- **TITOLI DI STUDIO**
  - Dottore di ricerca in *Automazione e Matematiche per i Processi Economici ed Industriali*, Università di Palermo, 1991–1994.
  - Laurea in *Scienze Statistiche ed Economiche*, Università di Palermo, 1988-1991.
- **PREMI E RICONOSCIMENTI**
  - *Excellence in Practice Award* conferred by the Association of the Operational Research Societies within I.F.O.R.S., 2006.
- **POSIZIONI ACCADEMICHE**
  - Professore ordinario confermato nel settore SECS–S/06, Dipartimento di Scienze Economiche, Aziendali e Statistiche, Università di Palermo, dal 2009 a oggi.
  - Professore straordinario nel settore SECS–S/06 presso la Facoltà di Economia, Università di Palermo, 2006-2009.
  - Professore associato nel settore SECS–S/06, Facoltà di Economia, Università degli Studi di Palermo.
  - Visiting Research Fellow, University of Cyprus, Nicosia, Cyprus, 2001.
  - Ricercatore, Università della Calabria, Italy, 1998–2001.
  - Research Associate, University of Cyprus, Nicosia, Cyprus, 1996–1998.
- **INSEGNAMENTI**
  - *Optimization for Machine Learning*, laurea magistrale in Statistica e Data Science, dal 2018 a oggi.
  - *Modelli Matematici per la Gestione del Rischio*, laurea magistrale in Statistica e Data Science, dal 2016 al 2020.
  - *Matematica Finanziaria*, laurea triennale in Economia e Finanza, Università di Palermo, dal 2001 a oggi.
  - *Mathematics for Economics and Finance*, laurea magistrale in Scienze Economiche e Finanziarie, Economic and Financial Analysis, Università di Palermo, dal 2010 a oggi.
  - *Matematica*, laurea triennale in Statistica per l'Analisi dei Dati, Università di Palermo, 2009-2012.

- **PROGETTI DI RICERCA**
  - Piano Nazionale di Ripresa e Resilienza, Partenariato Esteso 09, *Sostenibilità economico-finanziaria dei sistemi e dei territori*, referente di ateneo e coordinatore locale, 2023-2026.
  - Bank for International Settlement, *Debt sustainability and monetary policy*, 2021-2022.
  - European Stability Mechanism, *Debt Sustainability Risk Analysis Decision Support System for ESM*, Luxembourg, 2016–2018.
  - Istituto di Vigilanza delle Assicurazioni (IVASS), *Analisi e Modelli di Rete per lo Studio dell'Archivio Integrato Antifrode IVASS*, 2016–2019.
  - Attrazione e Mobilità (AIM) 2018 - Finanziamento RTDa AIM1873193-2, 2018.
  - PON Dottorati Innovativi con caratterizzazione industriale — Finanziamento borse dottorato di ricerca, 2017–2018.
  - FIRB, *La gestione del debito pubblico*, 2008.
  - Coordinatore locale PRIN 2007, *Modelli di Apprendimento e Decisionali in un Mercato Artificiale di Tipo Order-Driven*, 2008.
  - Coordinatore nazionale PRIN 2004, *Modelli per la Dinamica dei Prezzi di Titoli finanziari: aspetti istituzionali ed ipotesi comportamentali in un'ottica agent-based*, 2004.
  - Coordinatore locale PRIN 2002, *Metodi e Tecniche per l'Ottimizzazione di Portafoglio e per la Valutazione di Strumenti Finanziari*, 2002.
- **ATTIVITÀ DI CONSULENZA**
  - Bank of Finland, Helsinki, Finland, *Evaluation of the Finnish central government interest rate risk management*, 2022-2023.
  - Auditor General Office, Nicosia, Cyprus, *Auditing public debt using risk management*, 2021.
  - Tribunale di Palermo, Consulente Tecnico d'Ufficio, *Valutazioni di swap e derivati finanziari*, 2013.
  - PetroBras & Pontificial Universidad Catolique, Rio de Janeiro, Brasil, Revisore scientifico progetto di ricerca, *Asset & liability management for an oil company*, 2011.
  - Prometeia s.r.l., Bologna, *Modelli per la Gestione di Portafoglio Utilizzando Misure Coerenti del Rischio*, 2002.

- Prometeia s.r.l., Bologna, *Personal asset allocation models for e-banks*, 2000.
- Prometeia s.r.l., Bologna, Italy, *Modelli Avanzati per la Gestione di Prodotti Assicurativi e Fondi Pensione*, 1999.
- Banca della Svizzera Italiana, Lugano, Switzerland, *Scenario analysis for multi-currency bond portfolios*, 1998.
- TERRA Computers, Israel, *High-performance computing for financial applications*, 1996.
- Scientific Computing Associates, Yale, USA, *High-performance computing for financial applications*, 1996

TUTOR DOTTORANDI E ASSEGNISTI DI RICERCA

- Dottorato di Ricerca in *"Scienze Economiche e Statistiche"*, Universita' di Palermo. Dottore di Ricerca: Dott. Pietro Vassallo. Titolo della Tesi: Development of multivariate and network models for the analysis of Big Data, 2017-2020.
- Dottorato di Ricerca in *"Statistica e Finanza Quantitativa"*, Universita' di Palermo. Dottore di Ricerca: Dott. Sergio Guirreri. Titolo della Tesi: Simulating Term Structure of Interest Rates, 2007-2010.
- Assegno di ricerca in *"Modelli agent–based per lo studio dei mercati finanziari"*. Assegnista: Dott.ssa Elena Catanese, 2008-2009.
- Assegno di ricerca in *"Modelli di programmazione stocastica per la gestione ottima del debito pubblico"*. Assegnista: Dott. Alessandro Staino, 2008-2009.
- Assegno di ricerca in *"Ottimizzazione stocastica per la valutazione di opzioni nei mercati incompleti"*. Assegnista: Dott. Domenico De Giovanni, 2004-2008.
- Dottorato di Ricerca in *"Metodi computazionali per le previsioni e decisioni economiche e finanziarie"*, Università di Bergamo. Dottore di Ricerca: Dott. Domenico De Giovanni. Titolo della Tesi: Life Insurance Pricing in Incomplete Markets, 2003-2007.
- Assegno di ricerca in *"Gestione integrata del rischio"*. Assegnista: Dott.ssa Annalisa Russino, 2001-2004.

ATTIVITÀ DI GESTIONE DIDATTICA E SCIENTIFICA

- Presidente AMASES, 2023–2024.

- Coordinatore Dottorato di Ricerca in *Scienze Economiche e Statistiche*, Università di Palermo, 2016 a 2023.
- Componente del Collegio dei Docenti Dottorato di Ricerca in *Economics, Business and Statistics*, Università di Palermo, 2023–a oggi.
- Componente del Collegio dei Docenti Dottorato di Ricerca in *Scienze Fisiche*, Università di Palermo, 2013-2015.
- Componente del Collegio dei Docenti Dottorato di Ricerca in *Statistica e Finanza Quantitativa*, Università di Palermo, 2010-2012.
- Componente del comitato scientifico AMASES, 2011-2017.
- Componenete del comitato tecnico scientifico dell'*EUMOptFin* serie di workshop finanziati dalla Commissione Europea su *Mathematical Optimization Models for Financial Institutions.*.

- **SEMINARI E RELAZIONI INVITATE**
  - Conference on Sustainable Finance and Investments, University of Tor Vergata, Rome, 2024.
  - FinTech Workshop, Naples, 2023.
  - Simulation and Optimization Models to Assess Sovereign Debt Sustainability, Statistics of Machine Learning, 2022, Prague.
  - Sustainability of public debt under PEPP, Bank for International Settlements, 2022, Basel
  - Public debt and the pandemic, Università Ca' Foscari, 2022, Venezia.
  - Risk Management Optimization for Sovereign Debt Financing with Debt Sustainability Constraints, Quantitative Finance @ WORK, 2019, Rome.
  - Public debt and risk management, European Stability Mechanism, 2017, Luxembourg.
  - Public debt and risk management, University of Rome 'La Sapienza', 2017, Roma.
  - Public debt and risk management, Milan Polytecnic, 2017, Milan.
  - DebtConf, Glasgow, 2017, UK.
  - Pricing GDP-linked bonds, University of Pavia, 2016, Pavia, IT.
  - Mathematics in Finance, Kruger National Park, 2011, South Africa:
  - Workshop on Longevity, 2011, Bergamo.
  - NatCor, Brunel University, 2010, London, UK:

- **ATTIVITÀ EDITORIALE**
  - Associate Editor, *Optimization and Engineering*, Springer, from 2012.
  - Associate Editor, *Risks — Open Access Risk Management Journal*, MDPI, from 2010.
  - Reviewer of research papers for: *Annals of Operations Research*, *European Journal of Operations Research*, *Operations Research*, *Journal of Banking and Finance*, *Computational Economics*, *International Journal of Theoretical and Applied Finance*, *Journal of Economics Dynamics and Control*, *Mathematical Programming*, *Insurance: Mathematics & Economics*, *Quantitative Finance*, *Geneva Papers on Risk and Insurance*, *Advances in Complex Systems.*
  - Reviewer of research proposal for: *Dutch Social Science Research Council*, *Italian Ministry of Research and Education.*

- **PUBBLICAZIONI**

1. **Libri**

B-1 A. Consiglio, S. Nielsen, and S.A Zenios. *Practical Financial Optimization: A Libray of GAMS Models*. Wiley, 2009.

B-2 Andrea Consiglio, editor. *Artificial Markets Modeling: Methods and Applications*, volume 599 of *Lecture Notes in Economics and Mathematical Systems*. Springer, 2007.

2. **Articoli**

JA-1 S. Ajovalasit, A. Consiglio, and D. Provenzano. Debt Sustainability in the Context of Population Ageing: A Risk Management Approach. `https://doi.org/10.3390/risks12120188` *Risks*, 12(12):188, 2024.

JA-2 A. Consiglio, and S.A. Zenios. Sovereign Debt Risk Management. In P.M. Pardalos and O.A. Prokopyev, editors, *Encyclopedia of Optimization* `https://doi.org/10.1007/978-3-030-54621-2_905-1` Springer Nature Switzerland, 2024.

JA-3 A. Consiglio, A. Kikas, O. Michaelides and S.A. Zenios. Risk Management for Auditing Public Debt. `https://doi.org/10.1287/inte.2023.1165` *INFORMS Journal on Applied Analytics*, 54(2):103-204, 2024.

JA-4 E. Alberola, A. Consiglio, G. Cheng and S.A. Zenios. Unconventional monetary policy and debt sustainability in Japan. `https://doi.org/10.1016/j.jjie.2023.101274` *Journal of the Japanese and International Economies*, 69:101274, 2023.

JA-5 M. Tumminello, A. Consiglio, P. Vassallo, R. Cesari and F. Farabullini. Insurance Fraud Detection: A Statistically-Validated Network Approach. `https://doi.org/10.1111/jori.12415` *Journal of Risk and Insurance*, 90(2):381-419, 2023.

JA-6 G. Bonaccolto, N. Borri and A. Consiglio. Breakup and Default Risks in the Great Lockdown. `https://doi.org/10.1016/j.jbankfin.2021.106308` *Journal of Banking & Finance*, 147:106308, 2023.

JA-7 S.A. Zenios, A. Consiglio, M. Athanasopoulou, E. Moshammer, A. Gavilan and A. Erce. Risk Management for Sustainable Sovereign Debt Financing. *Operations Research*, 69(3):755-773, 2021.

JA-8 A. Consiglio, M. Tumminello and S.A. Zenios. Pricing Sovereign Contingent Convertible Debt. *International Journal of Theoretical and Applied Finance*, 21:1–34, 2018.

JA-9 A. Consiglio and S.A. Zenios. Contingent Convertible Bonds for Sovereign Debt Risk Management *Journal of Globalization and Development*, 21:1–34, 2018.

JA-10 A. Consiglio and S.A. Zenios. Pricing and Hedging GDP-linked Bonds in Incomplete Markets *Journal of Economic Dynamics & Control*, 88:137–155, 2018.

JA-11 A. Consiglio, S. Lotfi and S.A. Zenios. Portfolio Diversification in the Sovereign Credit Swap Markets *Annals of Operation Research*, 266(1–2):5–33, 2018.

JA-12 A. Consiglio and S.A. Zenios. Stochastic Debt Sustainability Analysis for Sovereigns and the Scope for Optimization Modeling *Optimization and Engineering*, 18(2):537–558, 2017.

JA-13 A. Consiglio and S.A. Zenios. Risk Management Optimization for Sovereign Debt Restructuring. *Journal of Globalization and Development*, 6(2):181–213, 2016.

JA-14 A. Consiglio, A. Carollo and S.A. Zenios. A Parsimonious Model for Generating Arbitrage-Free Scenario Trees. *Quantitative Finance*, 16(2):201–212, 2016.

JA-15 A. Consiglio, M. Tumminello and S.A. Zenios. Designing and Pricing Guarantee Options in Defined Contribution Pension Plans. *Insurance: Mathematics & Economics*, 65:267–279, 2015.

JA-16 A. Consiglio and S.A. Zenios. Risk Profiles for Re-Profiling the Sovereign Debt of Crisis Countries *Journal of Risk Finance*, 16(1):2–26, 2015.

JA-17 A. Consiglio and A. Staino. A Stochastic Programming Model for the Optimal Issuance of Government Bonds. *Annals of Operations Research*, 193(1):159–172, 2012.

JA-18 A. Consiglio and S. Guirreri. Simulating term structure of interest rates with arbitrary marginals. *International Journal of Risk Assessment And Management*, 15(4):299–313, 2011.

JA-19 A. Consiglio and D. De Giovanni. Pricing the option to surrender in incomplete markets. *The Journal of Risk and Insurance*, 77(4):935–957, 2010.

JA-20 A. Consiglio, A. Pecorella, and S.A. Zenios. A conditional Value-At-Risk model for insurance products with guarantee. *International Journal of Risk Assessment And Management*, 11(1/2):122–137, 2009.

JA-21 A. Consiglio and D. De Giovanni. Evaluation of insurance products with guarantee in incomplete markets. *Insurance: Mathematics & Economics*, 42(1):332–342, 2008.

JA-22 A. Consiglio, F. Cocco, and S.A. Zenios. Asset and liability modelling for participating policies with guarantees. *European Journal of Operational Research*, 186(1):380–404, 2008.

JA-23 A. Consiglio and A. Russino. How does learning affect market liquidity? A simulation analysis of a double-auction financial market with portfolio traders. *Journal of Economics Dynamics and Control*, 31(6):1910–1937, 2007.

JA-24 A. Consiglio, F. Cocco, and S.A. Zenios. Scenario optimization asset and liability modelling for individual investors. *Annals of Operations Research*, 152:167–191, 2007.

JA-25 A. Consiglio, D. Saunders, and S.A. Zenios. Asset and liability management for insurance products with minimum guarantees: The UK case. *Journal of Banking and Finance*, 30:645–667, 2006.

JA-26 A. Consiglio, V. Lacagnina, and A. Russino. A Simulation Analysis of the Microstructure of an Order Driven Financial Market with Multiple Securities and Portfolio Choices. *Quantitative Finance*, 5(1):71–87, February 2005.

JA-27 A. Consiglio, F. Cocco, and S.A. Zenios. www.Personal_Asset_Allocation. *Interface*, 34(4):287–302, July–August 2004. **Vincitore dell'EURO Excellence in Practice Award 2006**.

JA-28 A. Consiglio, D. Saunders, and S.A. Zenios. Insurance League: Italy vs. UK. *Journal of Risk Finance*, 4(4):47–54, Summer 2003.

JA-29 A. Consiglio, F. Cocco, and S.A. Zenios. The Value of Integrative Risk Management for Insurance Products with Minimum Guarantees. *Journal of Risk Finance*, pages 1–11, Spring 2001.

JA-30 A. Consiglio and S.A. Zenios. Integrated Simulation and Optimization

Models for Tracking International Fixed Income Indices. *Mathematical Programming*, 89(2):311–339, 2000.

JA-31 A. Beltratti, A. Consiglio, and S.A. Zenios. Scenario Modeling for the Management of International Bond Portfolios. In R.J. Wets and W.T. Ziemba, editors, *Stochastic Programming. State of the Art, 1998*, volume 85 of *Annals of Operations Research*, pages 227–247. Baltzer Science Publishers, March 1999.

JA-32 A. Consiglio and S.A. Zenios. Designing Portfolios of Financial Products via Integrated Simulation and Optimization Models. *Operations Research*, 47(2):195–208, March–April 1999.

JA-33 A. Consiglio and S.A. Zenios. A Model for Designing Callable Bonds and its Solution Using Tabu Search. *Journal of Economics Dynamics and Control*, 21:1445–1470, 1997.

JA-34 A. Consiglio. How to Control Stock Market. *International Journal of Systems Science*, 25(12):2245–2253, 1994.

3. **Articoli divulgativi**

BC-1 S. Ajovalasit, A. Consiglio, G. Pagliardi and S.A. Zenios Incorporating political risk into analysis of sovereign debt sustainability. *Bruegel Analysis.* 16 December 2024.

BC-2 E. Alberola, G. Cheng, A. Consiglio and S.A. Zenios. The ECB's asset purchase programme granted debt sustainability in the pandemic. Its termination should not derail it. *CEPR, VOXEU/COLUMN.* 24 Sep 2022.

BC-3 E. Alberola, G. Cheng, A. Consiglio and S.A. Zenios. How effective has the pandemic emergency purchase programme been in ensuring debt sustainability? *Bruegel Blog Post.* 12 Sep 2022.

BC-4 A. Consiglio and S.A. Zenios. Growth uncertainty, European Central Bank intervention and the Italian debt *Bruegel Blog Post.* 28 Oct 2020.

BC-5 A. Consiglio and S.A. Zenios. Incorporating political risks into debt sustainability analysis. *Bruegel Blog Post.* 22 Jan 2020.

BC-6 A. Consiglio and S.A. Zenios. The case for contingent convertible debt for sovereigns. *CEPR, VOXEU/COLUMN.* 02 Jan 2016.

BC-7 A. Consiglio and S.A. Zenios. Greek debt sustainability: The devil is in the tails *CEPR, VOXEU/COLUMN.* 12 Aug 2015.

4. **Capitoli in libri referati**

RCB–1 A. Consiglio and D. De Giovanni. Pricing reinsurance contracts. In M. Bertocchi, G. Consigli, and M. Dempster, editors, *Stochastic*

Optimization Methods in Finance and Energy, volume 163 of *International Series in Operations Research & Management Science*, pages 125-139. Springer New York, 2011.

RCB–2 E. Catanese, A. Consiglio, V. Lacagnina, and A. Russino. Asset return dynamics under alternative learning schemes. In C. Hernandez, M. Posada, and A. Lopez-Parades, editors, *Artificial Economics, The Generative Method in Economics*, volume 631 of *Lecture Notes in Economics and Mathematical Systems*, pages 211–222. Springer, 2009.

RCB–3 A. Consiglio, V. Lacagnina, and A. Russino. The dynamics of quote prices in an artificial financial market with learning effect. In C. Bruun, editor, *Advances in Artificial Economics*, volume 584 of *Lecture Notes in Economics and Mathematical Systems*, pages 63–75. Springer, 2006. 3-540-37247-4.

RCB–4 A. Consiglio, V. Lacagnina, and A. Russino. Learning and the price dynamics of a double-auction financial market with portfolio traders. In P. Mathieu, B. Beaufils, and O. Brandouy, editors, *Artificial Economics, Agent-Based Methods in Finance, Game Theory and Their Applications*, volume 564 of *Lecture Notes in Economics and Mathematical Systems*, pages 215–227. Springer, 2005.

RCB–5 A. Consiglio, F. Cocco, and S.A. Zenios. The Prometeia model for managing insurance policies with guarantees. In W.T. Ziemba and S.A. Zenios, editors, *Handbook of Asset and Liability Management 2. Applications and Case Studies*, Handbooks of Finance, chapter 15, pages 664–705. Elsevier, The Netherlands, 2007.

RCB–6 A. Consiglio and S.A. Zenios. Model Error in Enterprise Wide Risk Management: Insurance Policies with Guarantees. In *Operational Risk and Financial Institutions*. In *Advances in Operational Risk*, pages 199–214. Risk Books, London, 2001.

5. **Capitoli in libri**

CB–1 A. Consiglio and S.A. Zenios. High-Performance Computing for Computer Aided Design of Financial Products. In L. Grandinetti, J.S. Kowalik, and M. Vajtersic, editors, *Advance in High Performance Computing*, NATO ASI, pages 273–301. Kluwer Academic Publisher, 1997.

CB–2 A. Consiglio, F. Cocco, S. Mazzoni Perelli, and S.A. Zenios. Internet, Tecnologie Web-Based e Financial Planning. In A. Resti, editor, *Il Private Banking Gestione del Risparmio e della Clientela: Strategie, Strumenti ed Esperienze*, chapter 6, pages 185–207. EDIBANK, Milano, 2003.

CB–3 A. Consiglio, I. Massabó, and S. Ortobelli. Value-At-Risk: "Oltre la Normale". In D. Drago, editor, *La Tutela dell'Investitore nella Gestione del Risparmio*, volume 38 of *Banca e Mercati*, pages 175–199. Bancaria Editrice, Milano, Ottobre 2002.

CB–4 A. Consiglio and C. Mari. Sul Rischio di Credito nei Mutui Bancari A cura di D. Drago, *Nuove Tendenze dell' Asset & Liability Management in Banca*. Bancaria Editrice, Roma, 2001.

CB–5 A. Consiglio, M. Costabile, C. Mari, and I. Massabò. La Valutazione di Opzioni Implicite nei Mutui Bancari. A cura di D. Drago, *Nuove Tendenze dell' Asset & Liability Management in Banca*. Bancaria Editrice, Roma, 2001.

6. **Atti di convegni internazionali**

IP–1 A. Consiglio, S. Ortobelli, and I. Massabò. Non Gaussian Distribution for VaR Calculation: An Assessment for the Italian Market. In *Proceeding IFAC SME 2001*, 2001.

IP–2 A. Consiglio, S. Genco, and A. Pecorella. Implementing Simulated Annealing in Hypercube Systems. In G.R. Joubert, D. Trystram, F.J. Peters, and D.J. Evans, editors, *Parallel Computing: Trends and Applications*, London, 1993. Elsevier Science B.V.

IP–3 A. Consiglio, S. Genco, A. Pecorella, and G. Pecorella. Parallel Implementation of Simulated Annealing by Distributed Memory Systems. In C.A. Brebbia and H. Power, editors, *Application of Supercomputers in Engineering*, pages 21–33. Elsevier Applied Science, 1993.

7. **Articoli in fase di pubblicazione**

WP–1 E. Alberola, G. Cheng, A. Consiglio and S.A. Zenios. Unconventional monetary policy and debt sustainability in Japan. Sumitted

WP–2 E. Alberola, G. Cheng, A. Consiglio and S.A. Zenios. Debt sustainability and monetary policy: the case of ECB asset purchases BIS Working Papers No 1034 Available at `https://www.bis.org/publ/work1034.pdf`

8. **Libri di didattica**

TB-1 A. Consiglio. Matematica Finanziaria Distribuito grauitamente.

"Ai sensi della Legge 675/96 si autorizza il trattamento dei dati contenuti nel presente curriculum ivi compresa la integrale trasmissione a terzi".

Palermo lì, 12 gennaio 2025