

CURRICULUM VITAE

Name	Giuseppe MELFI
Nationality	Swiss and Italian
Origin	Neuchâtel
AVS/AHV no.	756.9422.8000.23
Status	Married
Date and place of birth	June 11, 1967, Uznach (Canton of Sankt Gallen, Switzerland)
Address	rue du Crêt Tacconnet, 10 CH-2000 Neuchâtel (Switzerland)
Office at Bienne	HEP-BEJUNE, Bienne Chemin de la Ciblerie, 45 CH-2503 Bienne, Switzerland
Office at Neuchâtel	IENE, Université de Neuchâtel Rue A.L. Breguet, 1 CH-2000 Neuchâtel, Switzerland
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Academic path

Degree of "Laurea in Matematica" at the University of Pisa (Italy) obtained in July 8, 1993, with the score of 110/110 *cum laude*.

Ph.D. in Mathematics of the University of Pisa; advisor: prof. Carlo Viola. Title of the Ph.D. Thesis: "*Some Problems in Elementary Number Theory and Modular Forms*" defended in Rome, in July 9, 1998, with the appreciation "*Ottimo*" (first rate).

Scientific Collaborator at the Institute of Mathematics of the University of Lausanne (Switzerland) for academic year 1997/98.

Premier Assistant at the Institute of Mathematics of the University of Lausanne for academic years 1998/99 and 1999/2000.

Master in Statistics at the University of Neuchâtel in 2001.

Lecturer ("Maître Assistant" and "Chargé de cours") at the Institute of Statistics of University of Neuchâtel since September 2000.

Researcher at the HEP-BEJUNE, Bienne, since August 2009.

Languages

French, English, Italian (mother tongue).
Good knowledge of German and Spanish.

Computer skills

All usual standard applications: Word, Powerpoint, Excell, Outlook, Acrobat.
All usual statistical packages: R, Splus, SAS, Minitab, SPSS.
All usual mathematical packages: Mathematica, Matlab, PARI.
All usual scientific editors: L^AT_EX, Emacs, WinEdit, ScientificWord.
Operation systems: Windows XP Professional, Unix, Linux, MacOS.
All usual browsers and web editors. Knowledge of HTML, Frontpage.

Fellowships and Grants

1. SNS (Scuola Normale Superiore), grant for a fellowship in mathematics, 1987–1988.
2. Univesity of Pisa (Italy), student grant, 1988–1993.
3. University of Pisa (Italy), grant for a fellowship as Graduate Student in Mathematics 1993–1997.
4. Université de Lausanne 1997/98, 9 months grant: This grant has been assigned as “Bourse d’échange” with the co-operation of the Italian *Ministero degli Affari Esteri*.
5. CNR (Italian National Fundation for the Science): 9 months grant for researches at the University of Lausanne, 1998–1999 (grant no. 204 4774.041937).
6. FNS (Swiss National Fundation for the Science): 1 year grant for the project ”Dictionary of Statistical Terms” (grant no. 21-65147.01), 2001–2002.
7. CUS (Council of University of Switzerland): 3 year grant for the program ”Relève académique” (grant no. CUS 411), 2001–2004.
8. EPFL (Ecole Polytechnique Fédérale de Lausanne): Visiting Researcher at the Centre Interfacultaire Bernoulli, February - June 2009

Papers

1. G. MELFI AND G. MORELLI, “*Alcune notevoli identità per le somme dei divisori di certi numeri*”, Archimede **47** (1995), 20–23.
2. G. MELFI, “*A survey on practical numbers*”, Rend. Sem. Mat. Pol. Torino **53** (1995), 347–359.
3. G. MELFI, “*On two conjectures about practical numbers*”, Journal of Number Theory **56** (1996), 205–210.
4. G. MELFI, “*On some modular identities*”, in Number Theory, Diophantine, Computational and Algebraic Aspects: Proceedings of the International Conference held in Eger, Hungary. Walter de Gruyter & Co. (1998), 371–382.

5. J-M. DESHOULLERS, P. ERDŐS AND G. MELFI, “*On a question about sum-free sequences*”, Discrete Mathematics **200** (1999), 49–54.
6. G. MELFI, “*On 5-tuples of twin practical numbers*”, Boll. Un. Mat. It. B (8) **2B** (1999), 723–734.
7. G. MELFI, “*Alcuni problemi di teoria elementare dei numeri e forme modulari*”, Boll. Un. Mat. It. B (8) **2A** (1999), 115–118.
8. G. MELFI, “*An additive problem about powers of certain integers*”, Rend. Circ. Mat. Pal. Serie II **50** (2001), 239–246.
9. Y. DODGE AND G. MELFI, “*A more rational ranking system in Olympic games*”, Data and Statistics **4**, (2002), 149–154.
10. Y. DODGE AND G. MELFI, “*On the reliability of random number generators*”, Proceedings of the ESM2002 Conference, Darmstadt, (2002), 142–144.
11. G. MELFI, “*A note on twin practical numbers*”, Le Matematiche **57** (2002), 111–117.
12. G. MELFI AND G. SCHOIER, “*Clusters d’ensembles de données larges dans le Web Log Mining*”, in Méthodes et Perspectives en Classification, Presses Académiques de Neuchâtel (2003), 161–164.
13. Y. DODGE AND G. MELFI, “*Random number generators and rare events in the continued fraction of π* ”, Journal of Statistical Computation and Simulation **75** (2005), 189–197.
14. G. MELFI AND G. SCHOIER, “*A different approach for the analysis of web access logs*”, in New Developments in Classification and Data Analysis, M. Vichi, P. Monari, S. Mignani, A. Montanari Eds., Springer Verlag (2004), 211–216.
15. S. FERREIRA DE SÀ FARIA AND G. MELFI “*Détection non-paramétrique robuste d’observations aberrantes et à effet de levier*”, in Actes des XXXVIèmes Journées de Statistique, Montpellier, Edition SFDS (2004), CD-Rom.
16. G. MELFI AND G. SCHOIER, “*Simulation of random distributions on surfaces*”, in Atti della XLII Riunione della Società Italiana di Statistica, CLEUP (2004), 173–176.
17. G. MELFI, “*On simultaneous binary expansions of n and n^2* ”, Journal of Number Theory, **111** (2005), 248–256.
18. Y. DODGE AND G. MELFI, “*On the stability of LAD regression model with p explanatory variables*”, to appear on International Journal of Statistical Sciences.
19. G. MELFI, “*On certain positive integer sequences*”, Riv. Mat. Univ. Parma **7** (3*) (2004), 253–260.
20. G. MELFI AND C. SÁNDOR, “*On a family of positive integer sequences*”, to appear, available at <http://www.worldscinet.com/ijnt/editorial/paper/8261733.pdf>.

21. G. MELFI, G. BORRUSO, G. SCHOIER AND A. ZACCHIGNA, “*Algorithms for simulating random phenomena on surfaces: theory and applications*”, in Classification and Data Analysis 2005, Book of Short Papers (S. Zani and A. Cerioli Eds.), Monte Università Parma Editore (2005), 433–436.
22. S. FERREIRA DE SÀ FARIA AND G. MELFI “*LAD regression and non parametric methods for detecting outliers and leverage points*”, Student **5**, (2006), 265–272.

Books

1. Y. DODGE AND G. MELFI, “*Premiers pas en simulation*” (2008); Springer Verlag, Paris, Heidelberg, New York.

Proceedings

1. Y. DODGE (ED.) AND G. MELFI (ASS. ED.), “*Statistical Data Analysis Based on the L_1 -Norm and Related Methods*”, Birkhäuser (2002); Basel, Boston, Berlin.
2. Y. DODGE AND G. MELFI (EDS.), “*Méthodes et Perspectives en Classification*” (2003); Presses Académiques Neuchâtel.

Contributions in books

1. Y. DODGE (ED.); “*The Oxford Dictionary of Statistical Terms*” (2003); Oxford University Press.

Communications and talks

1. “*Sui numeri pratici*” - Rome (Italy) - Incontro Italiano di Teoria dei Numeri; January 3–5, 1995.
2. “*On some modular identities*” - Eger (Hungary) - Number Theory Conference; July 29–August 2, 1996.
3. “*Practical numbers*” - Luminy (France) - Meeting of Analytical Number Theory; September 8–12, 1997.
4. “*On some Ramanujan identities involving sum-of-divisors functions*” - Lausanne (Switzerland) - Institute of Mathematics; November 14, 1997.
5. “*Sur les nombres pratiques*” - Lausanne (Switzerland) - Institute of Mathematics; January 30, 1998.
6. “*Quelques problèmes et conjectures sur les nombres pratiques*” - Metz (France) - I.U.T.; May 26, 1998.
7. “*Sur quelques problèmes de théorie des nombres*” - Berne (Switzerland) - Institute for Exacte Sciences; January 18, 1999.

8. *"Formes modulaires et identités arithmétiques"* - Neuchâtel (Switzerland) - Institute of Mathematics; November 23, 1999.
9. *"On Fourier coefficients of certain modular forms"* - Basel (Switzerland) - Department of Mathematics; April 18, 2000.
10. *"On twin practical numbers"* - Luminy (France) - Théorie analytique des nombres; September 4, 2000.
11. *"Quelques problèmes et conjectures sur les nombres pratiques"* - Lyon (France) - October 26, 2000.
12. *"Événements rares dans la fraction continue de π "* - Neuchâtel; May 4, 2001.
13. *"Sur quelques problèmes d'Erdős"* - Nancy (France); May 17, 2001.
14. *"Quelques problèmes de théorie additive des nombres"* - Lausanne - EPFL; September 27, 2002.
15. *"On a family of positive integer sequences"* - Graz (Autriche) - Journées Arithmétiques; July 10 2003.
16. *"Simulation of random distribution on surfaces"* - Montreux (Suisse) - Journées Suisses de Statistique; October 30, 2003.
17. *"Su alcune successioni di interi"* - Parma (Italie) - 2° Incontro Italiano di Teoria dei Numeri; November 15, 2003.
18. *"Simulation of random distribution on surfaces"* - Trieste (Italy) - March 22, 2004.
19. *"Détection non-paramétrique robuste d'observations aberrantes et à effet de levier"* - Montpellier (France) - XXXVI Journées de Statistique; May 26, 2004.
20. *"On certain positive integer sequences"* - Neuchâtel - Institute of Mathematics; May 3, 2005.
21. *"Practical numbers and products of consecutive positive integers"* - Marseille (France) - XXIV Journées Arithmétiques; July 5, 2005.
22. *"Distributions aléatoires de points sur des surfaces"* - Lausanne - EPFL, June 2, 2006.
23. *"LAD Regression and a Nonparametric Approach for Detecting Outliers and Leverage Points"* - Lausanne - CHUV, June 25, 2009.

Organization of Conferences

1. Fourth International Conference on Statistical Data Analysis based on L_1 -norm and related methods, Neuchâtel, (in collaboration with Y. Dodge, Y. Vardi and R. Liu; 81 participants), August 4-9, 2002.
2. 10^{èmes} Rencontres de la Société Francophone de Classification, Neuchâtel, (in collaboration with Y. Dodge), September 10-12, 2003.

3. Celebrating Statistics: International conference in honour of Sir David Cox on the occasion of his 80th birthday, (in collaboration with A. Davison and Y. Dodge) July 14–18, 2004.

Attended conferences

- 1^o Incontro Italiano di Teoria dei numeri (Rome, January 3-5, 1995).
19^{mes} Journées arithmétiques (Barcellona, July 16-20, 1995).
Number Theory Conference (Eger, Hungary, July 29 -August 2, 1996).
Seminario di Teoria dei Numeri (Venezia, September 18-19, 1996).
Arithmetic Theory of Elliptic Curves (Cetraro, Italy, July 12-19, 1997).
Meeting of Analitic Number Theory (Luminy, September 8-12, 1997).
Workshop of Number Theory (Pisa, June 22- July 9, 1999).
21^{mes} Journées arithmétiques (Roma, July 12-16, 1999).
Diophantine Approximation (Cetraro, June 28-July 6, 2000)
Théorie analytique des nombres (Luminy, September 4-8, 2000).
Analitic number theory (Cetraro, Italy, July 11-19, 2002).
3^{ème} Cycle Romand de Statistique (Les Diablerets, Suisse, February 23-25, 2003).
23^{èmes} Journées Arithmétiques (Graz, Austria, July 6-12, 2003).
10^{èmes} Rencontres de la Société Francophone de Classification, (Neuchâtel, Switzerland, September 9-11, 2003).
3^{ème} Cycle Romand de Statistique et Mathématiques (Vaumarcus, Switzerland, October 3, 2003).
Journées Suisses de Statistique (Montreux, Switzerland, October 29-31, 2003).
2^o Incontro Italiano di Teoria dei Numeri (Parma, Italy, November 13-15, 2003).
XXXVI Journées de Statistique (Montpellier, France, May 24-28, 2004).
24^{èmes} Journées Arithmétiques (Marseille, France, July 4-8, 2005).

List of students

1. Mélanie LAUTENSCHLAGER, Degree in Economics and Statistics, University of Neuchâtel, 2002. Former Assistant at the University of Neuchâtel.
2. Marica ROSSI, Degree in Statistics, University of Trieste, 2003.
3. Lisa DIMATTEO, Degree in Statistics, University of Trieste, 2003. Scientific collaborator at the University of Trieste.
4. Alessandra ZACCHIGNA, Degree in Statistics, University of Trieste, 2004. Scientific collaborator at the University of Trieste.

5. Mst Monira Moni SULTANA, Master in Statistics, University of Neuchâtel, 2005, Former Assistant at the University of Neuchâtel.
6. Sandro PETRILLO, Master in Statistics, University of Neuchâtel, 2005. Assistant at the Università della Svizzera Italiana.
7. Omar OLIVOTTO, Master in Statistics, University of Neuchâtel, 2006/07.
8. Severine VANCOLEN, PhD in Statistics, University of Neuchâtel, former assistant at the University of Neuchâtel, 2007/2008.

Educational and learning activities

Assistant for the courses of *Algebra and Geometry* at the Faculty of Engineering of the University of Pisa for academic year 1995/96.

First Assistant for the courses of *Mathématiques Générales* and for the course *Pi (π)* at the Faculty of Science of the University of Lausanne for academic year 1998/99.

First Assistant for the courses of *Mathématiques Générales* at the Faculty of Science of the University of Lausanne and for the EPFL for academic year 1999/2000.

First Assistant for the courses of *Mathématiques* at the Faculty of Economics of the University of Neuchâtel for academic year 2000/2001.

Teacher of *Simulation* at the Economics Faculty of the University of Neuchâtel in 2002/03.

Teacher of “*Simulation*”, “*Optimisation*” and “*Seminaire de Statistique Appliquée*” at the Economics Faculty of the University of Neuchâtel in 2003/04.

Teacher of “*Statistique inférentielle*” at the Economics Faculty of the University of Neuchâtel in 2004/05 and 2005/06.

Teacher of “*Modèles de files d’attente*” and “*Probabilité*” at the Master Course in Statistics at the University of Neuchâtel in 2004/05, 2005/06 and 2006/2007.

Teacher of “*Simulation models in surfaces*”, at the First Level University Master Course in Geographic Information for Economic and Spatial Decisions at the University of Trieste in 2004/05.

Teacher of “*Analyse des données*”, at the Master of Science in International Business Development at the University of Neuchâtel for 2005/06.

Teacher of “*Quantitative GMAT*” at the MBA Center of Lausanne, Geneva and Zurich since 2006.

Teacher of “*Méthodologie de la recherche en gestion*”, at the Master of Science in International Business Development at the University of Neuchâtel since 2006/07.

Other scientific activities

Reviewer for *Mathematical Reviews*.

Referee for *Annali della Scuola Normale Superiore di Pisa*.

Referee for the *London Mathematical Society*.

Referee for *Mathematica Scandinavica*.

Referee for *Rendiconti di Matematica e delle sue applicazioni*.

Referee for *Revue des Nouvelles Technologies de l' Information*.

Managing Editor of *Student* (ISSN 1420-1011).

Managing Editor of *Data & Statistics* (ISSN 1420-3308).

Director/Codirector of Diploma/Master works at the Universities of Neuchâtel (Switzerland).

Partner of the Project PRIN entitled "Web usage mining methodologies".

Participant at the project GIMPS (Great Internet Mersenne Prime Search) since 2001.

Member of the Swiss Statistical Society since 2003.

Member of the Swiss Mathematical Society since 2003.

Administrative academic tasks

1. Responsible of an ERASMUS partnership between the Economics Faculties of the Universities of Neuchâtel and Trieste.
2. Elected Member of the Faculty Council of the Economics Faculty of the University of Neuchâtel from 2003 to 2006.
3. Co-Responsible of the Master Program in Statistics of the University of Neuchâtel until 2006.
4. Member of the Library Commission of the Economics Faculty of the University of Neuchâtel from 2001 to 2006.

Interests

Applied mathematics:

1. Theory of Probability.
2. Simulations and Monte Carlo methods.
3. Regression L_1 and robust methods in data analysis.
4. Data Mining with special interests in Web Log Mining.
5. Random and pseudo-random number generators.

Pures Mathematics:

1. Modular forms with special interest in Fourier coefficients.
2. Diophantine approximation with special interest in Irrationality measure.
3. Elementary number theory, with special interests in:

- (a) practical numbers;
- (b) sum-free sequences;
- (c) (k, l, m) -sequences;
- (d) Erdős problems.

Hobbies

Astronomy, Opera, Photography, Books, Skiing, Wikipedia, Travels, Sailing, Skating, Cycling, Playing Clarinet.