

# MAJ. DOTT. ENRICO DI LUISE

### **PERSONAL INFORMATION**

ENRICO IGNAZIO DI LUISE	
	OMISSIS
	ENRICO IGNAZIO DI LUISE

# WORK EXPERIENCE

Dates	November, 2004 - onwards
Occupation or position held	Major of Arma dei Carabinieri, Reparto Carabinieri Investigazioni Scientifiche (R.I.S.)- Messina – (Forensic Investigation Dept.), Head of S.I.O. (CSI Team) and Vice Head of Molecular Biology Laboratory.Vice Head of Molecular Biology Laboratory.

Occupation or position held	Fellow student
Main activities and responsibilities	- Responsible of the research project "Candidate marker genes to monitor gene flow between Genetically Modified, NON Genetically Modified and Organic Crop" – Supervisor Prof. Dr. Marc De loose
	<ul> <li>Responsible of the research project (MSc thesis project) "Development of a Multiplex Event-Specific PCR to Detect Genetically Modified Corn in Foodstuff" – Supervisor Prof. Dr. Marc De loose/Dr. Isabel De grieck.</li> <li>fellow student/Lab technical assistant "Monitoring Gene Flow in GM oilseed rape" – Project Responsible Dr. Isabel De grieck</li> </ul>
Name and address of employers	<b>Department of Plants Genetics and Breeding (DvP), Agricultural Research Center</b> ( <b>CLO</b> ), <b>Melle, Belgium</b> – Director Prof. Dr. E. van Bockstaele Faculty of Agricultural Science - University of Gent (Belgium) Faculty of Agricultural Science - University of Catania (Italy)

## EDUCATION AND TRAINING

Title of qualification	PhD
Dates	Academic years 2012-2015
Degree Course	PhD curriculum in Cell Biology and Biotechnology.
Principal subjects/occupational skills covered	Biology, Chemistry, Biochemistry, Cytology, Histology, Genetics, Molecular Biology and Applied Forensic Biotechnology,
	<i>Final thesis project</i> : "Degradation of Human Tissues in water environment: Limits and Solutions for Forensic DNA analysis"
Name and type of organisation providing education and training	University of Messina – Faculty of Biology
Title of qualification	PhD

Dates	2009 – 2010 (military academic year)
Name of the course	Professional and Technical Training Course (S.P.E. course)
Principal subjects/occupational skills covered	<ul> <li>Professional Techniques and Law curriculum including: General Military Education and Training, Military tactics and strategy, Military Law, Military Police duties, Elements of Civil Law, Constitutional Law, Criminal Law, Criminal Procedure, Investigation Techniques and tactics, Judicial Police Procedure; History of the Arma of Carabinieri, Weapon Equipment (both Civilian and Military) and Individual Combat Training ; Weapons Usage training.</li> <li>Scientific and Criminal Investigations Techniques curriculum including: Medico-legal investigation, Immuno-chromatographic assay for tissue identification, DNA testing techniques; Crime Scene Processing, fingerprint identification techniques; drug chemistry-toxicology analysis; ballistics and GSR analysis; fibres, paints and glasses forensic analysis; phonics and graphology; forensic photography and imaging; forensic psychiatry,</li> </ul>
Name and type of organisation providing education and training	cyber-crimeandcomputerforensicscience,statisticsandforensicdatabases.OfficersCarabinieriSchool-MilitaryAcademyofArmadeiCarabinieriCommanderGen.C.A.U.Zottin.
Title of qualification awarded	- Military Rank: First Lieutenant/Captain

Dates	Academic years 2005 – 2008
Degree Course	Bsc (Hons) Degree in Biology.
Principal subjects/occupational skills covered	Biology, Chemistry, Biochemistry, Microbiology, Cytology, Histology, Human Anatomy, Compared Anatomy, Human Physiology, Botany, Sistematic Botany, Genetics, Molecular Biology and Applied Biotechnology, Human Nutrition, Chemistry and Flavours of Nutrition
	Final thesis project: "Cell and Tissue postmortem changes"
Name and type of organisation providing education and training	University of Messina – Faculty of Biology
Title of qualification awarded	Italian Degree (corresponding to a BSc (Hons) with an average exam mark of 29/30 and a final degree mark of 110/110 " <i>Summa cum Laude</i> " (i.e. maximal score with honour)
Dates	September – December, 2006

Name of the course	Forensic Entomology Course (ENT 890 Section 730)
Principal	The role of insects in crime scene investigation; Insect of forensic importance; Arthropods
subjects/occupational skills	identification and classification; Insect succession on carrion; Body Decomposing factors;
covered	P.M.I. Estimation; Statistical data analysis of insect growth and development;
	Entomotoxicology; DNA techniques in forensic entomology; Bloodstain Pattern Analysis (B.P.A.) and insect alteration.
Name and type of organisation providing education and training	<b>Michigan State University</b> – Responsible Prof. Dr. Richard W. Merrit e Dr. Ryan Kimbirauskas, Department of Entomology.
Title of qualification awarded	NA – Course passed

Dates	Academic year 2004 – 2005
Name of the course	<b>7th Professional and Technical Training Course</b> (entitled to the gold medal of honour "Ten. Maggio Ronchey")
Principal	Professional Techniques and Law curriculum including: General Military Education and
subjects/occupational	Training, Military tactics and strategy, Military Law, Military Police duties, Elements of
skills covered	Civil Law, Constitutional Law, Criminal Law, Criminal Procedure, Investigation Techniques and tactics, Judicial Police Procedure; History of the Arma of Carabinieri, Weapon Equipment (both Civilian and Military) and Individual Combat Training ; Weapons Usage training.
	Scientific and Criminal Investigations Techniques curriculum including: Medico-legal investigation, Immuno-chromatographic assay for tissue identification, DNA testing techniques; Crime Scene Processing, fingerprint identification techniques; drug chemistry-toxicology analysis; ballistics and GSR analysis; fibres, paints and glasses forensic analysis; phonics and graphology; forensic photography and imaging; forensic psychiatry, cyber-crime and computer forensic science, statistics and forensic databases.
	<b>Apprenticeship:</b> R.I.S. Carabinieri Department of Rome and Messina. Exhibits examination, Immuno-chromatographic assay for tissue identification and DNA testing on different type of evidence.
Name and type of organisation providing education and training	<b>Officers Carabinieri School - Military Academy of Arma dei Carabinieri</b> - Commander Gen. C.A. Vittorio Barbato.
Title of qualification awarded	<ul> <li>Military Rank: First Lieutenant -</li> <li>First Classified in the overall 7<sup>th</sup> Course ranking; "Course leader" (Italian "Capocorso" – i.e first classified after national competition + assignments maximal score) of the 7th Professional and Technical Training Course</li> </ul>

Dates	Academic Years 1996 – 2003
Degree Course	Italian Degree in Biotechnology, curriculum studiorum "Food Science and Technology".
Principal subjects/occupational skills covered	Biology, Chemistry, Biochemistry, Microbiology, Food Technology, Environmental Security, Systems and Quality Self, Agricultural Economics and Law, Technological Process in Food Industry, Food and Human Nutrition. Final Year <i>Curriculum Studiorum</i> subjects: Biotechnology, Chemistry and Flavours of Nutrition
	<b>Erasmus Student Exchange Programme</b> at the University of Gent – Belgium, from first and second semester (academic year 2001-2002): Applied Molecular Biology, Agricultural Biotechnology, Biotechnology of fermentation, Food Chemistry. <i>Final thesis project: "Detection of Genetically Modified Traits in Maize by Means of Event-Specific Multiplex PCR" designed and developed at CLO-DvP, Gent (Belgium). Selected for oral presentation at the 6<sup>th</sup> Biotechnology National Congress (Padova 4-6 giugno 2003)</i>
Name and type of organisation providing education and training	University of Catania – Faculty of Agricultural Science University of Gent (Belgium) - Faculty of Agricultural Science
Title of qualification awarded	Italian Degree (corresponding to a BSc (Hons) + a MSc) with an average exam mark of $30/30$ and a final degree mark of $110/110$ "Summa cum Laude" (i.e. maximal score with honour)

# PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE ITALIAN

OTHER LANGUAGES	
	ENGLISH
Oral, written, comprehension	Excellent
competence	
Certification	- T.O.E.F.L. – C.B.T. SCORE 270 obtained at University Politecnico di Milano (Milan)
	- Cambridge FIRST Certificate
	SPANISH
Oral, written, comprehension	Excellent (oral and comprehension), good /written)
Certification	Dinloma Escuela Cervantes
• Nota	Developed mainly through summer jobs in Spain
· Note	Developed manny unough summer jobs in Spann
Molecolar Biology Technical C	ompetence:
Cloning of genes (Extraction	on, Purification e Precipitation of DNA, Ligation techniques)
Costruction of mutant plass	mid (Promega; TOPO, Invitrogen).
• Extraction of protein (in	denaturants or not), SDS-Page, Purification through Affinity Chromatography, Dot-Blot,
Western-Blot.	
Immunology: Maintenance	and growth of Ibridom, preparation of Monoclonal Antibodies, Immunoprecipitation (cellular
lysis, training complex Ag-	Ab, Purification by that complex on Protein A-Sepharose), SDS-Page.
Immuno-histochemistry teo	chniques and Immunofluorescence techniques.
Polymerase Chain Reaction	ı (Gradient, Nested, Touch Down, Multiplex, Real Time).
• Main Primers Design and A	Annealing Software.
Forensic Biology and Ger	ietics:
1. Generic and Immuno ch	romatographic assay diagnosis: sperma (PSA test, PAP-Test, Zinco Crime scope, RSID-IF),
blood (TMB Combur Te	st, Luminol, FOB and Obti-Test, RSID-IF), saliva ( $\alpha$ -Amilasi, RSID-IF).
2. Extraction Techniques: C	Jrganic extraction (both phenol-chloroform and beta-mercaptoethanol based), Chelex, Qiagen
substrates and tissues)	y system, CTAB-based method, Chelex Teshi, IQ, Chargeswhen Teshi (from various
3 Laser Microdissection te	chnique and Low Conv Number DNA Analysis techniques
4 PCR Amplification: Am	pFl-Identifiler Kit AmpFl-YFiler Kit AmpFl-Minifiler Kit NGM Real Time Quantifiler and
Quantifiler Duo kit (Apr	vied Biosystem)
5. Genotyping Instruments	: 310, 3100-3100Avant, 3130xl, 3500, 3500xl Genetic Analyzer(Applied Biosystem)
6. Genotyping Software: G	eneScan, Genotyper and GeneMapper v.3.2/IDX;
7. Parentage and kinship ar	alysis: Familias, LRMix, GenePop, ProbMax, Cervus 3.0.
8. Laboratory Management	software: Easytrack, SQL - L.I.M.S. – Laboratory Information Management System (AB)
Comonal Commentary Solomora com	
General Computer Science com	<b>Peterce:</b> Expert user
Windows 10, 8, 7, 95/98/2000	/XP/Vista, Ubuntu Linux (Basic user)Softwares: word, Excel, Access, Power Point, Quark
Express, Corel, Adobe, OutLook,	Explorer and Mozilla Firelox.
Software: Dinneale Studie 0. Corr	Draw 11 Adoba Dhotoshon 7
Crime Scene Software competer	nce: Basic user
S A R T (Sistema Automatico pe	r i Rilievi Tecnici – Automated System for Scene Processing)
3D animation Crime Scene recon	struction (MAIA, 3D Studio Max)
Laser Scan, GPS and Circular Pho	otogrammetry (Spheron VD-HRD- One Click software. I-site Software. SparView software)
Driving License: B car driving li	cense: military vehicles driving license
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#### Additional Certified Competences:

- Nuclear Biological Chemical Radiological (CBRN) Defense Certified Operator (Red Cross Military Corp).
- Military Parachute Certificate (National Association of Parachuting Certified by Army Parachuting Centre, Ministry of Defense)
- Open Sea Lifeguard and Basic Life Support Certificate (Italian Swimming Federation F.I.N.)
- Kickboxing and self defense II level instructor (Italian Kickboxing Federation F.I.Kb World Association Kickboxing Association, W.A.K.O.)

#### COURSES

"Combined DNA index System Training" Course, held by FBI – Laboratory Division – CODIS Unit personnel and Criminal Police Central Directorate of Italian Ministry of Interior representatives, Rome, August 26-30th, 2013.

"Next Generation Forensic Solution" held by Applied Biosystem representative, 26/02/2014 "Forensic statistics" held by Arma dei Carabinieri trainers, 03/02/2010

"SOFTWARE GENEMAPPER ID-X1.1.1" held by Applied Biosystem representative, 25/02/2010

"Management of hazardous waste" held by ARPA Italian environmental agency, 13/03/2013

"Genemapper ID-X Software v.1.1", expert system, profile comparison and mixture modules features held by Applied Biosystem representative, 25/02/2010

"3500HID GENETIC ANALYZER & GENE MAPPER IDX V1.2" held by Applied Biosystem representative, 29/02/2012

"SOFTWARE FREEZEWORKS BASIC Course" held by external consultant, 28/01/2014

"MINITAB TRAINING" Course, held by external consultant 11/03/2014

"Use e maintenance of genetic analyzer 3500xl" (AB), Data Collection Software, Library, Maintenance Menu, Calibration e performance check, Gene Mapper IDX: expert system, Profile comparison held by Applied Biosystem representatives, 16/04/2014

"BPA (BLOOD PATTERN ANALYSIS) Practical Course" held by external consultant of Arma Carabinieri, 01/12/2009

"Quality management Basic Course" held by external consultant, 08/03/2011

"Certification maintenance and traceability in UNI/ISO 9001:2008, UNI/ISO 17025, held by external personnel." 03/06/2013

"Internal Auditor Course for Quality System ISO 9001:2008" held by external consultant 11/12/2013

"3° QIAGEN Investigator Forum" - "Validation and Quality Standards Experiences in casework" – "New and emerging technologies for forensic analysis" – "Mixture Interpretation DNA Interpretation Metods and Population Genetics" held in Hilde (Germany) at Qiagen Factory 01-02/04/2014

"Crime Scene Investigation Retraining course" for Italian State Police officers organized by I.C.A.A. (International Crime Analysis Association). Milan, June 13<sup>th</sup>, 2008.

"Interrogation Techniques Training Course" organized by I.C.A.A. (International Crime Analysis Association). Palmi (RC), May 17<sup>th</sup>, 2008.

"Crime Scene Investigation Basic Course" organized by I.C.A.A. (International Crime Analysis Association). Director: Prof. Marco Strano. Rome, October 27-28<sup>th</sup>, 2007

"Criminal Profiling Basic Course" organized by I.C.A.A. (International Crime Analysis Association). Director: Prof. Marco Strano. Reggio Calabria, June 2<sup>nd</sup>, 2007

"Sect Crime Basic Course" organized by I.C.A.A. (International Crime Analysis Association). Director: Prof. Marco Strano. Reggio Calabria, June 3<sup>rd</sup>, 2007

Certification Course "Forensic DNA analysis: ABI Prism 7500 Real Time PCR System and Quantifiler kit" organized by Applied Biosystem. Messina May 3<sup>rd</sup>, 2007

Full Immersion Training "Child abuse diagnosis and strategy of intervention" organized by I.C.A.A. (International Crime Analysis Association). Director: Prof. Marco Strano. Turin, March 17<sup>th</sup>,2007

European Credit in Medicine (ECM) Course "Convegno di Criminologia Forense (Forensic Criminolgy Second Meeting) – Sects, between psychopathology and social disadvantage" organized by S.I.A.E.C.M. (Società Italiana per l'Educazione Continua in Medicina, *Italian society for the education in medicine*) at Centro di Cultura Scientifica Ettore Majorana. Erice (TP), May 11<sup>st</sup>-13<sup>rd</sup>, 2006.

Certification Course "3100 DCV GM ID 3.2 Forensic Training" organized by Applied Biosystem. Messina, April 18-19th, 2005.

#### LECTURES

Di Luise E. Aquatic DNA degradation: limits and challenges for forensic typing. H<sub>2</sub>O Criminilastics & Pathology Symposium, Catanzaro, Nov. 18-21<sup>th</sup>, 2010

Di Luise E., A study on short tandem repeat ACTBP2 (SE33) in a sicilian population sample. – Italian Forensic Geneticist Society (Ge.F.I.) 21th Congress Meeting, Lipari 5-7<sup>th</sup> September 2006

Di Luise E., Real Crime Scene Processing: application to forensic entomology. Lecture in the meeting "Reparti di Investigazione Scientifica – Tra fiction e realtà" (*Forensic Investigation Between fiction and reality*) organized by Natural History Museum of Capri (Naples). 12<sup>nd</sup> March 2008.

Di Luise E., "Detection of Genetically Modified Traits in Maize by Means of Event-Specific Multiplex PCR". 6<sup>th</sup> National Biotechnology Congress, Padova, June 3-6<sup>th</sup>, 2003.

#### PUBBLICATIONS

#### BOOKS

Gli insetti nelle scienze forensi (P. Magni e E. Di Luise) in Saravo L.; Curtotti D., Manuale delle investigazioni sulla Scena del Crimine, Giappichelli Editore, I-II Edizione. (*Criminal Investigation Handbook*).

Le tracce orfane. Botanica, micologia, zoologia, microbiologia e geoscience nel mondo forense (P. Magni e E. Di Luise) in Saravo L.; Curtotti D., Manuale delle investigazioni sulla Scena del Crimine, Giappichelli Editore, I-II Edizione. (*Criminal Investigation Handbook*).

La scena criminis in ambiente acquatico (S. Scolaro, P. Magni e E. Di Luise) in Saravo L.; Curtotti D., Manuale delle investigazioni sulla Scena del Crimine, Giappichelli Editore, I-II Edizione. (*Criminal Investigation Handbook*).

Magni P, Massimelli M, Messina R, Mazzucco P, Di Luise E. Entomologia Forense – Gli insetti nelle indagini giudiziarie e medico-legali. Minerva Medica, sept. 2008; 267 pp. (*Forensic entomology didactical book*).

Magni P, Di Luise E. Entomologia Forense: gli insetti sulla scena del crimine. In: "Manuale di investigazione Criminale" a cura di Marco Strano. Nuovo Studio Tecna ed., marzo 2008. (*Chapter of forensic entomology in a Criminal Investigation Handbook*).

Di Luise E, Magni P, Saravo L. Gli insetti a servizio degli inquirenti. Rassegna dell'Arma dei Carabinieri, January-March 2007; vol. 1, pp 129-201. (An introduction chapter of forensic entomology in Italian law enforcement – Ministry of Defense - Official Pubblication).

L. Saravo, C. Romano, D. Di Martino, E. Di Luise et al., Chapter 10 "Laser Microdissection in Forensic Science" in Rapley R. and Whitehouse D. "Molecular Forensic", WILEY Ltd (2007)

#### ARTICLES

Di Luise E, Magni P, "Interim recommendations for the management of forensic investigation during the COVID-19 pandemic: An Italian perspective" Sci Justice 2021 Nov;61(6):735-742.

Di Luise E, Magni P, Staiti N, Spitaleri S, Romano C. "Genotyping of human nuclear DNA recovered from the gut of fly larvae". Forensic Science International: Genetics Supplement Series, 2008. 1: 591-592.

Di Luise E., Saravo L., Ciuna I., Sapienza D., Asmundo A., Romano C (2008) - "A study on short tandem repeat ACTBP2 (SE33) in a sicilian population sample" - Forensic Science International: Genetics Supplement Series, 2008. 1: 320-321

Staiti N., Di Luise E., Ciuna I., Trapani C., Piscitello D., Quadrana F. and Romano C. (2008) - "Old cadaver identification from severely spoiled bones: analytical approach to degraded DNA" - Forensic Science International: Genetics Supplement Series, 2008. 1: 444-445.

Romano C., Di Luise E., Di Martino D., Spitaleri S. and Saravo L. (2006) - "A Novel Approach for Genotyping of LCN-DNA Recovered from Highly Degraded Samples" - Progress in Forensic Genetics 12 - ICS 1288, 577 - 579;

Spitaleri S., Romano C., Di Luise E., Ginestra E. and Saravo L. (2006) - "Genotyping of human DNA recovered from mosquitoes found on a crime scene" - Progress in Forensic Genetics 12 - ICS 1288, 574 - 576;

#### POSTERS AND PROCEEDINGS

Mattei, A. Di Luise E., Romano, C. Touch DNA profiling by means of chelex<sup>TM</sup> extraction methods from cyanoacrylate fumigated latent print developed on weapons, cartridges and casings. AAFS 2010 Meeting, Seattle (U.S.A) February 2010.

Di Luise E., Romano C., Mattei A. Schiavone S. DNA extraction from fingerprint enhanced by cyanoacrylate fuming. INTERPOL 2010 Symposium, Lyon, France.

Di Luise E., Romano, C. Mattei, DNA profiling protocol after superglue fumigation by means of chelex<sup>TM</sup> extraction methods. ENFSI-EAFS 2009 Conference, Glasgow (U.K.) september 8-11th, 2009

Di Luise E, Magni P, Staiti N, Spitaleri S, Romano CG. Human DNA typing of maggot gut contents. Poster Session 6th EAFE Meeting (European Association for Forensic Entomology)", Crete 20-24th May 2008.

Di Luise E, Spitaleri S, Romano C, Ginestra E, Magni P, Saravo L. Human DNA typing from a mosquito (Diptera: Culicidae) blood meal found at a crime scene. Poster Session 5th EAFE Meeting (European Association for Forensic Entomology)", Bruxelles, May 2<sup>nd</sup>-5<sup>th</sup>, 2007.

Di Luise E, Magni P, Staiti N, Spitaleri S, Romano C. "Genotyping of human nuclear DNA recovered from the gut of fly larvae". International Society of Forensic Genetics (ISFG) Meeting, Copenhagen, August 21-25th, 2007.

Di Luise E., Saravo L., Ciuna I., Sapienza D., Asmundo A., Romano C (2008) - "A study on short tandem repeat ACTBP2 (SE33) in a sicilian population sample" - International Society of Forensic Genetics (ISFG) Meeting, Copenhagen, Copenhagen, August 21-25<sup>th</sup>, 2007.

Staiti N., Di Luise E., Ciuna I., Trapani C., Piscitello D., Quadrana F. and Romano C. (2008) - "Old cadaver identification from severely spoiled bones: analytical approach to degraded DNA" - International Society of Forensic Genetics (ISFG) Meeting, Copenhagen, August 21-25th, 2007.

Romano C., Di Luise E., Di Martino D., Spitaleri S. and Saravo L. (2006) - "A Novel Approach for Genotyping of LCN-DNA Recovered from Highly Degraded Samples" - International Society of Forensic Genetics (ISFG) Meeting, Ponta Delgada, September 13-17<sup>th</sup>, 2005.

Spitaleri S., Romano C., Di Luise E., Ginestra E. and Saravo L. (2006) - "Genotyping of human DNA recovered from mosquitoes found on a crime scene" - International Society of Forensic Genetics (ISFG) Meeting, Ponta Delgada, September 13-17<sup>th</sup>, 2005.

Di Luise E., La Rosa R., De grieck I., De Loose M. e Van Bockstaele E. (2003). "Detection of Genetically Modified Traits in Maize by Means of Event-Specific Multiplex PCR". pg.69, CNB Proceedings, 6th edition, Consorzio Interuniversitario Biotecnologie (CIB).

The undersigned is aware that, in compliance to article #26 of Italian law n°15/68, the false statements, the falsity in the official documents and the use of false documents are punished by the Italian Penal Code and special laws. In addiction, I do authorize the processing of my personal data, according to the Italian Law D.lgs. 196/03 and further modifications.

Messina, Oct. 1st, 2022

Maj. Enrico Di Luise pag. 8 a 8