

IN MEMORY OF EGIDIO CASCINI

During one's life, so many days go by almost unnoticed, while a few others become relevant due to a particular event. For me, sadly, one of those relevant days was the 8th of February 2017, the day professor Egidio Cascini left us.

Over the course of his illness, he never missed a single professional commitment, ensuring continuity for the several projects Egidio was involved in, leading all of them to completion. He left us in his own way: discreetly and in control.

His bright smile was his business card, and it gained him a vast following of friends asking for advice to solve complex problems in the field of applied statistics. His analysis and solutions materialized in a wide range of very different fields: from health care to marketing, from pure research to production processes.

After graduating with a degree in Electronic Engineering from the University of Naples Federico II, Egidio carried on his professional career at important corporations, taking on national and international duties. Just after his university studies, he was hired by General Electric as a reliability engineer, where he quickly started applying statistical methods. His career continued at 3M, another international company, and he continued to apply his statistical expertise in the fields of both industrial processes and product analysis.

In addition to serving on 3M's as a 'quality director', Egidio also assumed the role of a Six Sigma coach, receiving major awards during his 35 years of service: 27 international awards for innovative projects, as well as a 'career quality award' (he was the only Italian in 3M's century-long history to earn this award).

Egidio's professional commitment was also recognized by academia: he taught the course 'Statistical Techniques for Quality' at the University of Ferrara, where he was on the Physics faculty, and 'Statistical Quality Control' at the Sacred Heart Catholic University of Milan, where he was a member of the Economics faculty.

Egidio had a vast and deep knowledge of applied statistics. He participated in countless conventions and congresses and published many scientific papers—more than one hundred articles and three books (see the references in the essential bibliography underneath).

His continuous efforts greatly contributed to the development and spread of statistical methodology within the Italian Association for Quality Culture (AICQ), the Italian Academy for Six Sigma (AISS) and the (Italian) Association for Applied Statistics (ASA).

Egidio held several prestigious positions during his career: he was the president of the statistical committee of the AICQ, president of the UNI statistical

committee, president of the AICQ-Northern Italy, vice-president of the AICQ-Italy, vice-president of the AISS, a member of the Italian Statistical Society, an adviser to the ASA, and the editor of *Sei Sigma & Qualità* (Six Sigma and Quality) magazine.

On top of his professional efforts, Egidio always cared affectionately for his beloved family: his wife, Marina, and his sons and grandchildren.

Two key messages were conveyed through Egidio's publications and public speeches:

1. The importance of applying quantitative methods to improve products and processes.
2. Never give up studying and applying such methods, despite the difficulties.

In this regard, I have a personal memory of which I am particularly fond. It goes back a few years, when, in the course of a conference, I confessed to Egidio that I was unable to grasp the inner nature of the Monte Carlo method. In response, he improvised a lesson, and through his vast experience in the application of this method, he made the topic clear to me. At the end of the conference, he highlighted the fundamental contribution of the mathematician John von Neumann, a pioneer of the Monte Carlo method.

Fate ensured that exactly 60 years passed between von Neumann leaving us and Egidio passing away. Both on the 8th of February: Egidio in 2017, von Neumann in 1957. The causeless chance never stops amazing us. Despite studying, discussing, and applying coincidences, we are surprised when we discover a coincidence behind some life events.

ESSENTIAL REFERENCES

- Cascini, E. (1989). *Un falso problema di deriva nel controllo di qualità in linea*. In: *Qualità*, 63, 13-22. Journal Article
- Cascini, E. (1990). *Un indice di qualità per la valutazione dei fornitori*. National Conference on "Gestione integrata della qualità tra le grandi aziende produttrici e le piccole fornitrici". AICQ Meridionale - Dipartimento Ingegneria, Università degli Studi di Napoli. Paper in Conference Proceedings
- Cascini, E. (1990). *Un criterio per ottimizzare il livello di automazione di una linea produttiva*. In: *Automazione e Strumentazione*, 9, 137-146. Journal Article
- Cascini, E. (1991). *Sistema di assicurazione qualità e quota di mercato*. National Conference on "Qualità Totale nelle Aziende Industriali", CRS International, Milano. Paper in Conference Proceedings
- Cascini, E. (1993). *Come valutare il processo di miglioramento reale attribuibile alla introduzione di un sistema di qualità*. National Forum on Certification, IRI, Milan. Paper in Conference Proceedings
- Cascini, E. (1993). *Relativity of the Dropouts Measurement Process*, In: *Journal of Magnetism and Magnetic Materials*. S. North Holland, 119-121. Chapter in Conference Proceedings

- Cascini, E. (1994). *Distribuzione di probabilità della pendenza della retta interpolante due serie di punti allineati*. 18th National Conference of AICQ, Varese. Paper in Conference Proceedings
- Cascini, E. (1994). *Un errore di misura nella caratterizzazione dei nastri magnetici*. 18th National Conference of AICQ, Varese. Paper in Conference Proceedings
- Cascini, E. (1995). *La qualità come dovere in 3M Italia* (Interview by Biancaluisa Rossetto), In: La Chimica e l'Industria, September, 563-565. Journal Article
- Cascini, E. (1995). *Produzione e Tecnologia: Una Testimonianza Aziendale*. In: Il Quaderno dell'Istituto Tagliacarne, 9, 101-120. Journal Article
- Cascini, E. (1996). *Alcuni esempi del ruolo della Statistica nella Qualità Totale*. 38th Scientific Meeting of SIS, Volume 2, 455-462, Rimini. Journal Article
- Cascini, E. (1996). *Perché crediamo nel TQM*. CEGOS Conference on "Management per la Qualità Totale", Milan. Paper in Conference Proceedings
- Cascini, E. (1997). *Sistema Qualità, ISO-9000, Certificazione e miglioramento*. In: Qualità, 2, 36-42. Journal Article
- Cascini, E. (1997). *Editorial*. In: Qualità, 2, 5. Journal Article
- Cascini, E. (1997). *L'approccio statistico e le norme ISO-9000: strumenti reali per il miglioramento*. 19th National Conference of AICQ, Assago. Paper in Conference Proceedings
- Cascini, E. (1998). *Metodi statistici per il miglioramento del processo produttivo: considerazioni preliminari*. In: Qualità, 8, 71-75. Journal Article
- Cascini, E. (1999). *Modelling a Particular Interpolation Process*. 52nd Session of the International Statistical Institute, Helsinki. Paper in Conference Proceedings
- Cascini, E. (2002). *Transforming a Random Time Series in an ARMA Process*. 6th National Conference of SIMAI, Società Italiana di Matematica Applicata e Industriale, Chia Laguna. Paper in Conference Proceedings
- Cascini, E. (2003). *Nuove prospettive nei metodi di prova per confronto*. 3rd National Conference on "Metrologia e Qualità", Torino. Paper in Conference Proceedings
- Cascini, E. (2003). *Qualche considerazione sull'impiego dei metodi statistici nell'industria e sulle iniziative che potrebbero favorirne la diffusione*. In: Statistica e Società, 1(2), 5-10. Journal Article
- Cascini, E. (2003). *A Statistic to Control a Specific Class of Processes*, Intermediate scientific meeting of SIS, Società Italiana di Statistica, Naples. Paper in Conference Proceedings
- Cascini, E. (2004). *Determinazione della variabilità strutturale di processi di dispersione poco concentrati*. 21st National Conference of AICQ, Rome, published on Qualità, XXXIV(2). Paper in Conference Proceedings
- Cascini, E. (2004). *A Reliability Model for a Multiproduct Line*. 7th National Conference of SIMAI, Società Italiana di Matematica Applicata e Industriale, Venice. Paper in Conference Proceedings
- Cascini, E. (2001). *Un indicatore complessivo di qualità percepita*. In: Qualità, 9, 42-49. Journal Article
- Cascini, E. and Quario, G. (2002). *Inverting m Quadratic n-Factors Response Surfaces*. 6th National Conference of SIMAI, Società Italiana di Matematica Applicata e Industriale, Chia Laguna. Paper in Conference Proceedings
- Cascini, E. (2006). *Refining Characterization of Powder for Rotomolding Industries: A Study Case*. 8th National Conference of SIMAI, Società Italiana di Matematica Applicata e Industriale, published in "Communications to SIMAI Conferences", ISSN 1827-9015, Baia Samuele

- (Ragusa). Journal Article
- Cascini, E. (2006). *A Heuristic Criterion to Rank Statistical Units in the Multivariate Analysis*. 43rd Scientific Meeting of SIS, Società Italiana di Statistica, Turin, 425-428. Journal Article
- Cascini, E. (2007). *Misura oggettiva della prestazione complessiva di un prodotto: studio di un caso reale*. Proceedings of 5th National Conference on “Metrologia e Qualità”, CD, Turin, 14-16 March 2007. Paper in Conference Proceedings
- Cascini, E. (2007). Caratterizzazione statistica di un processo industriale, Proceedings of the Conference Meet MINITAB, 28 March 2007, Milan. Paper in Conference Proceedings
- Cascini, E. (2007). *A Novel Approach in Production Planning, to Stabilize Stocks and Prevent Back Orders*. Proceedings of the Intermediate Conference of SIS, Venice, 6-8 June. Paper in Conference Proceedings
- Cascini, E. (2008). *Il ruolo dei Metodi Quantitativi e di Minitab nei Processi Produttivi e Transazionali: Due Casi Concreti*. Proceedings of the Conference Meet Minitab, 18 March 2008, Milan. Paper in Conference Proceedings
- Cascini, E. (2009). *Statistica e Minitab nel piano di controllo di un progetto Six Sigma*. Proceedings of the Conference Meet MINITAB, 31 March 2009, Milan. Paper in Conference Proceedings
- Cascini, E. (2009). *Sei Sigma per docenti in 14 capitoli*. Edizioni RCE Multimedia, Napoli. Book
- Cascini, E. (2010). *Esercizi di Qualità con la Statistica*. Edizioni RCE Multimedia, Napoli. Book
- Cascini, E., and Cascini, L. (1994). *Forecasting Spring Flow Time Series*. In: Journal of Italian Statistical Society, 3(1), 1-23. Journal Article
- Cascini, E., Cascini, L. and Gullà, G. (1992). *A Back Analysis Based on Piezometer Response*. Balkema Edition, Holland, International Symposium, New Zealand. Paper in Conference Proceedings
- Cascini, E. and Quario, G. (2000). *A New Family of Random Variables*. 5th National Congress of SIMAI, Società Italiana di Matematica Applicata e Industriale, Ischia. Paper in Conference Proceedings
- Cascini, E. and Celegato, A. (2013). *ISO-9001 e Controllo Statistico della Qualità*. Edizioni RCE Multimedia, Napoli. Book
- Grazioli, P. and Cascini, E. (2005). *Determinazione della superficie di risposta in un caso reale*. In: Statistica Applicata – Italian Journal of Applied Statistics, 17(3), 419-427. Journal Article
- Zanella, A. and Cascini, E. (1997). *I modelli di base per la progettazione ed il controllo: la sperimentazione condotta con criteri statistici*. 19th National Conference of AICQ, Assago. Paper in Conference Proceedings
- Zanella, A. and Cascini, E., (1999). *Variazione nel tempo della qualità di un materiale a stoccaggio: previsione mediante un modello stocastico di trasferimento*. In: Statistica Applicata – Italian Journal of Applied Statistics, 11(3), 421-452. Journal Article

Alessandro Celegato

Affiliated to ASA – Association for Applied Statistics, Italy
Vice-president of the Statistical Committee of AICQ – Italian
Association for Quality Culture, Italy
Advisor of AISS – Italian Academy for Six Sigma, Italy
Advisor of AICQ – Northern Italy, Italy