

# Salvatore Terrazzino

## BIO AND EDUCATION

2006	Advanced Training in <i>Nutrition and Wellness</i> Università degli Studi di Milano.
1995	Ph.D in Pharmacology, Istituto di Ricerche Farmacologiche <i>Mario Negri</i> , Milano.
1990	Degree in Biology Sciences, Università degli Studi di Milano.

## UNIVERSITY CAREER

2012-	Researcher fixed-term Dipartimento di Scienze del Farmaco, Università del Piemonte Orientale.
2009-2012	Postdoctoral researcher Dipartimento di Scienze Chimiche, Alimentari, Farmaceutiche e Farmacologiche, Università del Piemonte Orientale, Università del Piemonte Orientale.

## MAIN FIELDS OF INTEREST

1. Pharmacogenetics
2. Antimigraine drugs
3. Immunosuppressant drugs
4. Oxaliplatin-induced peripheral neurotoxicity
5. Radiogenetics
6. Meta-analysis

## CURRENT ISSUES OF RESEARCH

- 1. Pharmacogenetics of migraine and Medication Overuse Headache (MOH)**  
Triptans are recommended as first-line therapy for migraine patients with moderate-to-severe attacks. The frequent use of triptans or other anti-migraine agents can lead to medication overuse headache (MOH), which is a daily or almost daily headache resulting from chronicization of episodic migraine or tension-type headache as a consequence of symptomatic drug overuse. In this context, our project is focusing on the role of genetic polymorphisms as predictors of clinical response to triptans, as well as susceptibility factors for MOH.

## 2. Pharmacogenetics of immunosuppressant drugs

Determining the optimal dose of tacrolimus in renal transplant patients is crucial for minimizing adverse effects while maintaining the effectiveness of immunosuppressive therapy. Main objectives of this project are the identification in renal transplant patients of genetic polymorphisms as i) determinants of tacrolimus trough concentration and as ii) risk factors for development of renal transplant complications including post-transplant diabetes mellitus, cardiovascular events or organ rejection.

## 3. Radiogenetics in breast cancer

Inter-individual variability in normal tissue radiosensitivity is a multifactorial trait, which depends on treatment parameters including total radiation dose and schedule, on clinical factors such as age, acute skin reaction, on lifestyle factors and on patient genetics. The objective of this research is to identify genetic variants associated to the development of acute and late normal tissue injury after postoperative radiotherapy in breast cancer patients.

## 4. Genetic determinants of oxaliplatin-induced peripheral neurotoxicity

Peripheral neuropathy is currently recognized as a major and dose-limiting side effect of oxaliplatin treatment. The current multicenter study is designed to investigate, in a prospective cohort of well-characterized colorectal cancer patients, the role of candidate single nucleotide polymorphisms as risk factors for oxaliplatin-induced peripheral neurotoxicity.

## 5. Systematic review and meta-analysis

Meta-analysis is a statistical technique which combines the results of several studies on the same subject, in order to generate a quantitative summary of the findings. The purpose of this line of research is to assess the clinical validity of potential pharmacogenetic markers by performing systematic review and meta-analysis of relevant studies. The identification of genetic determinants with proven clinical value could pave the way towards implementation of pharmacogenetic testing in clinical practice.

### CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
Fondazione Cariplo (Grant 2013-0842)	Understanding the pathogenesis of oxaliplatin-induced peripheral neurotoxicity.
Ministero della Salute (RF-2011-02351876)	Vitamin D deficiency and obesity after kidney transplantation: multicenter study on gene environment interactions leading to complex phenotypes in a human system associated with cardiovascular events and graft rejection.

## TOP FIVE PAPERS

1. Tavitian B, Terrazzino S, Kühnast B, Marzabal S, Stettler O, Dollé F, Deverre JR, Jobert A, Hinnen F, Bendriem B, Crouzel C, Di Giamberardino L. In vivo imaging of oligonucleotides with positron emission tomography. *Nat Med* 1998;4:467-71.
2. D'Andrea G, Terrazzino S, Leon A, Fortin D, Perini F, Granella F, Bussone G. Elevated levels of circulating trace amines in primary headaches. *Neurology* 2004;62:1701-5.
3. Massacesi C, Terrazzino S, Marcucci F, Rocchi MB, Lippe P, Bissonni R, Lombardo M, Pilone A, Mattioli R, Leon A. Uridine diphosphate glucuronosyl transferase 1A1 promoter polymorphism predicts the risk of gastrointestinal toxicity and fatigue induced by irinotecan-based chemotherapy. *Cancer* 2006;106:1007-16.
4. Terrazzino S, Berto F, Dalle Carbonare M, Fabris M, Guiotto A, Bernardini D, Leon A. Stearoyl ethanolamide exerts anorexic effects in mice via down-regulation of liver stearyl-coenzyme A desaturase-1 mRNA expression. *FASEB J* 2004;18:1580-2.
5. Argyriou AA, Cavaletti G, Antonacopoulou A, Genazzani AA, Briani C, Bruna J, Terrazzino S, Velasco R, Alberti P, Campagnolo M, Lonardi S, Cortinovis D, Cazzaniga M, Santos C, Psaromyalou A, Angelopoulou A, Kalofonos HP. Voltage-gated sodium channel polymorphisms play a pivotal role in the development of oxaliplatin-induced peripheral neurotoxicity: results from a prospective multicenter study. *Cancer* 2013;119:3570-7.