

## *Curriculum vitae, didattico e scientifico*

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### TITOLO DI STUDIO

25.07.79 **Laurea in Ingegneria Elettronica**, Università di Ancona, Ancona, *Voto finale: 110/110*.  
Titolo della tesi: "Progetto di un amplificatore operazionale integrato NMOS".  
Relatore: Prof. Guido Masetti.

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### ATTIVITÀ PROFESSIONALE

01.11.96 **Professore Ordinario**, nel raggruppamento disciplinare K01 e poi nei settori ING-INF/01 e 09/E3, Dipartimento di Elettronica e Automatica, Università di Ancona  
01.11.96– **Professore Straordinario**, di "Elettronica Applicata", Dipartimento di Elettronica  
01.11.93 e Automatica, Università di Ancona  
01.11.93– **Professore Associato**, nel raggruppamento disciplinare n.217, Dipartimento di  
15.05.87 Elettronica e Automatica, Università di Ancona  
15.05.87– **Ricercatore**, nel raggruppamento disciplinare n.114, Applicazioni Elettroniche,  
24.03.83 Dipartimento di Elettronica e Automatica, Università di Ancona  
27.03.83– **Tecnico a Contratto** , Dipartimento di Elettronica e Automatica, Università di  
22.02.82 Ancona  
21.02.82– **Contratto di ricerca con la Selenia SpA**, Istituto LAMEL del CNR, Bologna  
01.07.81  
30.06.81– **Borsa di Studio di addestramento didattico e scientifico**, Istituto di Elettronica,  
01.04.80 Facoltà di Ingegneria, Università di Ancona

## ■ INCARICHI IN ORGANI COLLEGIALI

- 2003–2008 **Direttore**, del Dipartimento, **DEIT**, Facoltà di Ingegneria, Università di Ancona
- triennio **Presidente**, del Consiglio di Corso di Laurea, in Ingegneria Elettronica, Facoltà di  
1997/2000 Ingegneria, Università di Ancona
- biennio **Membro**, della Giunta del Dipartimento di Elettronica e Automatica, Facoltà di  
1992/1993 Ingegneria, Università di Ancona
- biennio **Delega alla firma**, del Direttore del Dipartimento di Elettronica e Automatica,  
1990/1992 Facoltà di Ingegneria, Università di Ancona
- biennio **Membro**, della Commissione Biblioteca, Facoltà di Ingegneria, Università di Ancona  
1988/1990
- triennio **Membro**, della Giunta del Dipartimento di Elettronica e Automatica, Facoltà di  
1987/1989 Ingegneria, Università di Ancona
- biennio **Rappresentante dei Ricercatori**, nel Consiglio di Corso di Laurea, Facoltà di  
1984/1985 Ingegneria, Università di Ancona

## ■ ATTIVITÀ DI TRASFERIMENTO TECNOLOGICO

- 2007 **Socio fondatore**, dello spin-off universitario, **Cedar Solutions**, Università di Ancona
- 2007-2012 **Presidente del Consiglio di Amministrazione**, dello spin-off universitario, **Cedar Solutions**, Università di Ancona

## ■ ATTIVITÀ DIDATTICA

L'attività didattica svolta a partire dall'A.A. 80/81 presso la Facoltà di Ingegneria dell'Università di Ancona (successivamente UNIVPM), comprende i seguenti corsi

- **Sistemi Embededd**
- **Progettazione di Sistemi Embededd**
- **Sistemi Elettronici**
- **Micro-NanoElettronica**
- **MicroElettronica**
- **Elementi di Elettronica**
- **Componenti Elettronici**
- **Dispositivi Elettronici**
- **Elettronica Applicata I**
- **Elettronica Applicata II**
- **Elettronica per le Telecomunicazioni**
- **Teoria dei Circuiti Elettronici**

## ■ LIBRI DIDATTICI E SCIENTIFICI

- C.Turchetti, M.Conti, **Elementi di Elettronica**, Pitagora Editrice, Bologna 2004
- C.Turchetti, **Stochastic models of neural networks**, IOS Press, Amsterdam 2004

## ■ ATTIVITÀ SCIENTIFICA

### ■ Attività Progettuale

- **Partecipazione al Progetto Europeo dal titolo "H2020 NANO components for electronic SMART wireless circuits and systems (NANOSMART)",** H2020—ICT-07-2018-RIA, n. 825430.
- **Partecipazione al Progetto Strategico di Ateneo 2017, "An Activity Detection System for the Monitoring of People Affected by Dementia in Smart Hospital",** (PSA 2017).
- **Responsabile di una unità di ricerca nel progetto "Amplificatore a basso rumore multibanda per ricetrasmittitore multistandard per reti locali wireless",** Progetto Cofinanziato di interesse nazionale, MIUR, 2003
- **Responsabile del Progetto dal titolo "Simulazione statistica di circuiti integrati avanzati analogici e misti: modelli statistici di dispositivi con tecnologie submicrometriche",** nell'ambito del Progetto finalizzato "Materiali e dispositivi per l'elettronica allo stato solido II, **MADESS, CNR, 1997/1999/2001**
- **Responsabile di una unità operativa nel progetto "Tecnologie microelettroniche e nanoelettroniche",** Ricerca scientifica ex quota 40%, MIUR, 1996
- **Responsabile del Progetto dal titolo "Microelettronica di bassa potenza: simulazione statistica e ottimizzazione di circuiti integrati CMOS a bassa tensione",** progetto Coordinato, CNR, 1996
- **Responsabile di una unità operativa nel progetto "Microelettronica: tecnologie, dispositivi e sensori",** Ricerca scientifica ex quota 40%, MURST, 1995
- **Responsabile del Progetto dal titolo "Algoritmi e architetture neurali per l'elaborazione dei segnali",** nell'ambito del "Progetto Strategico", CNR, 1993
- **Responsabile del Progetto dal titolo "Dispositivi e circuiti integrati analogici CMOS",** Progetto Speciale, CNR, 1993/1994
- **Responsabile del Progetto dal titolo "Algoritmi e metodologie informatiche per simulatori di dispositivi a semiconduttori",** Progetto Speciale, CNR, 1991/1992/1993
- **Responsabile di un programma di ricerca,** relativo ai fondi **MURST 60%**, 1988, presso il Dipartimento di Elettronica e Automatica, Università di Ancona

## Partecipazione a Gruppi di Ricerca Nazionali ed Internazionali

- **Partecipazione all'attività del gruppo di ricerca del prof. Luca Pierantoni**, professore ordinario di Campi Elettromagnetici, Università Politecnica delle Marche.
- **Partecipazione all'attività del gruppo di ricerca della dott.ssa Simona Luzzi**, docente di neurologia presso la Clinica Neurologica, Dipartimento di Medicina Sperimentale e Clinica, Università Politecnica delle Marche, e responsabile clinico della Clinica neurologica dell'Ospedale Umberto I di Ancona.
- **Partecipazione all'attività del gruppo di ricerca dell' Ing. Danilo Pietro Pau**, **System Research and Applications, STMicroelectronics**, Agrate, Brianza.
- **Partecipazione all'attività del gruppo di ricerca del prof. Virgilio Paolo Carnielli**, professore di Neonatologia presso l'Università Politecnica delle Marche, direttore del reparto di Neonatologia dell'ospedale G. Salesi di Ancona.
- **Partecipazione all'attività del gruppo di ricerca del prof. Ali Mansour**, professore presso il Laboratoire des Sciences et Techniques de l'information de la Communication et de la Connaissance, ENSTA Bretagne, Francia.
- **Partecipazione all'attività di ricerca del Design Center**, della SGS-Thomson, Agrate Brianza, Mialno
- **Partecipazione all'attività del gruppo di ricerca del prof. Yannis Tsvividis**, full professor, della Columbia University, New York, USA
- **Responsabile di una unità operativa del Gruppo Specialistico CCTE del CNR, in seguito Gruppo Nazionale di Elettronica, poi Associazione Società Italiana di Elettronica (SIE)** , attivata nel 1981 presso, il Dipartimento di Elettronica e Automatica, Università di Ancona

## Partecipazione come Relatore a Convegni di Carattere Scientifico in Italia e all'Estero

### Riferimenti bibliografici

- [Conti et al., 1988] Conti, M., Turchetti, C., and Masetti, G. A new analytical and statistical-oriented approach for the two-dimensional analysis of short-channel mosfet's. In *Proc. of 18th European Solid State Device Research Conference ESSDERC 88*, pages 253–256. 1988. ISBN 2868830994.
- [Conti et al., 1989] Conti, M., Turchetti, C., and Masetti, G. A new methodology to built-up accurate empirical models for vlsi mosfets. In *Proc. of 19th European Solid State Device Research Conference ESSEDERC 89*, pages 413–417. Springer-Verlag, 1989. ISBN 9783540510000.
- [Conti and Turchetti, 1991] Conti, M. and Turchetti, C. 2-dimensional modeling of charges in short-channel mos transistor. In *Proc. dell'Int. Workshop on the Physics of Semiconductor Devices*. Tata McGraw-Hill Publisher, 1991. ISBN 9780074624371.

- [Angeli et al., 1992] Angeli, M., Conti, M., and Turchetti, C. Parametric yield optimization of mos vlsi circuits based on simulated annealing. In *Proceedings of the Custom Integrated Circuits Conference*, pages 3.5.1–3.5.4. IEEE Service Center pub, 1992. ISBN 9780780302464. doi:10.1109/CICC.1992.591102.
- [Turchetti and Conti, 1992a] Turchetti, C. and Conti, M. A new class of neural networks based on approximate identities for approximation and learning. In *Proc. of IEEE Int. Symposium on Circuits and Systems ISCAS'92*, volume 1, pages 359–362. IEEE Service Center pub, 1992a. ISBN 9780780305939. doi:10.1109/ISCAS.1992.229939.
- [Turchetti and Conti, 1992b] Turchetti, C. and Conti, M. A universal approximator of nonlinear functions based on cmos analog circuits. In *Proc. of IEEE Int. Symposium on Circuits and Systems ISCAS'92*, pages 2360–2363. IEEE Service Center pub., 1992b. ISBN 9780780305939. doi:10.1109/ISCAS.1992.230544.
- [Conti et al., 1996] Conti, M., Guitini, G., and Turchetti, C. An analog cmos neural network with on-chip learning and multilevel weight storage. In *Proc. of Int. Conf. on Artificial Neural Networks ICANN'96*, pages 761–766. 1996. ISBN 9783540615101. doi:10.1007/3-540-61510-5\_128.
- [Conti et al., 1997] Conti, M., Guitini, G., and Turchetti, C. A cmos analog neuro-chip with stochastic learning and multilevel weight storage. In *Proc. of IEEE Int. Symposium on Circuits and Systems '97 ISCAS97*, pages 1844–1847. 1997. ISBN 9780780335837. doi:10.1109/ISCAS.1997.621507.
- [Belli et al., 1998] Belli, M. R., Conti, M., Crippa, P., Orcioni, S., and Turchetti, C. Artificial neural networks as approximators of stochastic processes. In *ICANN 98 : Proceedings of the 8th International Conference on Artificial Neural Networks, Skovde, Sweden, 2-4 September 1998*, volume 2, pages 627–632. Springer, 1998. ISBN 978-3-540-76263-8. doi:10.1007/978-1-4471-1599-1\_95.
- [Conti et al., 1998] Conti, M., Crippa, P., Giovanni, G., Orcioni, S., and Turchetti, C. A current driven, programmable gain differential pair using mos translinear circuits. In *Proceedings of the 1998 IEEE International Symposium on Circuits and Systems, 1998. (ISCAS '98)*, volume 1, pages 543–546. IEEE, 1998. ISBN 9780780344556. doi:10.1109/ISCAS.1998.704566.
- [Crippa et al., 2001] Crippa, P., Turchetti, C., and Conti, M. A statistical mos model for cad of submicrometer analog ic's. In *Proceedings of the 44th IEEE 2001 Midwest Symposium on Circuits and Systems, 2001 (MWSCAS 2001)*, volume 2, pages 901–904. IEEE, 2001. ISBN 9780780371507. doi:10.1109/MWSCAS.2001.986333.
- [Gianfelici et al., 2005] Gianfelici, F., Biagetti, G., Crippa, P., and Turchetti, C. A novel klt algorithm optimized for small signal sets. In *IEEE International Conference on Acoustics, Speech, and Signal Processing, 2005. Proceedings. (ICASSP '05)*, volume 1, pages 405–408. IEEE, Piscataway, 2005. ISBN 0-7803-8874-7. doi:10.1109/ICASSP.2005.1415136.
- [Biagetti et al., 2006] Biagetti, G., Crippa, P., and Turchetti, C. Modeling of speech signals based on bessel-like orthogonal transform. In *Proceedings of the 9th International*

*Conference on Spoken Language Processing (Interspeech 2006 - ICSLP)*, pages 2478–2481. ISCA, BONN, 2006. ISBN 978-1-60423-449-7.

- [Gianfelici et al., 2006] Gianfelici, F., Turchetti, C., and Crippa, P. A non probabilistic algorithm based on karhunen-loève transform for the recognition of stochastic signals. In *Proceedings of 6th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT 2006)*, pages 385–390. IEEE, PISCATAWAY, 2006. ISBN 0-7803-9753-3. doi:10.1109/ISSPIT.2006.270831.
- [Turchetti et al., 2008] Turchetti, C., Gianfelici, F., Biagetti, G., and Crippa, P. A computational intelligence technique for the identification of non-linear non-stationary systems. In *IEEE International Joint Conference on Neural Networks, 2008. IJCNN 2008. (IEEE World Congress on Computational Intelligence)*, pages 3033–3037. IEEE, Piscataway, 2008. ISBN 978-1-4244-1821-3. doi:10.1109/IJCNN.2008.4634226.
- [Bacà et al., 2015] Bacà, A., Biagetti, G., Camilletti, M., Crippa, P., Falaschetti, L., Orcioni, S., Rossini, L., Tonelli, D., and Turchetti, C. Carma: A robust motion artifact reduction algorithm for heart rate monitoring from ppg signals. In *Proceedings of the 2015 23rd European Signal Processing Conference (EUSIPCO 2015)*, pages 2696–2700. IEEE, 2015. ISBN 978-0-9928626-4-0. doi:10.1109/EUSIPCO.2015.7362864.
- [Biagetti et al., 2017] Biagetti, G., Crippa, P., Falaschetti, L., and Turchetti, C. Machine learning regression based on particle bernstein polynomials for nonlinear system identification. In *Proceedings of the 2017 IEEE 27th International Workshop on Machine Learning for Signal Processing (MLSP)*, pages 1–6. IEEE, 2017. ISBN 978-1-5090-6341-3. doi:10.1109/MLSP.2017.8168148.
- [Turchetti and Falaschetti, 2017] Turchetti, C. and Falaschetti, L. A machine learning method to determine intrinsic dimension of time series data. In *GlobalSIP 2017 - Proceedings of the 2017 5th IEEE Global Conference on Signal and Information Processing*, pages 303–307. IEEE, 2017. ISBN 978-1-5090-5990-4. doi:10.1109/GlobalSIP.2017.8308653.
- [Andrea et al., 2018] Andrea, C., Cornell, S., Falaschetti, L., and Turchetti, C. tfelm: a tensorflow toolbox for the investigation of elms and mlps performance. In *Proceedings of the 2018 International Conference on Artificial Intelligence ICAI'18*, pages 3–8. CSREA Press, 2018. ISBN 1-60132-480-4.
- [Turchetti and Falaschetti, 2018] Turchetti, C. and Falaschetti, L. A gpu parallel algorithm for non parametric tensor learning. In *Proc. of 2018 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)*, pages 286–290. 2018. doi:10.1109/ISSPIT.2018.8642737.

## ■ Descrizione dell'Attività di Ricerca

### Aree di Interesse Scientifico

- Studio della fisica dei dispositivi per Circuiti Integrati
- Algoritmi e modelli per la simulazione di Circuiti Integrati
- Tecniche di progettazione e studio di alcune tecnologie di realizzazione di Circuiti Integrati MOS
- Analisi statistica delle prestazioni dei Circuiti Integrati
- Sintesi di sistemi nonlineari e progetto di reti neurali analogiche
- Tecniche di machine learning per applicazioni di classificazione, regressione, identificazione in sistemi embedded.
- Sistemi elettronici, algoritmi di signal processing e tecniche di machine learning in ambito biomedico.
- Modellazione, simulazione e caratterizzazione di dispositivi fabbricati con nano materiali.
- Interfacce per l'interazione uomo-macchina in applicazioni domotiche.

### **Attività Scientifica Recente**

- TECNICHE DI MACHINE LEARNING PER APPLICAZIONI DI CLASSIFICAZIONE, REGRESSIONE, IDENTIFICAZIONE IN SISTEMI EMBEDDED

L'attività di ricerca svolta in questo ambito riguarda lo sviluppo di tecniche di riduzione della complessità e di compressione per poi passare al contesto applicativo ed utilizzare i risultati ottenuti al fine di implementare queste tecniche direttamente su dispositivi embedded e realizzare dei dispositivi "intelligenti" a basso costo e basso consumo (basati su processore della famiglia ARM Cortex-M). In particolare gli argomenti trattati sono

- *Tecniche di riduzione della complessità e di compressione per l'implementazione di algoritmi di machine learning in sistemi embedded*
- *Sistemi embedded per applicazioni di intelligenza artificiale*

- SISTEMI ELETTRONICI, ALGORITMI DI SIGNAL PROCESSING E TECNICHE DI MACHINE LEARNING IN AMBITO BIOMEDICO

L'attività di ricerca in questo ambito è focalizzata su diversi aspetti relativi allo sviluppo di sensori indossabili per la raccolta di dati biologici, all'utilizzo di tecniche di apprendimento automatico per il rilevamento dell'attività umana ed alla realizzazione di sistemi CAD per la diagnosi precoce e la classificazione delle malattie. In particolare gli argomenti trattati sono

- *Sistemi elettronici per l'acquisizione di dati biologici*
- *Rilevazione e classificazione dell'attività fisica sulla base di dati biologici*
- *Sistemi decisionali intelligenti per la diagnosi precoce e la classificazione delle malattie*



○ MODELLAZIONE, SIMULAZIONE E CARATTERIZZAZIONE DI DISPOSITIVI FABBRICATI CON NANO MATERIALI

Questa attività di ricerca si colloca nell'ambito del Progetto Europeo dal titolo "*H2020 NANO components for electronic SMART wireless circuits and systems (NANOSMART)*", H2020—ICT-07-2018-RIA, n. 825430, in particolare relativamente alle attività del Work Package 2 (WP2), Design and simulation activities.

○ INTERFACCE PER L'INTERAZIONE UOMO-MACCHINA IN APPLICAZIONI DOMOTICHE

L'attività di ricerca è finalizzata alla realizzazione di un sistema di interazione vocale per l'home automation, in grado non solo di riconoscere singoli comandi veicolati da segnali vocali, ma anche di personalizzare i servizi richiesti tramite il riconoscimento del parlatore e di interagire mediante il parlato sintetizzato. Per ciascuna tipologia di interazione vocale, sono state sviluppate soluzioni volte a superare i limiti dell'approccio classico in letteratura. Gli algoritmi ed il sistema proposto sono stati applicati a segnali acquisiti in condizioni realistiche, al fine di verificarne l'adeguatezza. In particolare gli argomenti trattati sono

- *Riconoscimento vocale*
- *Ricoscimento del parlatore*
- *Sintesi vocale*

## ■ Partecipazione a Comitati Editoriali di Riviste Internazionali Indicizzate

- **Revisore** per le riviste: IEEE Journal of Solid-State Circuits, IEEE transactions on CAD, IEEE Transactions on Electron Devices, IEEE Electron Device Letters, IEEE Access, IEEE Transactions of Neural Networks and Learning Systems, IEEE Transactions on Image Processing

## ■ Affiliazione ad Associazioni di Riconosciuto Prestigio nel Settore

- IEEE Membership dal 1987
- IEEE Computational Intelligence Society Membership dal 2003
- IEEE Signal Processing Society Membership dal 1996
- IEEE Circuits and Systems Society Membership dal 1993 al 2004
- IEEE Electron Devices Society Membership dal 1987 al 2013
- Life Member dell'Institute of Electrical and Electronic Engineers (IEEE) dal 2021

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n.196 "Codice in materia di protezione dei dati personali".

Ancona, 24 aprile 2023

In fede: CLAUDIO TURCHETTI

# PUBBLICAZIONI DI CLAUDIO TURCHETTI

## Articoli su riviste internazionali

- [Mancini et al., 1987] Mancini, P., Turchetti, C., and Masetti, G. A non-quasi-static analysis of the transient behavior of the long-channel most valid in all regions of operation. *IEEE TRANSACTIONS ON ELECTRON DEVICES*, ED-34:325–334, 1987.
- [Conti et al., 1989] Conti, M., Turchetti, C., and Masetti, G. A new analytical and statistical-oriented approach for the two-dimensional threshold analysis of short-channel mosfets. *SOLID-STATE ELECTRONICS*, 32(9):739–747, 1989. doi:10.1016/0038-1101(89)90007-5.
- [Conti and Turchetti, 1991] Conti, M. and Turchetti, C. On the short-channel theory for mos transistor. *IEEE TRANSACTIONS ON ELECTRON DEVICES*, 38(12):2657–2661, 1991. doi:10.1109/16.158687.
- [Conti et al., 1991] Conti, M., Turchetti, C., and Masetti, G. A new methodology to produce accurate empirical models for mosfet's. *SOLID-STATE ELECTRONICS*, 34(1):79–89, 1991. doi:10.1016/0038-1101(91)90204-C.
- [Turchetti and Conti, 1991] Turchetti, C. and Conti, M. General approach for development of cad-oriented analytical device models. *IEE PROCEEDINGS. PART G. CIRCUITS, DEVICES AND SYSTEMS*, 138(6):637–650, 1991.
- [Turchetti et al., 1991] Turchetti, C., Masetti, G., and Conti, M. Modellistica dei dispositivi mos per la simulazione elettrica. *ALTA FREQUENZA - RIVISTA DI ELETTRONICA*, III, n.3:151–166, 1991.
- [Turchetti et al., 1992] Turchetti, C., Conti, M., and Masetti, G. A companion macromodeling approach for the transient analysis of mos large-scale integrated circuits. *INTERNATIONAL JOURNAL OF NUMERICAL MODELLING-ELECTRONIC NETWORKS DEVICES AND FIELDS*, 5(4):227–243, 1992. doi:10.1002/jnm.1660050402.

- [Turchetti and Conti, 1993] Turchetti, C. and Conti, M. A general approach to nonlinear synthesis with mos analog circuits. *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I. FUNDAMENTAL THEORY AND APPLICATIONS*, 40(9):608–612, 1993. doi:10.1109/81.244912.
- [Conti et al., 1994a] Conti, M., Orcioni, S., and Turchetti, C. Parametric yield optimization of mos vlsi circuits board on simulating annealing and its parallel implementation. *IEE PROCEEDINGS. CIRCUITS, DEVICES AND SYSTEMS*, 141(5):387–398, 1994a. doi:10.1049/ip-cds:19941202.
- [Conti et al., 1994b] Conti, M., Orcioni, S., and Turchetti, C. A class of neural networks based on approximate identity for analog ic’s hardware implementation. *IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS, COMMUNICATIONS AND COMPUTER SCIENCES*, 6(6):1069–1079, 1994b.
- [Conti and Turchetti, 1994a] Conti, M. and Turchetti, C. Approximate identity neural networks for analog synthesis of nonlinear dynamical systems. *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I. FUNDAMENTAL THEORY AND APPLICATIONS*, 41(12):841–858, 1994a. doi:10.1109/81.340846.
- [Conti and Turchetti, 1994b] Conti, M. and Turchetti, C. Approximation of dynamical systems by continuous-time recurrent approximate identity neural networks. *NEURAL, PARALLEL SCIENTIFIC COMPUTATIONS.*, 2:299–320, 1994b.
- [Conti et al., 1996] Conti, M., Orcioni, S., Turchetti, C., Soncini, G., and Zorzi, N. Analytical device modeling for mos analog ic’s based on regularization and bayesian estimation. *IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS*, 15(11):1309–1323, 1996. doi:10.1109/43.543764.
- [Turchetti et al., 1998] Turchetti, C., Conti, M., Crippa, P., and Orcioni, S. On the approximation of stochastic processes by approximate identity neural networks. *IEEE TRANSACTIONS ON NEURAL NETWORKS*, 9(6):1069–1085, 1998. doi:10.1109/72.728353.
- [Belli et al., 1999] Belli, M. R., Conti, M., Crippa, P., and Turchetti, C. Artificial neural networks as approximators of stochastic processes.

*NEURAL NETWORKS*, 12(4-5):647–658, 1999. doi:10.1016/S0893-6080(99)00017-9.

- [Conti et al., 1999a] Conti, M., Crippa, P., Giovanni, G., Orcioni, S., and Turchetti, C. An analog cmos approximate identity neural network with stochastic learning and multilevel weight storage. *IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS, COMMUNICATIONS AND COMPUTER SCIENCES*, E82-A(7):1344–1357, 1999a.
- [Conti et al., 1999b] Conti, M., Crippa, P., Orcioni, S., and Turchetti, C. Parametric yield formulation of mos ic’s affected by mismatch effect. *IEEE TRANSACTIONS ON COMPUTER-AIDED DESIGN OF INTEGRATED CIRCUITS AND SYSTEMS*, 18(5):582–596, 1999b. doi:10.1109/43.759074.
- [Conti et al., 2000] Conti, M., Orcioni, S., and Turchetti, C. Training neural networks to be insensitive to weight random variations. *NEURAL NETWORKS*, 13(1)(1):125–132, 2000.
- [Caldari et al., 2001] Caldari, M., Conti, M., Coppola, M., Giuliodori, M., and Turchetti, C. C++ based system-on-chip design. *CANADIAN JOURNAL OF ELECTRICAL AND COMPUTER ENGINEERING*, 26(3-4):115–123, 2001.
- [Conti et al., 2001] Conti, M., Crippa, P., Orcioni, S., and Turchetti, C. Parametric yield optimization of mos ics affected by device mismatch. *ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING*, 29(3):181–199, 2001. doi:10.1023/A:1011213414261.
- [Signoracci et al., 2001] Signoracci, L., Turchetti, C., and Orcioni, S. High frequency thermal noise modeling of short-channel mosfet’s. *SOLID-STATE ELECTRONICS*, 45(2):205–221, 2001.
- [Conti et al., 2002] Conti, M., Crippa, P., Orcioni, S., and Turchetti, C. Layout-based statistical modeling for the prediction of the matching properties of mos transistors. *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I. FUNDAMENTAL THEORY AND APPLICATIONS*, 49(5):680–685, 2002. doi:10.1109/TCSI.2002.1001958.
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