

Novembre 2008

Curriculum vitae di Gianpaolo Scalia Tomba

Gianpaolo Scalia-Tomba, nato a Stoccolma (Svezia), il 24 agosto 1955. Laurea in Matematica e PhD in Statistica Matematica all'Universita' di Stoccolma (Svezia). Attivo in ricerca teorica e applicata e insegnamento di matematica, calcolo delle probabilita', statistica matematica e medica dal 1976. Dal 1992, professore associato di calcolo delle probabilita' e statistica matematica (MAT/06), prima all'Universita' di Roma La Sapienza e, dal 2001, all'Universita' di Roma Tor Vergata.

L'attivita' principale di ricerca e' rivolta alla formulazione e allo studio di modelli matematici per la diffusione di malattie infettive in popolazioni umane e allo studio di metodi statistici per l'analisi di dati d'interesse per tali modelli. Numerose sono anche le collaborazioni modellistiche e statistiche in vari progetti di interesse medico, biologico e sociologico.

Attività recenti

Come esempi dell'attività in anni recenti, nel periodo 2003-2008, oltre all'insegnamento e alla ricerca già descritti sopra: relatore a 10 convegni nazionali e internazionali, 12 seminari presso dipartimenti universitari e istituti di ricerca, relatore o controrelatore a 7 tesi italiane ed estere, commissario in 4 concorsi per associato o ricercatore e 3 commissioni di dottorato, esperto statistico presso le istituzioni EU EMEA (farmaci), EMCDDA (tossicodipendenza) e ECDC (malattie infettive), membro della sottocommissione ministeriale del CCM (Min Salute) per il Piano Nazionale Pandemico e della commissione ISS per la Valutazione di trial fase I di farmaci, valutatore di progetti di ricerca nel programma EU FP7. Partner in 3 progetti di ricerca EU FP6 (POLYMOD, INFTRANS, MODELREL) e in 1 nazionale (EPICO), tutti con temi di ricerca relativi a modellizzazione e inferenza per pandemie e malattie, partecipazione a 2 progetti commissionati dalle agenzie europee EMCDDA (metodi statistici per la stima dell'incidenza della tossicodipendenza) e ECDC (studio dei problemi statistici legati all'inferenza circa il "generation time" di varie malattie). Partecipazione al progetto europeo FP7 FLUMODCONT su modelli di trasmissione dell'influenza e metodi inferenziali per parametri di modelli epidemici. Referee per numerose riviste.

November 2008

Curriculum vitae for Gianpaolo Scalia Tomba

Gianpaolo Scalia-Tomba, born in Stockholm (Sweden), on the 24th of August 1955. Degree in Mathematics and PhD in Mathematical Statistics at the University of Stockholm (Sweden).

Active in applied and theoretical research and teaching of mathematics, probability theory, mathematical and medical statistics since 1976. Since 1992, associate professor in probability theory and mathematical statistics (MAT/06) in Italy. Since 2001, active in the Faculty of Natural Sciences at the University of Rome Tor Vergata.

Main research interests include mathematical and probabilistic modelling of infectious diseases in human populations and statistical analysis of infectious disease data. Several collaborations with researchers in medicine, biology and drug use research.

Recent activity

In the period 2003-2008, in addition to the research and teaching activity mentioned above: 10 presentations at local and international meetings, 12 research seminars in university departments and research institutes, advisor or discussant for 7 degree or PhD theses, member of 4 national committees for assistant or associate professor selection procedures, 3 PhD examination committees, expert consultant to the EU institutes EMEA (pharmaceutical drugs) and ECDC (infectious diseases), member of the ministerial committee for the Italian National pandemic plan (CCM), member of the Italian National Institute of Health (ISS) committee for Phase I trials, project evaluator for EU research projects in FP7, partner in 3 EU FP6 projects (POLYMOD, INFTRANS, MODELREL) and 1 national project (EPICO) related to epidemic and pandemic modelling, participation in 2 research projects commissioned by EU institutes (EMCDDA: statistical methods for drug use incidence estimation and ECDC: analysis of the generation time concept in infectious diseases). Participation in the FP7 EU project FLUMODCONT on pandemic forecasting and inference about epidemic parameters. Referee for several international journals.

Publicazioni, come autore o coautore = Publications, as author or coauthor

- 1) Andersson P-Å, Erlander S, Hermansson Å, Tengvald E, Scalia-Tomba G (1978). Framtagande av trafikeringsmodell för busstrafik i tätort. Slutrapport. (In svedese: Modellizzazione del traffico d'autobus in aree urbane). Technical report LiTH-MAT-R-78-12, Dept. of Math., Linköping Institute of Technology, Sweden.
- 2) Andersson P-Å, Scalia-Tomba G (1978). Statistical analysis of an urban bus route. Technical report LiTH-MAT-R-78-11, Dept. of Math., Linköping Institute of Technology, Sweden.
- 3) Andersson P-Å, Hermansson Å, Tengvald E, Scalia-Tomba G (1979). Analysis and simulation of an urban bus route. Transpn Res 13A, 439-466.
- 4) Andersson P-Å, Scalia-Tomba G (1981). A mathematical model of an urban bus route. Transpn Res 15B, 249-266.
- 5) Åsberg M, et al (1981). Suicidal behaviour and the dexamethasone suppression test. Letter to the Editor. Am J Psychiatry 138:7, 994-5.
- 6) Bertilsson L, Åsberg M, Lantto O, Scalia-Tomba G-P, Träskman-Bendz L, Tybring G (1982). Gradients of monoamine metabolites and cortisol in cerebrospinal fluid of psychiatric patients and healthy controls. Psychiatry Research 6, 77-83.
- 7) Scalia-Tomba G (1982). Asymptotic distribution of the final size of a Reed-Frost epidemic with several susceptibility types. Research report no 127, Dept. of Mathematical Statistics, University of Stockholm, Sweden.
- 8) Scalia-Tomba G (1982). Asymptotic distribution of the final size of a multitype Reed-Frost epidemic. Research report no 128, Dept. of Mathematical Statistics, University of Stockholm, Sweden.
- 9) Scalia-Tomba G (1983). Some results for some chain-binomial processes. Research report no 129, Dept. of Mathematical Statistics, University of Stockholm, Sweden.
- 10) Scalia-Tomba G (1983). Extensions of the Reed-Frost process. Doctoral thesis, Dept. of Mathematical Statistics, University of Stockholm, Sweden.
- 11) von Bahr B, Ehrenberg L, Scalia-Tomba G, Säfwenberg J-O (1984). Undersökning av olika dos-responsmodeller (in svedese: Studio di differenti modelli di dose-effetto). Appendix 9 to the Report of the Swedish Cancer Committee, Ds S 1984:5.
- 12) Åsberg M, Bertilsson L, Mårtensson B, Scalia-Tomba G-P, Thorén P, Träskman-Bendz L (1984). CSF monoamine metabolites in melancholia. Acta Psychiatr. Scand 69, 201-219.
- 13) Lidberg L, Tuck JR, Åsberg M, Scalia-Tomba G-P, Bertilsson L (1985). Homicide, suicide and CSF 5-HIAA. Acta Psychiatr. Scand. 71, 230-236.
- 14) Scalia-Tomba G (1985). The asymptotic final size distribution of reducible multitype Reed-Frost processes. Research report 85 T 19, Dept. of Mathematics, Université de Paris-Sud, Orsay, France.
- 15) Scalia-Tomba G (1985). Asymptotic final size distribution for some chain-binomial processes. Adv Appl Prob 17, 477-495.

- 16) Scalia-Tomba G (1986). The asymptotic final size distribution of reducible multitype Reed-Frost processes. *J Math Biol* 23, 381-392.
- 17) Scalia-Tomba G (1986). Asymptotic final size distribution of the multitype Reed-Frost process. *J Appl Prob* 23, 563-584.
- 18) Giesecke J, Scalia-Tomba G (1987). Modeller för HIV- och AIDS-prognoser - osäkra grundantaganden, avancerad matematik (in svedese: Modelli per le previsioni dell'HIV e dell'AIDS - basi incerte, matematica avanzata). *Läkartidningen* 84, 3841-3845.
- 19) Scalia-Tomba G, von Rosen D, Ehrenberg L (1987). Statistical analysis of a single cell mutation assay. Research report, Dept. of Mathematical Statistics, University of Stockholm, Sweden.
- 20) Doncevic S, Theorell T, Scalia Tomba G (1988) The psychosocial work-environment of district nurses in Sweden. *Work and Stress* 2, 341-51.
- 21) Giesecke J, Scalia-Tomba G, Berglund O, Berntorp E, Schulman S, Stigendal L (1988). Incidence of symptoms and AIDS in 146 HIV-infected Swedish hemophiliacs and blood transfusion recipients. *BMJ* 297, 99-102.
- 22) Giesecke J, Ramklint G, Scalia-Tomba G (1988). Klamydia i Stockholms län (in svedese: Infezione di chlamydia nella provincia di Stoccolma). Technical report 9/88, MME, Karolinska Hospital, Stockholm, Sweden.
- 23) Giesecke J, Scalia-Tomba G, Furucrona A (1988). HIV infectivity - the hepatitis B lesson. *Scand J Infect Dis* 20, 385-87.
- 24) Persson K-A, Berg S, Törnqvist M, Scalia-Tomba G, Ehrenberg L (1988). Note on ethene and other low-molecular weight hydrocarbons in environmental tobacco smoke. *Acta Chem Scand B42*, 690-696.
- 25) Kolman A, Näslund M, Osterman-Golkar S, Scalia-Tomba G, Meyer A (1989). Comparative studies of in vitro transformation by ethylene oxide and gamma-radiation of C3H/10T1/2 cells. *Mutagenesis* 4, 58-61.
- 26) Giesecke J, Ramstedt K, Ripa T, Rådö G, Scalia-Tomba G, Westrell M (1989). Kontaktspårning vid HIV - redovisning från en pågående multicenterstudie (in svedese: "Contact tracing" e HIV, uno studio multicentrico in corso). *Läkartidningen* 86, 4026-4030.
- 27) Scalia-Tomba G (1990). On the asymptotic final size distribution of epidemics in heterogeneous populations. In: *Stochastic Processes in epidemic theory. Proceedings, Luminy 1988* (Gabriel J-P, Lefèvre C, Picard P, Eds.). *Lecture Notes in Biomathematics* 86, 189-196, Springer-Verlag, Heidelberg.
- 28) Göthberg M, Giesecke J, Scalia-Tomba G, Tüll P (1989). Sexuella kontaktmönster bland unga svenskar - en enkätstudie på Gotland 1988. (In svedese: Indagine campionaria sulla vita sessuale di giovani svedesi in Gotland 1988). Technical report 12/89, MME, Karolinska hospital, Stockholm, Sweden.
- 29) Giesecke J, Ramstedt K, Ripa T, Rådö G, Scalia-Tomba G, Westrell M (1990). Partner notification for HIV in Sweden. *Lancet* 1990, 2, 508.
- 30) Giesecke J, Scalia-Tomba G, Håkansson C, Karlsson A, Lidman K (1990). Incubation time of AIDS: Progression of disease in a cohort of HIV-infected

- homo- and bisexual men with known dates of infection. *Scand J Infect Dis* 22,407-411.
- 31) Scalia-Tomba G, von Bahr B, Säfwenbergh J-O, Ehrenberg L (1990) Mathematical extrapolation models in cancer risk assessment. Technical rep B:12, Dept Math Stat, Stockholm University, Sweden.
 - 32) Ehrenberg L, Scalia-Tomba G (1990) Mathematical models for the initiating and promotive action of carcinogens. In: *Statistical Methods in Toxicology, Proceedings of a Workshop during EUROTOX '90, Leipzig, Germany, September 1990* (L. Hothorn, Ed.). *Lecture Notes in Medical Informatics* 43, 65-78, Springer-Verlag, Heidelberg.
 - 33) Granath F, Giesecke J, Scalia-Tomba G, Ramstedt K, Forssman L (1991) Estimation of a preference matrix for women's choice of male sexual partner according to rate of partner change, using partner notification data. *Mathematical Biosciences* 107, 341-348.
 - 34) Scalia-Tomba G (1991) The effect of structural behaviour change on the spread of HIV in a one-sex population. *Mathematical Biosciences* 107, 547-555.
 - 35) Giesecke J, Göthberg M, Scalia-Tomba G, Tüll P (1990). En studie av sexuella kontaktmönster av betydelse för sexuellt överförda sjukdomars epidemiologi (In svedese: Uno studio di comportamenti sessuali, d'importanza per l'epidemiologia delle malattie sessualmente trasmesse). *Läkartidningen* 87, 4057-4063.
 - 36) Scalia-Tomba G, Giesecke J (1991). A possible source of error in calculating median age at first occurrence of an event from a cumulative distribution of reported ages. *Statistics in Medicine* 10, 1313-1314.
 - 37) Giesecke J, Scalia-Tomba G, Göthberg M, Tüll P (1992) Sexual behaviour related to the spread of STDs - a population-based survey. *Int J STD & AIDS* 3, 255-60.
 - 38) Hedlund J, Örtqvist Å, Kalin M, Scalia Tomba G, Giesecke J (1992) Risk of pneumonia relapse after discharge from hospitalization for pneumonia. *Lancet* 340, 396-7.
 - 39) Struve J, Käll K, Stendahl P, Scalia Tomba G, Giesecke J, Weiland O (1993) Prevalence of hepatitis B virus markers among intravenous drug abusers in Stockholm: Impact of heterosexual transmission. *Scand J Infect Dis* 25, 8-13.
 - 40) Gilio A, Scalia Tomba G, Scozzafava R (1994) La probabilità nella vita reale attraverso esempi. *Induzioni* 8, 69-78.
 - 41) Scalia Tomba G (1994) Modelli, realtà e utilità. *Statistica Applicata* 6, 37-39.
 - 42) Pezzotti P, Scalia Tomba G, Rezza G (eds)(1995) Incidenza e prevalenza delle infezioni da HIV in Italia e previsioni a breve e medio termine. Consensus Conference, Roma, 23-24 giugno 1994. Rapporto ISTISAN 95/41, Istituto Superiore di Sanità, Roma.
 - 43) Scalia Tomba G (1995) Stima dell'epidemia di HIV e AIDS in Italia basata su dati di notifica AIDS noti al COA in primavera '94. In: Pezzotti P, Scalia Tomba G, Rezza G (eds)(1995) Incidenza e prevalenza delle infezioni da

- HIV in Italia e previsioni a breve e medio termine. Consensus Conference, Roma, 23-24 giugno 1994. Rapporto ISTISAN 95/41, Istituto Superiore di Sanità, Roma, 64-69.
- 44) Scalia Tomba G, Pezzotti P, Rezza G (1995) The HIV epidemic in Italy. In: Proceedings of the Workshop on home health care to HIV/AIDS patients, Università di Roma Tor Vergata, December 16-17, 1994.
 - 45) Scalia Tomba G (1995) Variabili aleatorie e distribuzioni di probabilità. In: L'insegnamento di probabilità e statistica nella scuola liceale. Seminario di formazione per docenti, Liceo Scientifico Statale "G. Ricci Curbastro", Lugo di Romagna, Marzo 1994. Quaderno 8. Ministero della Pubblica Istruzione, Roma, 125-158.
 - 46) Ball F, Mollison D, Scalia Tomba G (1997) Epidemics with two levels of mixing. *Ann Appl Prob* 7, 46-89.
 - 47) Glad IK, Frigessi A, Scalia Tomba G, Balducci M, Pezzotti P (1998) Bayesian back-calculation with HIV seropositivity notifications. Technical rep. no. 4/98, Dept. of Mathematics, Univ. of Oslo, Norway.
 - 48) Scalia Tomba G, Pezzotti P (1998) The unreasonable effectiveness of the Markov chain Monte Carlo method. In Discussion of De Angelis et al "Bayesian projection of the acquired immune deficiency syndrome epidemic", *JRSS C* 47, 492-93
 - 49) Scalia Tomba G (1999) Stima dell'incidenza di infezioni HIV con il metodo backcalculation. In: Atti delle Giornate di Studio, Progetto Strategico CNR Decisioni Statistiche: Teoria e Applicazioni, pp 146-152, Pitagora Editrice, Bologna 1999.
 - 50) Svensson Å, Scalia Tomba G (2001) Competing epidemics in closed populations. Research Report 2001:8, Dept. Math. Statistics, University of Stockholm.
 - 51) Godfrey C et al (incl. G Scalia Tomba)(2001) What are dynamic models and how can they be used? In: Modelling drug use: methods to quantify and understand hidden processes. Eds. Sharp F, Neaman R. EMCDDA Scientific Monograph Series no. 6.
 - 52) Salmaso S., Mandolini D., Scalia Tomba G, Esposito N. (2002) La prevenzione della varicella in Italia: strategie di vaccinazione. *Annali di Igiene* 14 (Suppl 6), 35-44.
 - 53) Salmaso S, Scalia Tomba G, Mandolini D, Esposito N (2003) Valutazione del potenziale impatto in Italia di programmi estesi di vaccinazione antivariella secondo un modello matematico. *Epidemiologia e Prevenzione* 27 (3), 154-160.
 - 54) Comitato operativo Studio Hera (incl GPST) (2005) Mortalita' nei primi due anni di vita in Italia: Sudden Infant Death Syndrome e altre morti inattese. Rapporti ISTISAN 05/2, Istituto Superiore di Sanita', Roma.
 - 55) Scalia Tomba G (2005) L'uso di modelli matematici per la diffusione dell'AIDS nell'Africa sub-Sahariana. In *Matematica e cultura 2005* (Ed. M. Emmer), Springer-Verlag Italia, Milano.

- 56) Scalia Tomba G (2005) Multistrain epidemic models. In Encyclopedia of Biostatistics , 2nd ed. (Eds.Armitage P. & Colton T.) Vol.3, 1672-1674, John Wiley & Sons, Chichester.
- 57) Rezza G, Scalia Tomba G et al (2005) Prevalenza di uso di vecchie e nuove droghe nei nuovi ingressi in strutture penitenziarie italiane. Ann Ist Super Sanita' 41(2), 239-245.
- 58) Ball F, Mollison D, Scalia Tomba G (2006) Epidemics with two levels of mixing (reprint of 1997 paper). In The structure and dynamics of Networks (Eds. Newman M., Barabasi A-L., Watts D.J.), Princeton University Press
- 59) Gruppo di lavoro EPICO (2006) Scenari di diffusione e controllo di una pandemia influenzale in Italia. Rapporti ISTISAN 06/33, Istituto Superiore di Sanita', Roma, Italia.
- 60) Scalia Tomba G (2006) Is there information after death?. In Discussion of Farrington CP and Whitaker HJ "Semiparametric analysis of case series data", Appl Stat 55, part 5, 590-591.
- 61) Epico working group (2007)Modelling scenarios of diffusion and control of pandemic influenza, Italy. Euro Surveill 2007;12(1):E070104.2. <www.eurosurveillance.org/ew/2007/070104.asp#2>
- 62) Via A, Gherardini PF, Ferraro E, Ausiello G, Scalia Tomba G, Helmer-Citterich M (2007) False occurrences of functional motifs in protein sequences highlight evolutionary constraints. BMC Bioinformatics 2007, 8:68 (01 Mar 2007) <www.biomedcentral.com/1471-2105/8/68>
- 63) Puglianiello, A., Germani, D., Antignani, S., Scalia Tomba, G., Cianfarani, S. (2007): Changes in the expression of hypothalamic lipid sensing genes in rat model of Intrauterine Growth Retardation (IUGR), Pediatric Research 61(4):433-437
- 64) Sanchez-Niubo A, Domingo-Salvany A, Gomez Melis G, Brugal MT, Scalia-Tomba G (2007) Dos metodos para analizar la evolucion de la incidencia de consumo de heroína y cocaína en Barcelona. Gaceta Sanitaria 21(5), 397-403.
- 65) Scalia Tomba G (2007) The use of mathematical models for the spread of AIDS in Sub-Saharan Africa. In Mathematics and Culture V, EmmerM (Ed.). Springer-Verlag. Original Italian Edition published by Springer-Verlag Italia, Milano, 2005.
- 66) Di Legami V, Gianino MM, Ciofi Degli Atti M, Massari M, Migliardi A, Scalia Tomba G, Zotti C, Zoster Study Group (2007) Epidemiology and costs of herpes zoster: Background data to estimate the impact of vaccination. Vaccine 25, 7598–7604.
- 67) Comitato operativo Studio Hera (incl GPST) (2007) Sorveglianza post-marketing delle vaccinazioni nei primi due anni di vita (1999-2004). Rapporti ISTISAN 07/34, Istituto Superiore di Sanita', Roma.
- 68) Mossong J, Jit M, Hens N, Beutels P, Auranen K, Mikolajczyk R, Massari M, Scalia-Tomba G, Wallinga J, Sadkowska-Todys M, Edmunds J(2008) Social contacts and mixing patterns relevant to the spread of infectious diseases: a

multi-country population-based survey, PLoS Med 5(3) e74.

doi:10.1371/journal.pmed.0050074

- 69) Ciofi degli Atti ML, Merler S, Rizzo C, Ajelli M, Massari M, Manfredi P, Furlanello C, Scalia Tomba G, Iannelli M(2008) Mitigation measures for pandemic influenza in Italy: an individual based model considering different scenarios, PLoS One 3(3): e1790. doi:10.1371/journal.pone.0001790
- 70) Scalia Tomba G, Wallinga J (2008) A simple explanation for the low impact of border control as a countermeasure to the spread of an infectious disease. Math Biosci in press (doi:10.1016/j.mbs.2008.02.009)
- 71) Scalia Tomba GP, Rossi C, Taylor C, Klempova D, Wiessing L. (2008) Guidelines for Estimating the Incidence of Problem Drug Use. Final Report CT.06.EPI.150.1.0, EMCDDA, Lisbon.
- 72) Scalia Tomba G (2008) Network, umani e pandemie. SIS-Magazine, 7/6/08.
- 73) Rizzo C, Lunelli A, Pugliese A, Bella A, Manfredi P, Scalia Tomba G, Iannelli M, Ciofi degli Atti ML, on behalf of the EPICO working group (2008) Scenarios of diffusion and control of an influenza pandemic in Italy. Epidemiol Infect, in press, doi:10.1017/S095026880800037X