dell'offerta di combustibili legnosi in Italia. (Geographical analysis of demand and supply of woody fuel in Italy). In: L'ITALIA FORESTALE E MONTANA, Anno LXII - numero 5/6, settembre-dicembre 2007. P. 303-324.
- Drigo R. and Ž. Veselič. 2006. Woodfuel Integrated Supply / Demand Overview Mapping (WISDOM) - Slovenia - Spatial woodfuel production and consumption analysis. FAO Forestry Department – Wood Energy Working Paper.
- Drigo R. 2006. WISDOM – East Africa. Woodfuel Integrated Supply/Demand Overview Mapping (WISDOM) Methodology. Spatial woodfuel production and consumption analysis of selected African countries. FAO Forestry Department - Wood Energy Working Paper.
- Masera, O.R., A. Ghilardi, R. Drigo y M. Trossero. 2006. WISDOM: a GIS-based supply demand mapping tool for woodfuel management. Biomass and Bioenergy 30: 618–637
- Drigo R. and M- Trossero. 2005. i-WESTAT - Interactive Wood Energy Statistics. FAO Forestry Department. See: <http://www.fao.org/docrep/009/j6448e/j6448e00.HTM>
- Trossero M. A. and R. Drigo. 2005. "Wood Fuels" in 2004 Survey of energy resources. World Energy Council .. Elsevier 2005.
- Masera, O.R., A. Ghilardi, G. Guerrero, A. Velázquez, J.F. Mas, M.J. Ordóñez, R. Drigo, and M. Trossero, 2004. Fuelwood "hot spots" in Mexico: A case study using WISDOM. FAO Reports, Wood Energy Program, Forest Products Division, FAO, ROME, April, 89 pp.
- Drigo R., N. Krajnc , Ž. Veselič and M. Trossero. 2004. Area-based woodfuel flow analysis using the WISDOM approach: a case study for Slovenia. Paper presented at the 2nd World Conference on Biomass for Energy, Industry and Climate Protection 10-14 May 2004, Rome.
- Drigo R. (Consultancy report, 2004). WISDOM Senegal – Analysis of woodfuel production/consumption patterns in Senegal. Wood Energy Programme, FAO.
- Masera, O.R., R. Drigo and M. Trossero. 2003. Woodfuels Integrated Supply/Demand Overview Mapping (WISDOM): A methodological approach for assessing woodfuel sustainability and support wood energy planning FAO Report TCD/D/Y4719E/1/6.03/1000, Wood Energy Program, Forest Products Division, FAO, ROME, March, 44 pp
- Drigo R., O.R. Masera and M.A. Trossero. 2002. Woodfuel Integrated Supply/Demand Overview Mapping – WISDOM: a geographical representation of woodfuel priority areas. Unasylva Vol. 53 2002/4, pp 36-40. FAO. (Available in English, Spanish and French)
- Drigo R. 2001. Wood Energy Information in Africa. (English and French). FAO. 68 pp. <http://www.fao.org/forestry/foris/webview/energy/index.jsp>

Forest assessment and monitoring:

- Yan Gao, Margaret Skutsch, Rudi Drigo, Pablo Pacheco and Omar Masera., 2010. Assessing deforestation from biofuels: methodological challenges. Applied Geography 31 (2010) 508-518.
- Drigo R., B. Lasserre and M. Marchetti. 2009. Patterns and trends in tropical forest cover. Plant Biosystems, Vol.143, No 2, July 2009, pp 311-327.
- Drigo R. 2006. Overview of land cover change in tropical regions. In: Climate Variability and Change – Hydrological Impacts, 2006. S. Demuth, A. Gustard, E. Planos, F. Scatena and E. Servat (Eds). IAHS Publication 308. Pp 672-678.
- Drigo R. 2005. Trends and patterns of tropical land use change. In: Forests-Water-People in the Humid Tropics, 2005. M. Bonell and L.A. Bruijnzeel (Eds), UNESCO. Cambridge University Press. Pp 9-39.
- Drigo R., A. Dell'Agnetto, L. Peiser and V. Robiglio. 2001. Consistency assessment of the TREES-II high

resolution exercise. Final report of JRC Contract n. AJ/08/2000. IAO, Firenze, Italy

- FAO 1996. Survey of tropical forest cover and study of change processes. (Main author) Forestry Paper 130. See: <http://www.fao.org/docrep/007/w0015e/W0015E00.HTM>
- Drigo R. and A. Marcoux. 1999. Population Dynamics and the Assessment of Land Use Changes and Deforestation. Population Programme Service, FAO. Partly on <http://www.fao.org/sd/WPdirect/WPan0030.htm>
- Drigo R. 1995. Monitoring of forest resources at District level using multi-date satellite data. East Godavary, Andhra Pradesh. FAO Project working paper.
- Drigo R. 1999. Remote Sensing and Forest Monitoring in FRA 2000 and beyond. Proceedings of IUFRO Conference "Remote Sensing and Forest Monitoring". Rogow, Poland, 1-4 June 1999. Pp 710-725. Document reported on <http://www.fao.org/forestry/fo/fra/index.jsp>
- Drigo R. Shaheduzzaman, M. Lorenzini. 1991. Utilization of SPOT satellite imagery for the inventory of forest resources of Sylhet District, Bangladesh. RSC Series 61, FAO.