Curriculum Vitae et Studiorum - Profile

E-mail: <u>marco(AT)bianchetti.org</u>

Web: <u>www.bianchetti.org</u> Mobile: +39.328.2216420 Fax: +39.02.700438817

# **Short biography**



Marco Bianchetti, Head of Fair Value Policy, Financial & Market Risk Management, Intesa Sanpaolo, Milan, Italy

Marco joined the Financial and Market Risk Management area of Intesa Sanpaolo in 2008. His work covers pricing and risk management of financial instruments across all asset classes, with a focus on new products development, model validation, model risk management, interest rate modelling, funding and counterparty risk, fair and prudent valuation, applications of Quasi Monte Carlo in finance. He is in charge of the global Fair Value Policy of Intesa Sanpaolo group since Nov. 2015. Previously he worked for 8 years in the front office Financial Engineering area of Banca Caboto (now Banca IMI), developing pricing models and applications for interest rate and inflation trading desks.

He is adjunct professor of Interest Rate Models at University of Bologna since 2015, and a frequent speaker at international conferences and trainings in quantitative finance. He holds a M.Sc. in theoretical nuclear physics and a Ph.D. in theoretical condensed matter physics.

Curriculum Vitae et Studiorum - Resumè

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### **Job experiences**

- Nov. 2015 present: Head of Fair Value Policy, Intesa Sanpaolo, Financial and Market Risk Management: responsible of the global fair valuation policies of Intesa Sanpaolo Group.
- **2015 present:** adjunct professor of Interest Rate Models, University of Bologna, School of Economy, Finance and Statistics: see <u>website</u>.
- 2012 Oct. 2015: Head of Financial Modelling and Validation, Intesa Sanpaolo, Risk Management, Market Risk: lead a transverse team of quantitative analysts and risk managers in charge of front office new products and pricing models validation, development of market and counterparty risk (CCR/CVA) framework (IBM/Algorithmics). Focus on interest rate modelling, XVAs, Quasi Monte Carlo, fair/prudent valuation.
- Jan. 2008 Dec. 2011: Senior Quantitative Analyst & Risk Manager, Intesa Sanpaolo, Risk Management, Market Risk, Derivatives Pricing: pricing and risk management of portfolios of derivatives (interest rate, equity, inflation). Model validation and model risk assessment/monitoring, product innovation, fair value policy, fair value adjustments, Markit/Totem data analysis.
- o **May 2002 Dec. 2007:** Quantitative Analyst, Banca Caboto, Financial Engineering: developed pricing models and trading applications for interest rate & inflation trading desks.
- Oct. 2000 Apr. 2002: Quantitative Analyst, Banca Intesa, Risk Management Financial Engineering area: worked on models and trading applications for derivatives (plain vanilla, rendistato, bond coupon stripping, equity).
- o **Jul. Oct. 2000:** Consultant, INFM National Institute for Matter Physics, Genova: scientific project management, technology transfer & outreach.
- o **Oct. 1995 Jul. 2000:** Ph.D. Researcher, Physics Dept. University of Milan: academic research in many-body nuclear and molecular physics.
- o **Oct. 1995 Jul. 2000:** Teaching Assistant, University and Polytechnic of Milan: teaching general physics I and II courses (2 MSc + 2 BSc courses, 300+ students).
- o **Sept. 1995 Sept. 1996:** Consultant, SILAQ Italia S.r.l.: quality and safety services.
- o 1996 2006: ADI-Italian Ph.D. Association: founder, 1st president, board of directors.

#### Skills

- o **Project management:** Prudent Valuation (2013-2016): coordinator of AIFIRM working group. <u>CSA-Discounting</u> (2010-2011). <u>Model Risk</u> (2008-2010): working on the framework for model risk monitoring and fair value adjustment. <u>Inflation</u> (2002-2007): developed a proprietary model and trading system for inflation desk. Co-organizer and board member of 2 <u>Master courses</u> in Quantitative Finance. Coordination of <u>ADI research projects</u> for Ph.D. quality assessment.
- Research and teaching: authored/co-authored some research papers in quantitative finance and risk management, frequently invited speaker at international conferences and training courses (see <u>SSRN</u> and complete list attached). Co-tutor of 7 M.Sc. students in physics and finance.
- Computing (1992-2007): "from scratch" development of large codes. Various knowledge of C/C++ (beginner), VBA, Matlab, ELF. User of Murex, RiskWatch, Applix, MSVisualC++, MSOffice, SVN/CVS/SourceSafe, LaTeX, FrontPage, DreamWeaver and other Unix/Windows applications.

# **Education and training**

- o **Ph.D.** degree in physics, University of Milan, Jan. 2000. 3 years full fellowship.
- o M. Sc. degree ("laurea") in physics, 110/110 cum laude, Univ. of Milan, Jul. 1995.
- Extensive training in quantitative finance and risk management (see complete list attached).

#### **Other**

- o **Personal characteristics**: empathic and effective professional, able to take initiative and responsibility, to design, propose and lead projects, create consensus, deliver and report results.
- **Team working**: frequent interaction with senior management, traders, structurers, quants, IT, Financial/Product Control, Administration, Organisation, auditors and regulators.
- Languages: Italian: native. English: good read, written and spoken, TOEFL score 610 (1995)...
- o Military service: Italian Army, logistics (Apr. 1994 Apr. 1995).
- No profit: Italian Ph.D. Association (1996-2006), COOPI course international cooperation (2006)
- o **Recommendations**: see <u>LinkedIn</u>.

Milan, Sep. 2017 Manco Bianchetti

Curriculum vitae et studiorum

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## **Short Profile**

Experience, since 2000, in Market Risk Management and Front Office Financial Engineering areas of leading financial institutions. Strong commitment in strategic & innovation projects. Ph.D. in theoretical physics with 6+ years research experience, extensive teaching activity. Effective professional, able to take initiative and responsibility, propose and lead projects, deliver and report results, managing budget, junior/senior resources. Head of global fair valuation policies since Nov 2015. Adjunct Professor at Univ. of Bologna since Sept. 2015. See <u>LinkedIn recommendations</u>.

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Nov. 2015	Intesa Sanpaolo, Financial and Market Risk Management – Head of Fair Value
<ul><li>present</li></ul>	<b>Policy:</b> leading a small office (3 people in Milan, 1 in HK, 1 in NY) with formal
	responsibility of the global valuation policy of Intesa Sanpaolo Group.

Jan. 2012	Intesa Sanpaolo, Market Risk Management, Derivatives Management –
Nov. 2015	Quantitative Risk Manager, Head of Financial Modelling and Validation: lead a
Milan	transverse team of quants and risk managers in charge of new products and pricing models validation, development of market and counterparty risk (CCR/CVA) framework (IBM/Algorithmics platoform). Focus on interest rate modelling, XVAs, quasi Monte Carlo, fair/prudent valuation.

Jan. 2008	Intesa Sanpaolo, Market Risk Management, Derivatives Management –
Dec. 2010	Quantitative Risk Manager: worked on pricing and risk management of portfolios of
Milan	derivatives on all asset classes. Front office model validation and risk assessment, product innovation, definition of fair value policies. Model risk monitoring and calculation of fair value adjustments using Markit/Totem services data analysis and repricing of market instruments.

May 2002	Caboto Bank (merged IMI Bank Sep. 2007), Front Office Financial Engineering
Jan. 2007	<pre>area - Quant: designed/developed/delivered pricing models and trading platforms for</pre>
Milan	inflation/interest rate derivatives to front office desks. Since 2002 in charge for inflation-
	linked derivatives proprietary model and trading system development.

Oct. 2000	Intesa Bank, Risk Management, Financial Engineering area - Quant: worked on
May 2002	models and trading platforms for plain vanilla, rendistato, bond coupon stripping, equity
Milan	baskets derivatives.

Jul. 2000	INFM-National Institute for Matter Physics, Project Management, Technology
Oct. 2000	Transfer & Outreach Area: contributed to monitor & plan the Institute strategic
Genoa	activities, supported management for area organisation.

Nov. 1995	Physics Department, University of Milan: Ph.D. research activity on many-body
Jul. 2000	problems in nuclear and molecular physics. Short periods in Germany. Assistant lecturer
Milan	at Polytechnic of Milan, University of Milan and Milan-Bicocca (2 M.Sc. + 2 B.Sc. courses,
	300+ students).

Sep. 1995	Consultant at SILAQ Italia S.r.l. (safety, environment and quality services): run new
Sep. 1996	local office of start-up company, customizing and marketing technical services, measuring
Milan	customer satisfaction and developing new business opportunities.

1996 -	ADI-Italian Ph.D. Association: Co-promoter (1997), 1st president (1998-2000)
2006	member of board of directors. Improved working conditions of young researchers and
	promoted Ph.D. in Italy ( <u>www.dottorato.it</u> ).

# Other Sept. 2015-present: adjunct professor of <u>Interest Rate Models</u> at University of Bologna positions 2014-present: co-coordinator of AIFIRM working groups.

- 2011-present: member of the board of directors of Ph.D. and master courses in Quantitative finance.
- o Co-tutor of 7 M.Sc. students in physics and finance.

## **Project management**

#### □ Finance:

- Since 2013, <u>Prudent Valuation</u>: working at the methodological framework, coordinator of AIFIRM working group with Prof. U. Cherubini (ca. 25 people).
- o 2013-2016, Funding Valuation Adjustment (FVA): working at the methodological framework
- o 2012-2015, CCR and CVA: working at the methodological framework.
- o 2010-2012, CSA-Discounting: set up of the methodological framework.
- 2008-2010, <u>Model Risk</u>: working at the framework for model risk assessment/monitoring and fair value adjustment, analysis of Markit/Totem data.
- o 2002-2007, <u>Inflation</u>: ready for the very first deal in 2002, I followed the full innovation process, from market understanding, mathematical modelling, full software prototype (7000+ code lines + spreadsheets), RM validation and users training. Front Office reference person for group integration project, coordinating consultant resources and working closely with people from all areas of the Intesa Sanpaolo Group.
- o 2005-present, promoted and co-organised two academic courses at master level.
- Non-profit: ADI Italian PhD Association: promotion of policies, funding, workshops and negotiations with highest university and government authorities. Editorial projects "Cervelli in Gabbia" and "Cervelli in Fuga". Coordination of research projects of Ph.D. quality assessment with major Universities and Government Committees (6 people, 60.000€ budget).

# **Technical skills**

#### Finance (since 2000):

- o Derivatives: pricing plain vanillas and some exotics, multiple yield curve construction, SABR, short rate and market models, inflation/seasonality, derivatives on algorithmic indices.
- o XVAs: Credit, Debit, Funding, Margin and Capital Value Adjustment.
- o Calibration: fitting model parameters to market data, optimization algorithms.
- o Monte Carlo and Quasi Monte Carlo numerical simulation methods, greeks.
- o QuantLib developer 2006-2007 (see QuantLib project website).
- □ **Computing** (since 1992): developed IT expertise as research and professional tool. Utilised large computing resources on different platforms for numerical simulations.
  - o Software: "from scratch" design and development of large codes (15.000+ total lines).
  - o Numerical analysis: integration, differentiation, diagonalization, minimization problems.
  - o Languages: various knowledge of C/C++ (beginner), VBA, ELF, Matlab.
  - o Architectures: used scalar (PC, workstation), parallel (CRAY) and distributed architectures.
  - o Operative Systems: Windows, Unix and OpenVMS platforms.
  - o Networking: intranet, internet and applications, web publishing and administration
  - Applications: various usage of Murex, Applix, RiskWatch, FO systems, MSVisualC++,
     SVN/CVS/SourceSafe, LaTeX, MSOffice, DreamWeaver, and other Unix and Windows applications.

#### **Education and training**

- □ **Ph.D.** degree in physics, University of Milan, Jan. 2000. 3 years fellowship after national public trial (15 positions vs. 160+ partecipants). Final defence in front of an international committee.
- M. Sc. degree ("laurea") in physics, 110/110 cum laude, Univ. of Milan, Jul. 1995.
- ☐ **Training**: various trainings and conferences on derivatives pricing, management of technology and computing (see complete list attached).

# Publications & conferences (complete list attached)

- A few research papers in finance and physics, see <u>SSRN</u>.
- Frequent invited speaker at international conferences and training courses in finance.

#### **Addendum**

- □ English: good read, written and spoken; TOEFL score 610 (1995). Native Italian.
- □ 1994-1995: military service in the Italian Army (lance corporal, 12 months).
- □ 2006: <u>COOPI</u> course on international cooperation.
- Team working: daily interaction with management, traders, structurers, quants, IT, Financial & Product Control, Administration, Organisation.
- Personal characteristics: effective professional, able to take initiative and responsibility, propose and lead projects, plan, deliver and report. See <u>LinkedIn recommendations</u>.

Milan, Sep. 2017 Marco Bianchetti

Papers - Conferences et al.

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# 1) Finance

#### Books, papers, conference proceedings, etc.

- □ M. Bianchetti, F. Mercurio, N. Moreni, A. Pallavicini, "Modern Interest Rate Markets and Models", Wiley Finance, expected 2018.
- □ S. Scoleri, M. Bianchetti, S. Kucherenko, "Application of Quasi Monte Carlo and Global Sensitivity Analysis to Option Pricing and Greeks" (February 5, 2017). SSRN working paper, 5 Feb. 2017, https://ssrn.com/abstract=2911698.
- M. Bianchetti, D.E. Galli, C. Ricci, A. Salvatori, M. Scaringi, "Brexit or Bremain? Evidence from Bubble Analysis". Published on CEUR-WS: 29-Dec-2016, Proceedings of the 1st Workshop on MIning DAta for financial applicationS (MIDAS 2016), Riva del Garda, Italy, September 19-23, 2016. Edited by: Ilaria Bordino, Guido Caldarelli, Fabio Fumarola, Francesco Gullo, Tiziano Squartini. Also published in Risk Magazine, 22 June 2016. SSRN working paper, 20 Jul. 2016, <a href="https://ssrn.com/abstract=2798434">https://ssrn.com/abstract=2798434</a>.
- M. Bianchetti, U. Cherubini, "Prudent Valuation Guidelines and Sound Practices", published in Newletter AIFIRM anno 11, n. 1, Dec. 2015, <a href="http://www.aifirm.it">http://www.aifirm.it</a>. SSRN working paper 16 Jun. 2016, <a href="https://ssrn.com/abstract=2790629">https://ssrn.com/abstract=2790629</a>.
- □ A. Antonov, M. Bianchetti and I. Mihai, "FVA for General Instruments", Risk Magazine, Nov. 2015. SSRN working paper, 10 Jul. 2013, <a href="http://ssrn.com/abstract=2290987">http://ssrn.com/abstract=2290987</a>.
- □ M. Bianchetti, S. Kucherenko, S. Scoleri, "Pricing and Risk Management With High-Dimensional Quasi Monte Carlo and Global Sensitivity Analysis", Wilmott, 2015: 46–70, Jul. 2015. SSRN working paper, 9 Apr. 2015, http://ssrn.com/abstract=2592753.
- □ M. Bianchetti, M. Carlicchi, F. Cozzi, L. Recchia, A. Spuntarelli, "*ETD vs. OTCD: Counterparty Risk and Capital Requirements for Exchange Traded Derivatives*", 24 Sept. 2014. Available at SSRN <a href="http://ssrn.com/abstract=2500972">http://ssrn.com/abstract=2500972</a>
- □ M. Bianchetti and M. Morini, editors, "Interest rate modelling after the financial crisis", Risk Books, Jun. 2013 (<a href="http://riskbooks.com/interest-rate-modelling-after-the-financial-crisis">http://riskbooks.com/interest-rate-modelling-after-the-financial-crisis</a>), including the three chapters:
  - M. Bianchetti and M. Carlicchi, "Evolution of the Markets after the Credit Crunch", SSRN working paper, 19 Dec. 2012, http://ssrn.com/abstract=2190138
  - o M. Bianchetti, "Modern Pricing of Interest Rate Derivatives including Funding and Collateral".
  - F. M. Ametrano and M. Bianchetti, "Bootstrapping the Illiquidity: Multiple Yield Curves Construction for Market Coherent Discount and FRA Rates Estimation", SSRN working paper, 2 Apr. 2013, http://ssrn.com/abstract=2219548.
- □ Ametrano, Ferdinando M. and Bianchetti, Marco, "Everything You Always Wanted to Know About Multiple Interest Rate Curve Bootstrapping but Were Afraid to Ask" SSRN working paper, 2 Apr. 2013, https://ssrn.com/abstract=2219548.
- □ Bianchetti, Marco "*The Zeeman Effect in Finance*", Oct. 2011, SSRN working paper, 31 Oct. 2011, <a href="http://ssrn.com/abstract=1951578">http://ssrn.com/abstract=1951578</a>.
- M. Bianchetti, M. Carlicchi, "Interest Rates After the Credit Crunch Multiple Curve Vanilla Derivatives and SABR", published in The Capco Journal of Financial Transformation - Applied Finance n. 32, September 2011 (<a href="http://www.capco.com/sites/all/files/journal-32.pdf">http://www.capco.com/sites/all/files/journal-32.pdf</a>); SSRN working paper, 11 Mar. 2011, <a href="http://ssrn.com/abstract=1783070">http://ssrn.com/abstract=1783070</a>.
- □ M. Bianchetti, "The Zeeman Effect in Finance", Bloomberg Risk, 5 Aug. 2011, pp. 7-8 (Bloomberg NI RISKBRIEF <GO>)
- M. Bianchetti, "Two Curves, One Price", Risk, August 2010. Longer version available at SSRN, 14 Nov. 2008, <a href="http://ssrn.com/abstract=1334356">http://ssrn.com/abstract=1334356</a>.
- □ F. M. Ametrano, M. Bianchetti, "Bootstrapping the Illiquidity: Multiple Yield Curves Construction for Market Coherent Forward Rates Estimation", published in "Modeling Interest Rates: Latest Advances for Derivatives Pricing", edited by F. Mercurio, Risk Books, 2009. SSRN abstract <a href="http://ssrn.com/abstract=1371311">http://ssrn.com/abstract=1371311</a>.
- E. Scalas, M. Bianchetti, F. Mainardi, H.E. Roman, A. Vivoli, "Syntethic Markets", conference poster, published in *Proceedings of the 8th Annual Workshop on Economics with Heterogeneous Interacting Agents*, Kiel, Germany, May 29-31, 2003, http://people.unipmn.it/scalas/wehia2003sm/wehia2003sm.html.

□ M. Bianchetti, "Towards High Performance Monte Carlo Pricing of Portfolios of Equity Derivatives", in proceedings of CAPI2001, CILEA, 2001, <a href="http://www.bianchetti.org/Finance/CAPI2001/CAPI2001-Presentation.htm">http://www.bianchetti.org/Finance/CAPI2001/CAPI2001-Presentation.htm</a>.

#### Conferences, talks, etc. (as speaker)

- □ Invited talk "Prudent Valuation and MPU: Efficient Capital Allocation under EBA RTS", V-FI Europe, London, 21 Jun. 2017.
- □ Invited talk "Is Brexit still a bubble", Global Derivatives Trading and Risk Management, Barcelona, May 2017.
- □ Invited talks "Brexit or Bremain? Evidence from bubble analysis" and "Gruppo di lavoro Fundamental Review of the Trading Book (FRTB) Avvio lavori", XII Convention AIFIRM, Milano, 16 Nov. 2016.
- □ Invited talk "Prudent Valuation Bridging the gap between pricing and risk management", Prometeia, Bologna, 13 Oct. 2016.
- □ Invited talk "Prudent Valuation Bridging the gap between pricing and risk management", Workshop New Themes in Finance, Insurance and Energy Markets, Novara, 22 Sep. 2016
- □ Talk "Brexit or Bremain? Evidence from Bubble Analysis", 1st Workshop on MIning DAta for financial applicationS (MIDAS 2016), Riva del Garda, Italy, 19 Sep. 2016.
- □ Invited talk "The Age of Negative Rates Market facts and modelling consequences", PRMIA and Numerix conference, Milan, 26 May 2016.
- □ Invited talks "Prudent Valuation: here we go", and "Better Pricing & Risk Management with High Dimensional Quasi Monte Carlo" (with S. Scoleri), Global Derivatives Trading and Risk Management, Budapest, May 2016.
- □ Joint invited talk with S. Scoleri and S. Kucherenko, "Better Pricing & Risk Management with High Dimensional Quasi Monte Carlo Multi-asset options and AAD", Imperial College, Dept. of Mathematics, London, 9 Mar. 2016.
- □ Invited talk "Prudent Valuation: conclusione lavori", AIFIRM, Milan, 2 Dec. 2015.
- □ Invited talk "Prudent Valuation: A New Bridge Between Pricing & Risk Management", Cass Business School, London, 4 Nov. 2015.
- □ Joint invited talk with S. Scoleri, "Better Pricing & Risk Management with High Dimensional Quasi Monte Carlo Multi-asset options and AAD", WBS Fixed Income Conference, Paris, 9 Oct. 2015.
- □ Invited talks "Prudent Valuation: A New Bridge Between Pricing & Risk Management", and "Better Pricing & Risk Management with High Dimensional Quasi Monte Carlo" (with S. Scoleri), Global Derivatives Trading and Risk Management, Amsterdam, May 2015.
- □ Joint invited talk with T. Dehapiot, "Prudent Valuation: Bridging the Gap Between Pricing & Risk Management", Risk Minds, Amsterdam, 10 Dec. 2014.
- □ Joint invited talk with I. Faerman, "Prudent Valuation: Bridging the Gap Between Pricing & Risk Management", Numerix Webinar, 12 Nov. 2014.
- □ Joint invited talk with S. Scoleri, "Better Pricing and Risk Management with High Dimensional Quasi Monte Carlo", WBS 10<sup>th</sup> Fixed Income Conference, Barcelona, 26 Sep. 2014.
- □ Joint invited talk with U. Cherubini, "Funding Valuation and Prudent Valuation Adjustments (PVA & FVA)", ABI conference, Roma, 16 Jun. 2014
- □ Invited talk "Modern Derivative Pricing Including Funding and Collateral", Prometeia, Bologna, 22 May 2014.
- □ Invited talk "Advanced Techniques in Computing Counterparty Risk Measures: Quasi Monte Carlo Simulation", Global Derivatives Trading and Risk Management, Amsterdam, 15 May 2014.
- □ Invited talk "Advanced Techniques in Computing Counterparty Risk Measures: Quasi Monte Carlo Simulation", Risk Minds, Amsterdam, 3 Dec. 2013.
- □ Invited talk "Modern Derivative Pricing Including Funding and Collateral", Risk Quant Congress, London, 12 Jun. 2013.
- □ Invited talk "Modern Derivative Pricing Including Funding and Collateral", Global Derivatives Trading and Risk Management, Amsterdam, 17 Apr. 2013.
- □ Invited talk "Quants in finance What a scientist can do in a bank", Polytechnic of Milan, 10 Apr. 2013.
- □ Invited talk "Modern Derivative Pricing Including Funding and Collateral", 2nd WBS Interest Rate Conference, London 13 Mar. 2013.
- □ Invited talk "Modern no-Arbitrage Pricing", Scuola Normale Superiore di Pisa, 29 Jan. 2013.
- ☐ Invited talk "Bootstrapping the Illiquidity", Qfin Colloquia, Polytechnic of Milan, 22 Nov. 2012.
- ☐ Invited talk "Quants in Finance", Mateday, Math. Engineering, Polytechnic of Milan, 24 Oct. 2012.
- ☐ Invited talk "Modern Derivatives' Pricing", Risk Quant Congress, New York, 11 Jul. 2012.
- □ Invited talk "The Zeeman Effect in Finance", 18<sup>th</sup> Global Derivatives Trading and Risk Management, Barcellona, 19 Apr. 2011.

- □ Invited talk "*Modern Interest Rates*", WBS Interest Rate Conference, London, 28 Mar. 2012. □ Invited talk "*Modern Interest Rates*", Cass Business School, London, 28 Mar. 2012.
- Invited talk "Modern Derivatives' Pricing", Risk Annual Summit, London, 22 Mar. 2012.
- □ Invited talk "Interest Rate After the Credit Crunch", Risk Quant Congress, London, 8 Nov. 2011.
- □ Invited talk "Interest Rates After the Credit Crunch", Scuola Sup. S. Anna, Pisa, 17 Oct. 2011.
- ☐ Invited talk "Switching to CSA discounting and beyond", WBS 7th Fixed Income Conference, Berlin,
- □ Talk "Risk Management, Fair Value and Model Validation after the Credit Crunch", Banca IMI conference "The Debt Crisis: Different Rules for a Different World", New York, 17-20 May 2011.
- □ Invited talk "Interest Rate After the Credit Crunch", IX RiskLab Meeting on Financial Risks, Madrid, 12 May 2011.
- □ Invited talk "Interest Rate Derivatives After the Credit Crunch", Bank of International Settlements, Basel, 6 May 2011.
- □ Invited talk "Switching to CSA Discounting", 17<sup>th</sup> Global Derivatives Trading and Risk Management, Paris, 11-15 Apr. 2011.
- □ Invited talk "Multiple Curves One Price", 16<sup>th</sup> Global Derivatives Trading and Risk Management, Paris, 17-21 May 2010.
- □ Invited talk "Two Curves One Price", Marcus Evans workshop "Risk and Modelling Fixed Income Interest Rates", London, 15-16 Apr. 2010.
- Invited talk "Fair value, la crisi: impatti sui modelli di pricing", joint with P. Virgili and L. A. Cefis, workshop Bank of Italy, Rome, 19 Jan. 2010.
- □ Invited talk "Two Curves One Price", Quant Congress Europe, London, 3-5 Nov. 2009.
- □ Talk "Two Curves One Price", X Workshop of Quantitative Finance, Milan, Jan. 2009.
- □ Internal talk "Pricing & hedging inflation-linked derivatives", Caboto Intesa, Jan. 2004.
- □ Talk "Towards High Performance Monte Carlo Pricing of Portfolios of Equity Derivatives" at CAPI2001, CILEA, Catholic Univ. Milan, Oct. 2001.
- Organizer of 1 day workshop "Introduction to Econophysics", University of Milan, Physics Department, Nov. 1999 (http://www.bianchetti.org/Finance/Econophysics1999.htm).

#### Referee

- ☐ International Journal of Theoretical and Applied Finance (2013)
- □ Journal of Risk (2013)
- □ Journal of Economic Dynamics and Control (2012)
- Mathematical Finance (2013)
- Quantitative Finance (2017)
- □ Risk Magazine (2010-present).
- □ Wilmott Journal (2012)
- □ World Scientific Publishing Co. (2011).

#### **Memberships**

- □ Since Feb. 2017: member of the Advisory Board of the PhD programme "Mathematical Models and Methods in Engineering" of Politecnico di Milano
- □ Since 2013, coordinator, jointly with Prof. U. Cherubini, of AIFIRM Market Risk Committee.
- Since 2011, member of the Board of Directors of "Corso di Alta Formazione in Finanza Quantitativa", MIP School of Management, Politecnico di Milano.
- 2004-2005: member of the Board of Directors of "Master in metodologie e modelli per la finanza quantitativa", University of Milan, Dept. of Physics.

#### Teaching activity

#### □ Regular

- Since 2017: Adjunct Professor of "Quantitative Risk Management" (8h), Dept. of Economic-Social and Mathematical-Statistical Sciences, University of Torino, SSD: SECS S/06.
- Since 2015: Adjunct Professor of "Interest Rate Models" (30h), School of Economy, Management and Statistics, Bologna University, SSD: SECS S/06.
- Since 2015: Lecturer "Elective Course Market and Counterparty Risk Management" (8h out of 16h course), Mafinrisk, Bocconi University.
- Since 2011: Lecturer "Modelli di tasso di interesse e derivati" (14h out of 22h course) at Percorso Executive in Finanza Quantitativa, MIP School of Management, Politecnico di Milano.
- Since 2005: Lecturer at Corso di Alta Formazione in Finanza Matematica, Dept. of Mathematics, Bologna University:
  - 2014-present: course "Modern Interest Rates" (16h-24h)
  - 2010-2013: course "Pricing of Interest Rate Derivatives" (4h-8h)
  - 2005-2006: course "Pricing & Hedging Inflation-Linked Derivatives" (3h).

2005: Lecturer "Modelli per gli strumenti finanziari" (25h), Master in metodologie e modelli per la finanza quantitativa, University of Milan, Dept. of Physics, edition 2004-2005.

#### □ Random

- Lecturer "Modelling & Validation for Capital, Initial Margin & Prudent Value", Global Derivatives Trading and Risk Management, Amsterdam, May 2015 (1-day joint workshop with M. Morini).
- Lecturer "Modern Interest Rates", M.Sc. Course in Quantitative Finance, Dept. of Economy & Finance, University of Bologna, 24 April 2015, (2 days workshop).
- Lecturer "Prudent Valuation", 4th WBS CVA Conference, London, 25 Mar. 2015 (1-day joint workshop with U. Cherubini).
- Lecturer "Prudent Valuation", London Stock Exchange Group Academy, Milano, 28 Nov. 2014 (1day joint workshop with U. Cherubini, A. Pignataro, S. Vasconi).
- Lecturer "Prudent Valuation", London Stock Exchange Group Academy, Milano, 29 May 2014 (1day joint workshop with U. Cherubini, E. Maffi, A. Pignataro, S. Vasconi).
- Lecturer "Quantitative Risk Management", University of Milan-Bicocca, 23 Nov. 2013 (1h).
- Lecturer "Modern Derivative Pricing with Collateral, Funding and Credit Risk", WBS Quants Hub, London, 17 Nov. 2013 (1-day workshop).
- Lecturer "Modern Derivative Pricing with Collateral, Funding and Credit Risk", Risk Quant Congress, London, 11 Jun. 2013 (1-day workshop).
- Lecturer "Interest Rates After the Credit Crunch", Bologna University, Corso di Alta Formazione in Finanza Matematica, Dept. of Mathematics, 6 Mar. 2013 (3h).
- Lecturer "Understanding and Managing Model Risk", Workshop, Risk Minds, Amsterdam, 7 Dec. 2012 (half day workshop).
- Lecturer "Interest Rates Derivatives", WBS, Frankfurt, 19 Nov. 2012 (day 1 of 2).
- Lecturer "Interest Rates After the Credit Crunch", WBS, London, 15 May. 2012 (2h).
- Lecturer "Modern Interest Rates", Technical Master Class, 18th Global Derivatives Trading an Risk Management, Barcellona, 20 Apr. 2011 (half day workshop).
- Lecturer "Interest Rates After the Credit Crunch", WBS, Paris, 27 Feb. 2012 (day 1 of 2).
- Lecturer "Interest Rates After the Credit Crunch", Bologna University, Corso di Alta Formazione in Finanza Matematica, Dept. of Mathematics, 16 Feb. 2012 (3h).
- Lecturer "Interest Rates After the Credit Crunch", WBS, Madrid, 28 Nov. 2011 (day 1 of 2). Lecturer "Interest Rates After the Credit Crunch", Concentric, Milan, 27 Oct. 2011 (day 1 of 2).
- Lecturer "Interest Rates After the Credit Crunch", WBS 7th Fixed Income Conference, Berlin, 5 Oct. 2011 (1 day).
- Lecturer "Interest Rates After the Credit Crunch", WBS, London, Mar. 2011 (day 1 of 2).
- Lecturer "Interest Rates After the Credit Crunch", Bologna University, Corso di Alta Formazione in Finanza Matematica, Dept. of Mathematics, 18 Feb. 2011 (3h).
- Lecturer "Interest Rates After the Credit Crunch"; WBS, Frankfurt, Feb. 2011 (day 1 of 2).
- Lecturer "Interest Rates After the Credit Crunch", Piedmont University, Dept. of Economic Sciences and Quantitative Methods, 14 Dec. 2010 (3h).
- Lecturer "Interest Rates After the Credit Crunch"; WBS, Milan, Oct. 2010 (day 1 of 2).
- Lecturer "Two Curves One Price", WBS, London, Apr. 2010 (1.5h of 2 days).
- Lecturer "The SABR Model", Bologna University, Corso di Alta Formazione in Finanza Matematica, Dept. of Mathematics, Jan. 2010 (3h).
- Lecturer "The SABR Model", Piedmont University, Dept. of Economic Sciences and Quantitative Methods, Dec. 2009 (3h).

# Students

- Alireza Amini, M. Sc. Finance, University of Bologna, "Modelling negative interest rates", expected Dec. 2017.
- Federica Palma, M. Sc. Finance, University of Bologna, "Modelling negative interest rates", expected Oct. 2017.
- Alessio Tognon, M. Sc. Finance, University of Bologna, "Quasi Monte Carlo Simulation of Heston Dynamics", expected Oct. 2017.
- Francesco Reggiani, M. Sc. physics, University of Milan, "Comparison between financial bubble models: theory and application", 18 Jul. 2017.
- Anna Cremon, M.Sc. finance, Bocconi University, "Prudent Valuation and Market Price Uncertainty: methodologies for an efficient capital allocation under EBA Regulatory Technical Standards", 21 Apr. 2017.
- Nicola Sedini, M. Sc. physics, University of Milan, "A Comparison Between Monte Carlo and Quasi-Monte Carlo Methods in Finance: Nested Simulations for Counterparty Credit Risk", 2 Feb. 2017.
- Marco Scaringi, M. Sc. physics, University of Milan, "Financial bubbles: genesis and detection within the JLS model framework", 2 Feb. 2017

- Angelo Salvatori, M. Sc. physics, University of Milan, "Stochastic Models for Self-Organized Criticality in Financial Markets", Apr. 2016.
- Mattia Carlicchi, M. Sc. Finance, Bocconi University, "I tassi di interesse dopo il credit crunch: l'evoluzione del mercato e dei modelli", Dec. 2010
- Piero Del Boca, M. Sc. physics, University of Milan, "Modelli stocasticiper la valutazione di derivati sull'inflazione", Jan. 2009.

#### **Trainings (as trainee)**

- □ "Practical Approaches to Managing Model Risk", Incisive Training, London, 2010 (2 days).
- □ "Market Models", M. Joshi, Caboto, 2006/2007 (8 weeks).
- □ "Hybrids & Inflation Derivatives Workshop", WBS, London, Mar. 2005 (2 days).
- □ "Interest Rate Derivatives", Y. Aït-Sahalia, FAME, Geneve, 2004 (5 days).
- "Workshop of Quantitative Finance", Siena, Jan. 2004 (2 days).
- □ "Advanced Derivative Pricing", G.Barone-Adesi, Banca Intesa, 2002 (5 days).

#### **Interviews**

- □ Short interview by Risk Magazine, in "Risk 25: no more heroes in quantitative finance?", by Laurie Carver, 1 Aug. 2012.
- □ Interview by Bloomberg, in "London Banks Seen Rigging Rates Losing Credibility with Markets", by Mark Gilbert, Gavin Finch and Anchalee Worrachate, Nov. 2011 (Bloomberg, NSN LV2NIP0UQVI9 <GO>).
- □ Interview "From physics to finance", appeared in "Career Book 2005", Somedia, n° 1, anno 8, p. 160, Nov. 2004, and in "Repertorio delle professioni", Università degli Studi di Milano, ed. 2004, p. 343, (italian).

#### **Softwares**

□ "Inflation-linked derivatives proprietary model and trading system", 2002-2007.

Applix/ELF/C++/platform (7000+ code lines). Pricing, hedging & bookeeping of 600+ inflation linked swaps, Futures, bonds, calls/puts, caps/floors with multiple underlying CPI.

# 2) Physics

# Papers, proceedings, etc.

- "Ab-initio Study of the Electromagnetic Response and Polarizability Properties of Carbon Chains",
   M.Bianchetti, P. F. Buonsante, F. Ginelli, H. E. Roman, R. A. Broglia, F. Alasia, Physics Reports 357 (2002), 459-513 (Research Gate, direct link).
- □ "Ab-initio calculations of axially symmetric isolated carbon structures: from linear chains to nanotubes", M. Bianchetti, Ph.D. thesis, Jan. 2000 (direct link).
- □ "Field Emission Properties of Carbon Nanowires from Ab-Initio Calculations", M. Bianchetti, P.F.Buonsante, F.Ginelli, A.Lorenzoni, H.E.Roman, R.A.Broglia; in Proceedings of the XIII International Winter School of Electronic Properties of Novel Materials Science and Technology of Molecular Nanostructures (IWEPNM99), Ed. H. Kuzmany, J. Fink, M. Mehring, S.Roth, AIP Conference Proceedings 486, 448 (1999).
- □ "123Te Electron Capture Half-Life in Nuclear Field Theory", M.Bianchetti, M.R.Quaglia, G.Colò, R.A.Broglia, P.F.Bortignon, P.M.Pizzochero, in proceedings of VII National Conference on Problems in Theoretical Nuclear Physics, Cortona, 19-21 oct. 1998.
- □ "Competition Between Particle-Particle and Particle-Hole Correlations in Forbidden Electron Capture: the Case of <sup>123</sup>Te", M.Bianchetti, M.R.Quaglia, G.Colò, R.A.Broglia, P.F.Bortignon, P.M.Pizzochero, Physical Review C, 56, R1675, Oct. 1997, ArXiv preprint <a href="http://arxiv.org/abs/nucl-th/9607032">http://arxiv.org/abs/nucl-th/9607032</a>.
- "Nuclear structure and solar neutrino absorption", M. Bianchetti, M.Sc. thesis, Jul. 1995.

#### Conferences, courses, etc

- Poster "Field Emission Properties of Carbon Nanowires from Ab-Initio Calculations", M. Bianchetti, P.F.Buonsante, F.Ginelli, A.Lorenzoni, H.E.Roman, R.A.Broglia presented at <u>IWEPNM99</u>, XIII International Winterschool on Electronic Properties of Novel Materials - Science and Technology of Molecular Nanostructures", Kirchberg, Austria 1999.
- □ "Management of Technology", University of Milan, 1998-1999 (annual course).
- "VI Summer School of Vector and Parallel Computing", CINECA, Bologna, 1997 (2 weeks).

#### Teaching activity

- □ A.a. 1999-2000, 2nd semester: general physics (mechanic, thermodynamic, electromagnetism), B.Sc. Telecommunication Engineering, Polytechnic of Milan (exercise lecturer, ~70 students).
- □ A.a. 1999-2000, 1st semester: general physics I (mechanic, thermodynamic), M.Sc in Computer Science, University of Milan (joint lecturer with Prof. Marco Bersanelli, ~150 students).
- □ A.a. 1998-1999, 2nd semester: general physics (mechanic, thermodynamic, electromagnetism), B.Sc. Telecommunication Engineering, Polytechnic of Milan (exercises lecturer, ~50 students).
- □ A.a. 1998-1999, 1st semester: general physics I (mechanic, thermodynamic), M.Sc. in Computer Science, University of Milan - Bicocca (lecturer, ~50 students).

#### **Softwares**

- "Kohn Sham equations in Local Density Approximation in cylindrical basis", Ph.D. research project, 1996-2000, C/Linux platform (5000+ code lines): electronic, electromagnetic and field emission properties of carbon nanotubes and linear chains (in collaboration with P.F.Buonsante and F. Ginelli).
- "Proton-Neutron Quasi Particle Random Phase Approximation", M.Sc. research project, 1993-1996, Fortran/OpenVMS platform (4000+ code lines): weak transitions in nuclei, solar neutrino absorption, beta decay, electron capture (in collaboration with B. Lauritzen).

# 3) Non profit

## Papers, proceedings, etc.

- □ Co-editor of "Cervelli in Gabbia Disavventure e peripezie dei ricercatori italiani", Avverbi, Nov. 2005, forewords by Piero Angela and Samuel Ting (1976 Nobel prize in physics) (www.cervelliingabbia.it).
- □ Co-editor of "Cervelli in Fuga Storie di menti italiane fuggite all'estero", Avverbi, 2001, forewords by Piero Angela and Burton Richter (1976 Nobel prize in physics) (www.cervelliinfuga.it).
- Chapters "Cervelli in Gabbia and Cervelli in Fuga", M. Bianchetti, A. Palombini, and "L'Impresa", M. Bianchetti, G. Orlandi, in "Cervelli in Gabbia", Avverbi, 2005.
- □ Chapter "La qualità fra formazione e ricerca: il ruolo chiave del dottorato", M. Bianchetti, M. C. Usai, in "Cervelli in Fuga", Avverbi, 2001.
- □ Invited talk "La via italiana al dottorato di ricerca", M. Bianchetti, in proceedings of "Il Dottorato di Ricerca - Esperienze a confronto in Italia ed Europa" ed. E. Fornasini, E. Stefani, CRUI, 1999 (http://www.crui.it/crui/Atti\_PD.rtf).

#### Ph.D. assessment research reports

- □ Report "Survey on working conditions and professional expectations of Ph.D. students in Italy", ADI (2006-2007).
- □ Report for the "Project for the recognition, collection and analysis of Ph.D. existing data; survey on the professional outcome of Ph.D.", ADI and CNVSU (2004-2005).
- □ Report "Quality assessment of Ph.D. courses at University of Pisa: survey on Ph.D. students opinions"", M. Bianchetti et al, 2003 (www.dottorato.it/qualita).
- □ Report "Quality assessment of Ph.D. courses at University of Milan-Bicocca: survey on Ph.D. students opinions"", M. Bianchetti et al, 2003 (www.dottorato.it/qualita).

#### **Presentations, workshops** (co-organiser, chairman or speaker)

- □ Talk at "Il mestiere della ricerca: un impegno per la cultura e l'innovazione", University of Milan, May 2002.
- □ Talk at "Il nuovo dottorato di ricerca obiettivi e valutazione", University of Padua, Nov. 2000.
- □ Talk at "*Le aziende incontrano l'innovazione*", ASSOTEC, Milan, May 1999.
- □ Talk at "II Dottorato di Ricerca Esperienze a confronto in Italia ed Europa", CRUI and University of Padova, Apr. 1999.
- □ Talk "*Il dottorato di ricerca a Milano fra riforma e autonomia"*, University of Milan, May 2001.
- □ Talk "Dottorato e lavoro. Il valore aggiunto della ricerca", Forte dei Marmi, Oct. 2000.
- □ Talk "*Riforma della docenza, reclutamento universitario e valutazione*", Bologna, Apr. 2000.
- □ "Dottorato di ricerca ed Imprese: una interazione possibile ?", Torino, Mar. 1998.
- □ Talks at ADI Associazione Dottorandi e Dottori di Ricerca Italiani (www.dottorato.it) annual national meetings 1997-2007.

Marco Bianchetti

# Recommendations

See full recommendations on LinkedIn at <a href="http://www.linkedin.com/in/marcobianchetti">http://www.linkedin.com/in/marcobianchetti</a>

London, June 26<sup>th</sup>, 2008 To whom it may concern

I hired Marco as a junior quant in Oct. 2000 after his physics Ph.D. Although our paths soon diverged, I appreciated his commitment to work in quantitative finance and to bring a valuable experience from his scientific background. I maintained a cordial relationship with Marco, collaborating on external projects as well, and always enjoyed his analytical depth, his keen interest in a number of scientific issues, and his capability to liaise with the different aspects of the job. I highly recommend him.

Francesco Rapisarda, Director, Quantitative Analyst at UBS Investment Bank former Head of Financial Engineering, Risk Management, Banca Intesa

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Genova, October 20<sup>th</sup>, 2000 To whom it may concern

I have worked closely with Dr. Marco Bianchetti since I and the General Director hired him as a consultant of my team in July 2000, until when he left INFM for a position in finance, about three months later.

In such period he was part of the team supporting the President, the General Director and the Executive Committee in the preparation of the Triennial Policy Document, a complex report tracking plans and directions for the Italian community of the Physics of Matter and to be submitted to R&TD Ministery as recommendation for the National Research Programme. Marco successfully developed and analysed most of the indicators of the Scientific Research and Technology Transfer activities of the Institute. He also valuably worked on the preparation of two proposals in the framework of the Scientific Outreach, contributing to introduce and adjust project management standards and to motivate the staff. As a matter of fact, during all the period at INFM, he supported myself in the Area and staff re-organisation.

Although Marco was not experienced in these fields, he has proven very willing to take all this tasks and he displayed great confidence in their execution. I was very happy with the quality of the work carried out by Marco: he is a hard worker, communicating his enthusiasm to colleagues. Not only he individually understood and tackled complex problems, but also he proved to be an effective team worker, respecting scheduled times. In my opinion his ability relies on both rigorous approach and open minded thinking, that I also appreciated in extra work discussions.

Yours faithfully,

Gabriele Orlandi *Manager*Project Management, Technology Transfer and Outreach

Milan, Sep. 2017

e with privacy laws. Manco Branchett

I authorize my personal data processing for human resource research and selection and in compliance with privacy laws.